

W0. Introdução

W0.1

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

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

W-MM0.1a

(W-MM0.1a) Em quais atividades do setor de metais e mineração 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 cujos dados estão sendo divulgados.

	Data de início	Data de fim
Ano de reporte	janeiro 1 2021	dezembro 31 2021

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 as empresas, as entidades ou os grupos cujos impactos hídricos estão sendo divulgados.

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

W0.6

(W0.6) Além destes limites, há regiões, instalações, aspectos hídricos ou outros elementos que estão excluídos do reporte?

Sim

W0.6a

(W0.6a) Informe as exclusões.

Exclusão	Explique
Water use and risk evaluation in office buildings outside production sites and in sites temporarily not in operation	Water withdrawal at CBA's sites that are exclusively used for office purposes (Main Office at São Paulo/SP and a distribution center & solutions and services center in Caxias do Sul/RS) and a site where the water usage is minimal (Filial Sorocaba/SP) did not enter in our analysis because it is insignificant when compared to company's total usage. Besides, we have a site where we are temporarily not operating (São Miguel Paulista/SP) and we did not consider the water usage there as well. Adding the annual water consumption of all the units mentioned the volume does not exceed 0.5% of the total consumption of CBA in the same period. Thus, it is understood that the impact is not representative for the company and, therefore, it was considered an exclusion.
Water use and risk evaluation in sites temporarily not in operation.	CBA did not consider two sites (Niquelândia/GO and Itamarati de Minas/MG) in any questions regarding water use or risk evaluation except when regarding their dams. In both those sites, despite not operating, the dams are still active. The Itamarati de Minas/MG unit, in 2021, consumed the equivalent of 1.36% of the total CBA and the Niquelândia/GO unit consumed 4% of the total. The main reason for the exclusion of the units was not given by the representativeness in water consumption, but by the fact that both units were paralyzed in 2021. The volume of water used was only to keep the unit's assets in operation.
CBA does not have operational control	CBA did not include the hydroelectric plants and the Barro Alto/GO mining plan, as, in 2021, it did not have operational control of these locations. As CBA did not have operational control of the plants in 2021, the company does not have an active voice in local decisions, including in relation to improvement actions to reduce water consumption.
Plant still undergoing environmental licensing process	The Rondon do Pará/PA plant in 2021 was still in the environmental licensing process and, therefore, no activity is being carried out in the locality. As the unit is not yet considered an operational unit, as it is in the process of environmental licensing, there is no water consumption in the location and, therefore, it was not considered for the questionnaire.

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) Avalie a importância (atual e futura) da qualidade e da quantidade da água para o sucesso dos negócios.

	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	Importante	CBA produces both primary and transformed products, including aluminum profiles and sheets. Water is used in all process stages for cooling, being a vital element to produce aluminum, and is therefore considered a strategic input, which must be managed competently. In addition to being a scarce natural resource in many regions, it is normally a high-cost input for the company, either because of the operating expenses associated with drawing and, treatment of water and effluents, or even due to the charge for use of water resources. In addition to its use for cooling equipment (such as compressors and anode manufacturing) and ingots, CBA consumes a large volume of water during its wet gas treatment process in the pot rooms. At the start of processing, it is mandatory to use only potable water due to possible contamination of aluminum. The company expects to reduce water consumption in its long-term operations over the years, and for that it has been investing in technologies with low water consumption, as well as investing in projects to improve efficiency and its operating systems. As an example, we can mention the water resilience plan, which is being implemented and aims to increase the consumption of reused water. Indirectly, many of our essential inputs for production depend on water in their own manufacturing process, whether in high or low quantity and, therefore, CBA understands that this consumption is important in its supply chain and has been seeking to evolve together with its suppliers in water management through the Sustainable Procurement Program.
Quantidade suficiente de água reciclada, salobra e/ou produzida disponível para uso	Essencial	Importante	Some production processes depend on potable water to avoid aluminum contamination at the start of its transformation process, but other processes can be carried out using reused water (internally named industrial water), which brings opportunities for the Company to seek and constantly improve its effluent recycling and treatment process. Although the Alumínio/SP plant (which represents over 85% of the company's total water needs) already has a Closed Water Circuit (with no effluent disposal), this system is constantly undergoing improvements to increase its efficiency. In addition, there are projects underway to increase reuse of water from red mud - named Filter Press Project, reducing humidity from 55% to only 25%, thus reducing risks to dam. If water treatment, reuse and recirculation systems are not in full operation, new water requirements would be very extensive and the impact on society as a whole would be very high. In addition to the internal points, we understand that the company has an important social role in Alumínio/SP, where it is located CBA's largest operation due to the drinking water supply to a portion of single-family homes, shops and public and private establishments, such as schools and police station. The greater the efficiency in our closed loop system and the consumption of reused water, the greater the availability of potable water for society. In our value chain, we also understand the importance of reuse systems in good condition and high efficiencies, which will begin to be evaluated in 2022 through the Sustainable Procurement Program.

W1.2

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

	Porcentagem de unidades/instalações/operações	Explique
Captação de água - volume total	100%	All CBA facilities are equipped with flow meters, either for measuring usage by the concessionaire or capturing water from surface and/or underground springs. All flow meters are calibrated at the frequency required (at least annually) in accredited and authorized laboratories, by Ordinance No. 295, of 06/29/2018 of INMETRO (Brazil's National Institute of Metrology, Quality and Technology). In addition, all quantitative information on water consumption is verified by a third-party company during the process of preparing the CBA Annual Report. Information is collected and filed daily in internal control spreadsheets, with the exception of the Itapissuma/PE unit, which collects data only on business days.
Captação de água – volume por fonte	100%	All CBA facilities are equipped with flow meters, either for measuring usage by the concessionaire or capturing water from surface and/or underground springs. All flow meters are calibrated at the frequency required in accredited and authorized laboratories, by Ordinance No. 295, of 06/29/2018 of INMETRO (National Institute of Metrology, Quality and Technology). In addition, all quantitative information on water consumption is verified by a third-party company during the process of preparing the CBA Annual Report. At the Alumínio/SP unit, abstraction volumes are measured daily from both underground wells and surface sources. At the mining units (Poços de Caldas/GO and Mirai/MG), the volumes of abstraction from underground wells are measured and monitored daily. Exclusively at the Itapissuma/PE unit, the volumes collected from the wells are measured only on business days. For these days, consumption averages are made.
Água existente associada às atividades no setor de metais e mineração - volume total [somente para o setor de metais e mineração]	100%	Due to legislation in the state of Minas Gerais, the monitoring and measurement of entrained water volume does not necessarily need to be measured by electronic systems. Understanding the importance of this information, CBA carries out the monitoring and measurement by calculating the vehicle's capacity and the number of trips performed. This information is calculated annually during the Water Balance update of the locations (including mining units) and all data are validated by the GRI standard during verification of the Company's Annual Report.
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>
Qualidade da captação de água	100%	Water quality is monitored whenever it is taken directly from a spring. When provided by the concessionaire, supplying drinking water is the responsibility of the concessionaire and therefore CBA does not perform an analysis, only for monitoring at drinking fountains. The analyzes are carried out in accordance with Ordinance GM/MS No. 888/2021 and with the Brazilian Regulatory Standard NR-24 (Sanitary and Comfort Conditions in Workplaces), which have different periodicities for each type of parameter, varying between analyzes daily, monthly and semi-annual. Samples are collected according to national and international standards and analyzed both internally and externally for parameters such as temperature, color, pH, turbidity, fecal coliforms and conductivity and sent for analysis in laboratories accredited by ISO 17025.
Descargas de água – volume total	100%	All CBA facilities are equipped with flow meters to monitor all discharges made. All flow meters are calibrated at the frequency required (at least annually) in accredited and authorized laboratories, by Ordinance No. 295, of 06/29/2018 of INMETRO (Brazil's National Institute of Metrology, Quality and Technology). In addition, all quantitative information on water consumption is verified by a third-party company during the process of preparing the CBA Annual Report. Information is collected and filed daily in internal control spreadsheets, except for the Poços de Caldas/GO mining unit, which collects data only on working days or when tank trucks are used, in which cases the volumes are not measured, but the frequency/representativeness of these cases is very low.
Descargas de água – volume por destino	100%	CBA's integrated management system provides guidelines for the measurement and control of effluents released at all of the company's units, with the exception of Alumínio/SP where there is a closed-circuit system. At the Mirai/MG unit, the volume of effluent is monitored daily at the time of discharge into the dam (after treatment at the Effluent Stations). In Araçariquama/SP, disposal is made to the municipal utility and there are no flow meters. The volume of disposal is done through estimates. In Itapissuma/PE, biological effluent is disposed of twice a week and the volumes are measured on these days. Rainwater and industrial discharges (discharge into cooling towers) occur daily and are measured daily. In Poços de Caldas/GO, industrial effluent has a flow meter, while domestic effluent is calculated according to the consumption of potable water (80% of the water input is considered sanitary effluent). Measurements are taken every working day.
Descargas de água – volume por método de tratamento	100%	In Alumínio/SP, monitoring is not applicable as the unit operates in a closed-loop, not disposing of any type of effluent. At Mirai/MG and Itamarati/MG units, where the industrial and domestic effluents are treated in biological and physical-chemical stages, all the treated effluent is disposed of in the tailings dams. Monthly and quarterly analysis are carried out and sent to environmental agencies quarterly and annually, respectively. Itapissuma/PE quantifies and analyzes its discharges in accordance with its Self-Monitoring Plan. Monitoring is carried out monthly with an accredited external laboratory and the results are sent quarterly to the environmental agency. It is noteworthy that all CBA's operations are ISO 14001 certified. Currently, CBA has an electronic system for measuring its effluents only at the Mirai/MG unit, using a Parshall gutter with a level sensor. In the other units, monitoring is done through practical methods, Parshall flume and/or during the water balance.
Qualidade da descarga de água – por parâmetro de efluente padrão	100%	In Alumínio/SP, there is no discharge as the unit operates in a closed loop system (including bathrooms and administrative areas), but to ensure that CBA does not carry out any unforeseen/mapped discharges, biannual analyzes of the water quality of the river are carried out upstream and downstream of the location. In the other units, parameters such as BOD, pH and suspended solids are checked with a frequency that varies according to legislation applicable to each location, but they are carried out at least monthly. Monitoring plans are created individually and contain at least what is foreseen in legal requirements, licenses, and/or requirements by sanitation company. Collection methods follow national and international standards for correct handling, storage and conservation of samples. The analysis are carried out by ISO 17015 certified laboratories and sent to environmental agencies at least quarterly. It is important to mention that all CBA units are ISO 14001 certified.
Qualidade da descarga de água – temperatura	100%	In Alumínio/SP, there is no disposal, as the unit operates in a closed-circuit system, but even so, it carries out biannual analyzes of the water quality of the river upstream and downstream to ensure that there are no unidentified discharges. In the other units, parameters such as BOD, pH and suspended solids are checked with a frequency that varies according to the legislation applicable to each location, but they are carried out at least monthly. The monitoring plans are prepared individually and contain, at least, what is foreseen in the legal requirements, licenses and/or requirements of the sanitation company. Temperature analyzes are carried out on site daily on both raw and treated effluent samples. The analyzes are carried out by ISO 17015 certified laboratories and sent to environmental agencies at least quarterly. It is important to mention that all CBA units are ISO 14001 certified.
Consumo de água – volume total	100%	The volumes of water withdrawn are measured as already mentioned, and calculations for total water consumption are done annually using the water balance methodology for all units. The information is verified by a third party during the process of preparing the company's Annual Report.
Água reciclada/reutilizada	100%	The volumes of water drawn are measured as already mentioned, and calculations for total water needs and recycling/reuse of water are run based on the water balance methodology for all units. The information is verified by a third party during the process of preparing the company's Annual Report. In places where some type of water reuse/recycling is carried out, the measurement is performed daily - Mirai/MG, Araçariquama/SP and Alumínio/SP. The Itapissuma/PE and Poços de Caldas/GO units do not have reuse.
Fornecimento de serviços de abastecimento de água, saneamento e higiene em perfeito funcionamento e gerenciados de modo seguro para todos os funcionários	100%	All of CBA's units provide WASH services for all employees and contractors, complies to labor laws and has a Human Rights Policy that is enforced in our supply chain. When provided by the city or purchased, CBA is not responsible for the potability and, therefore, does not carry out an analysis but requires a potability certificate from the seller. The analyzes are carried out in accordance with the applicable legislation for each type of capture and consumption, and can be carried out daily, weekly, monthly and/or semi-annually. Parameters such as turbidity, color, pH, fecal and total coliforms, conductivity, total and dissolved solids are analyzed by laboratories duly accredited by ISO 17025 standard. CBA's drinking water monitoring program adopts as a legal scope some legislation such as the Legislation of Brazilian's Ministry of Health. The water samples are at points of capture and final distribution. The strictest security levels required are sampled and analyzed at CBA units.

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

	Volume (megalitros/ano)	Comparação com o ano de reporte anterior	Explique
Total de captação	2691.2	Mais baixo	Even though this is our first report to CDP, our company has periodically monitored and reported all water-related data and information to the internal environmental team in order to improve overall environmental outcomes. In 2020, the company withdrawn a total of 2,716 megaliters in the aluminum business, showing a reduction of 24 megaliters, equivalent to 0.88%, despite the 10% increase in aluminum sales (from 441 thousand tons to 485 thousand tons). The result in relation to 2020 was considered lower due to the low representation in the total volume withdrawn. All data is verified during development of our Annual Report, which follows the GRI and SASB standards. Verification also occurs following the ISAE 3000 methodology.
Total de descarga	5929.6	Mais baixo	Even though this is our first report to CDP, our company has periodically monitored and reported all water-related data and information to the internal environmental team in order to improve overall environmental outcomes. In 2020, the company discharged of a total of 6,921 megaliters in the aluminum business, showing a reduction of 991 megaliters, equivalent to 14.32%, despite the 10% increase in aluminum sales (from 441 thousand tons to 485 thousand tons). The result in relation to 2020 was considered much smaller due to the representativeness in the total volume withdrawn. All data is verified during development of our Annual Report, which follows the GRI and SASB standards. Verification also occurs following the ISAE 3000 methodology.
Consumo total	8195.2	Mais baixo	Our company has periodically monitored and reported all water-related data and information to the internal environmental team in order to improve overall environmental outcomes. All data is verified during the development of our Annual Report, which follows the GRI and SASB standards. The verification also occurs following the ISAE 3000 methodology.

W1.2d

(W1.2d) Indique se a água é captada em áreas com estresse hídrico e declare em que proporção.

	As captações provêm de áreas de estresse hídrico	% captada em áreas de estresse hídrico	Comparação com o ano de reporte anterior	Ferramenta de identificação	Explique
Linha 1	Sim	1-10	Mais alto	WRI Aqueduct	CBA uses the WRI Aqueduct tool to analyze scenarios, mainly in relation to water and baseline; water stress measures the ratio of total water withdrawals to available renewable surface and groundwater supplies. Water withdrawals include domestic, industrial, irrigation, and livestock consumptive use and non-consumptive use. Available renewable water supplies include the impact of upstream consumptive water users and large dams on downstream water availability. Higher values indicate more competition among users. The baseline gathers information from 1960 to 2014. In addition to the baseline, the 2030 and 2040 scenarios were also evaluated. During the study CBA realized that two of its units had results that would need to be highlighted in relation to the possibility of impact due to stress: Araçariçama/SP and Itapissuma/PE. The Araçariçama/SP unit showed results in the WRI Aqueduct at the baseline as high risk (40-80%), and for the other projections there was a reduction to low-medium (10-20%) for 2030 and 2040. Itapissuma/PE at the baseline had a medium-high result (20-40%) that rose to high (40-80%) both in 2030 and 2040. Considering the low water needs at the Araçariçama/SP unit and the predicted reduction in the risk of water stress during the internal risk assessment process, it was not considered a representative risk. The risk related to the lack of water at the Itapissuma/PE unit was classified as significant and an action plan was developed in order to minimize possible impacts by this situation. The proportions were calculated considering the representativeness of water needs by operations in places considered to be water stressed, and the Araçariçama/SP unit accounts for less than 2% of total needs, while the Itapissuma/PE unit accounts for around 8%. Both units had a low increase in the volume withdrawn comparing to 2020, just 48 megaliters higher than our previous year.

W1.2h

(W1.2h) Apresente dados sobre o total de captação de água por fonte.

	Relevância	Volume (megalitros/ano)	Comparação com o ano de reporte anterior	Explique
Água doce de superfície, incluindo águas de chuva, brejos, rios e lagos	Relevante	1931.6	Mais baixo	Water is an essential input for the aluminum production and for our mining operations. The plant with the highest volume of needs is Alumínio/SP with almost 98% of total income by this source, followed by Poços de Caldas/GO, Itamarati de Minas/MG, and Mirai/MG. CBA showed a reduction in water consumption from this source of 29% comparing to 2020, when it was withdrawn 2,131 m³. Despite being the first year that CBA has answered CDP's water security questionnaire, the company has already carried out measurements of its withdrawals and, therefore, is able to provide details in comparisons. The reductions presented are due to projects carried out in search of better efficiency in water reuse systems and consumption reduction, such as the water resilience plan and the modernization of the pot room technology, respectively.
Água salobra de superfície/água do mar	Não relevante	<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 units so far.
Água subterrânea – renovável	Relevante	753.7	Mais alto	Water is an essential input for the aluminum production and for our mining operations. The plant that represents the highest volume of consumption is Alumínio/SP with 83% of the total income from this source, followed by Itapissuma/PE, Araçariçama/SP, Mirai/MG, Poços de Caldas/GO and Itamarati de Minas/MG. CBA showed an increase of 30% in water withdrawn from this source comparing to 2020, when it was withdrawn 579m³. The increase can be explained by the period of water stress, mainly at the Alumínio/SP unit (the company's largest water consumer), where the collection of underground sources was prioritized instead of surface sources to reduce the impact on water sources. This replacement was possible after improvement in the piping and water storage structure of the wells carried out in the second half of 2021.
Água subterrânea – não renovável	Não relevante	<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 units so far.
Água produzida/arrastada	Não relevante	<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 units so far.
Fontes terceirizadas	Relevante	5.9	Mais baixo	Water is an essential input for the aluminum production and for our mining operations. This source is only used at our mining site at Poços de Caldas/GO and Araçariçama/SP. The first represents over 63% of this type of need. CBA showed a reduction in water consumption from this source of 16% comparing to 2020, when it was consumed 7m³. The reductions presented are due to projects carried out in search of better efficiency in processes.

W1.2i

(W1.2i) Apresente dados sobre o total de descarga de águas por destino.

	Relevância	Volume (megalitros/ano)	Comparação com o ano de reporte anterior	Explique
Água doce de superfície	Relevante	5777	Mais baixo	The Alumínio/SP unit operates in a closed-loop system, ensuring that all of its water is re-circulated and thus not disposing of water. The mining units (Mirai/MG and Itamarati de Minas/MG) have an effluent treatment station, and after treatment effluents are disposed of in a water body. According to the Annual Report, there was a 13% reduction in this type of disposal, largely related to the projects to reduce water consumption and increase reuse efficiency as mentioned above. The reductions presented are due to projects carried out in search of better efficiency in water reuse systems and consumption reduction, such as the closed-loop and the modernization of the pot room technology, respectively.
Água salobra de superfície/água do mar	Relevante	151	Mais alto	The only unit that disposes of brackish water is Itapissuma/PE. According to CBA's 2021 Annual Report, there was a 40% increase from 2020, which is directly linked to the increase of water consumption at the unit.
Água subterrânea	Não relevante	<Not Applicable>	<Not Applicable>	This source is not used for water discharge at CBA and there are no forecasts or studies for the inclusion of this type of discharge source in any of the units so far.
Destinos de terceiros	Relevante	1.6	Mais baixo	The only CBA unit considered for this questionnaire that disposes of its effluents to a third-party destination is Araçariçuama/SP, which has a very small volume compared to the company's total. According to the Annual Report, there was an almost 24% reduction in this type of disposal, very much related to the control and governance carried out at the unit to reduce consumption and effluent discharge.

W1.2j

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

	Relevância do nível de tratamento para a descarga	Volume (megalitros/ano)	Comparação do volume tratado com o do ano de reporte anterior	Porcentagem de unidades/instalações/operações a que esse volume se aplica	Explique
Tratamento terciário	Relevante	5924.9	Mais baixo	91-99	The Alumínio/SP, Itapissuma/PE, Mirai/MG and Itamarati de Minas/MG units have tertiary effluent treatment. This system provides physical-chemical and biological treatment and a water and oil separator chamber. CBA has this system as it understands the 100% need to meet legal parameters applicable to each of its units. In addition, specifically for the Aluminum/SP unit, there is a closed loop system that requires high quality treatment. If treatment by this unit (which represents 83% of all fresh water needs by the company) is not adequate, reuse of industrial water will not be possible and therefore collection will have to be much greater, with adverse impacts to the environment and neighboring society. Analyzes are held of all legal parameters for the units and for traceability efficiency of CBA's Effluent Treatment Stations. This information is reviewed annually during ISO 14001 audits and in ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards. Comparing with our previous year, CBA discharged a little over 1,000 megaliters less effluents in 2021, representing approximately a 15% reduction.
Tratamento secundário	Não relevante	<Not Applicable>	<Not Applicable>	<Not Applicable>	CBA does not have any units with secondary treatment only and there are no forecasts or studies to change it in any of the units so far.
Apenas tratamento primário	Relevante	3	Mais baixo	Menos de 1%	Representativeness by the units was calculated based on the company's total water requirements. The only CBA unit that enjoys this type of treatment is the mining unit in Poços de Caldas/GO, where is a water and oil separator and effluents are then directed to the public effluent treatment system. The public system is responsible for providing the treatment and meeting legal parameters for disposal in water bodies. When applicable and required, analyses are held of all legal parameters for the units and for efficiency traceability of CBA's Effluent Treatment Stations. This information is reviewed annually during ISO 14001 audits and in ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards. Comparing with our previous year, this unit reduced almost 13% of its effluent in 2021 (0.89 megaliter).
Descarga no meio ambiente natural sem tratamento	Não relevante	<Not Applicable>	<Not Applicable>	<Not Applicable>	CBA does not discharge wastewater to the natural environment without treatment and there are no forecasts or studies to change it in any of the units so far.
Descarga em terceiros sem tratamento	Relevante	1.7	Mais alto	1-10	Representativeness by the units was calculated based on the company's total water requirements. The only CBA unit that has this type of effluent disposal is the Araçariçuama/SP unit. There is no exact measurement of the volume of effluents generated, as they are sent directly to the public effluent treatment system. The public system is responsible for providing the treatment and meeting legal parameters for disposal in water bodies. The volume shown is based on an estimate, considering information regarding water abstraction and we estimate an increase of almost 18% of the volume when compared to 2020 (close to 8 megaliters).
Outros	Não relevante	<Not Applicable>	<Not Applicable>	<Not Applicable>	CBA does not discharge or send wastewater to other parts without treatment and there are no forecasts or studies to change it in any of the units so far.

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	840000	2691.2	3121.28418549346	The organization tends to follow its water reduction metrics and thus ensure its revenues. We have water-related CAPEX projects that aim to reduce freshwater withdrawal and needs, increasing water efficiency. There is still a trend towards an increase in aluminum production, and ESG Strategy with water-related targets will help the company achieve its goals and grow at the same time.

W-MM1.3

(W-MM1.3) A organização calcula as informações de intensidade hídrica para as atividades do setor de metais e mineração?

Sim

W-MM1.3a

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

Produto	Numerador: Aspecto hídrico	Denominador	Comparação com o ano de reporte anterior	Explique
Liquid alumínio	Captações de água doce	Toneladas de produto final	Mais baixo	<p>CBA's indicator is calculated through freshwater needs (in m³) divided by total aluminum production (in tons). Currently CBA does not have indicators per types of products and only monitors monthly the indicator from the Alumínio/SP unit, responsible for manufacturing aluminum from alumina (from processed bauxite) into processed products.</p> <p>A work plan was established whereby the organization was committed to reducing by 2030 20% of freshwater requirements. All levels of the organization are involved in this goal. The Alumínio/SP unit is more representative in the collection and use of water. Several actions have been adopted to help achieve the target: employee awareness, leak detection, maintenance and engineering actions, reuse incentives, etc.</p> <p>Even though this is the first year of CDP reporting, according to data assured by a third party when preparing the 2021 Annual Report, it is possible to assure that there was a 1.8% reduction in our 2021 indicator when compared to, specially due to projects such as the water resilience project, which aims to increase the efficiency of reuse systems at the unit and constantly seeks improvement opportunities to replace new potable water with reused water in the production process. In addition, tests were started on the Filter Press project, which reduced water consumption at the refinery, as it reuses water extracted from the dam's tailings. In addition, CBA is investing in the modernization of the Pot Rooms technology, which will bring an estimated reduction of more than 120 thousand m³ per year, because it will be possible to turn off the wet gas treatment system.</p>

W1.4

(W1.4) A organização se engaja com a cadeia de valor em relação às questões hídricas?

Sim, com nossos fornecedores

W1.4a

(W1.4a) Qual é a proporção de fornecedores para os quais são solicitados relatórios sobre o uso, os riscos e/ou a gestão da água, e que proporção das despesas com aquisição da organização isso representa?

Linha 1

Porcentagem de fornecedores por número

1-25

Porcentagem das despesas totais com aquisições

26-50

Justificativa para esta abrangência

• Sustainable Procurement Program

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

• Waste suppliers

In addition to critical suppliers, every supplier that transports or disposes of waste at our units undergoes an environmental sector audit, whereby various environmental criteria are more critically evaluated, including regulatory items and water management. Considering the Alumínio/SP, Itapissuma/PE, Araçari/PE and Mirai/MG units, we have 75 suppliers that are frequently evaluated on these topics. These waste suppliers undergo audits within the period specified in the internal environmental management procedures and, annually, 100% of the audits mapped to the necessary suppliers are carried out.

Impacto do engajamento e medições de sucesso

In the Sustainable Procurement Program, suppliers must perform a self-assessment and submit evidence on their level of maturity in water management. The maturity rule starts with the option for suppliers not to perform such management; they should proceed to the option of compliance with legal requirements and actions to reduce water use in progress; for the third level, they should submit a water resources management plan, including monitoring its use, and at a more mature level, it is necessary to submit evidence of a water resources management plan with improvement goals and projects involving stakeholders. For 2021, the company had the goal of carrying out the approval of 50% of its critical suppliers (59) and the 70% approval mark was reached (total of 83) and, therefore, we consider that the engagement strategy was a success. For 2022, other goals were developed, such as finalizing the approval of 100% of these suppliers and starting to engage all others. Among these critical suppliers, CBA evaluated which of the ESG criteria would be most impacted for each category and among, after that, 51 were evaluated in water related aspects and already went through this process. Within this program, different action fronts were developed that include not only approval of these suppliers and a future retaining of suppliers that meet only the minimum criteria established within the Program, but also development of an action plan for the company to support suppliers in their development of such aspects. The initial expectation is to make an assessment of our supply chain's maturity before defining what will be the minimum standard required for each supplier before hiring same.

In the process of approving waste services suppliers, it will be evaluated whether the company should carry out a survey of environmental aspects and impacts and monitoring of applicable legislation. In addition, environmental licenses and their conditions will be evaluated to verify compliance and monitoring of suppliers' emissions with water, soil and air - it should also be verified if there is any action to reduce these emissions. The questionnaire has several other points to be analyzed, but if suppliers do not reach a minimum score, they will not be approved as CBA suppliers.

Comentários

Under the Sustainable Procurement Program, by June/2022, CBA has already completed 100% of the approval of critical suppliers. In addition, 74% of the other suppliers (2,525 in total), equivalent to 1,880, had already started the approval process and 435 had already sent all the necessary documentation for analysis, raising their total and the representative monetary range.

W1.4b

(W1.4b) Dê detalhes sobre outras eventuais atividades de engajamento com o fornecedor relacionadas à água.

Tipo de engajamento

Incentivo para a melhoria da gestão e da governança da água

Detalhes do engajamento

Outro, especifique (CBA's annual report and materiality assessment)

Porcentagem de fornecedores por número

76-100

Porcentagem das despesas totais com aquisições

76-100

Justificativa para a abrangência do engajamento

CBA publishes its annual report to all its suppliers and customers via e-mail communicating the publication. In addition, articles are published in newspapers, magazines and websites about the publication to reach the widest possible audience.

In this report, CBA provides both qualitative and quantitative information regarding the management of water resources in its units and projects that it is carrying out that will bring about a reduction in consumption (either through a greater increase in the efficiency of reuse systems or technological improvements). In addition, the company carries out a Materiality Assessment every two years, where internal and external stakeholders are called to help identify the main ESG factors for CBA and the market in general, including issues related to water.

Impacto do engajamento e medições de sucesso

The disclosure of our annual report reaches 100% of our base of suppliers, third parties and customers every year, in addition to the external public through the publication of articles in newspapers, magazines and websites.

In 2022, CBA's Materiality Assessment has already been carried out and some key suppliers were chosen for an online interview, but all suppliers received a quick survey via email to support CBA in this process with answers from their point of view. The reach of suppliers was significantly greater when compared to the study carried out in 2020, with 27 times more participation.

Comentários

In the Sustainable Procurement Program, CBA has a support stage for suppliers, where it will draw up action plans together with suppliers that do not reach the minimum grade in the ESG approval and/or are seeking to improve their score, including in the management of water resources. These actions will start in 2022 and are already being mapped by the team responsible for the project.

Tipo de engajamento

Inovação e colaboração

Detalhes do engajamento

Promover/incentivar a inovação para reduzir o impacto hídrico nos produtos e serviços
Instruir os fornecedores sobre colaborações e governança da água

Porcentagem de fornecedores por número

Desconhecido

Porcentagem das despesas totais com aquisições

Desconhecido

Justificativa para a abrangência do engajamento

As a member of River Basin Committees, Brazilian Business Council for Sustainable Development (Water Chamber) and ASI (Aluminum Stewardship Initiative), CBA engages with clients, suppliers and peers in the aluminum value chain and many different business branches, gathering market best practices and helping ensure a more sustainable supply chain.

Impacto do engajamento e medições de sucesso

One of the deliverables for ASI certification is the life cycle analysis (LCA) that CBA usually holds using a cradle-to-gate approach, and therefore is directly linked to our suppliers and their production processes. By engaging its value chain on environmental issues, including water-related issues, the impact by CBA products will also be minimized. CBA has ASI Chain of Custody certification in its units in Alumínio/SP, Itapissuma/PE and Mirai/MG.

Comentários

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 reporte, a organização foi submetida a multas, ordens de execução e/ou outras penalidades pela violação de alguma lei relacionada à água?

Sim, multas, ordens de execução ou outras penalidades, mas nada considerado significativo

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

23272.56

Porcentagem sobre as instalações/operações associadas totais

87

Número de multas em comparação com o ano de reporte anterior

Igual

Comentários

In 2020 we had no sanctions and fines issued for factories and mines. In 2021 the only administrative sanction received was for our largest and most significant site located in Alumínio/SP, due to non-disclosure or reading of volumes measured beyond the regulatory term of water use within the system by the regulatory body SiDeCC (abbreviation for System for Declaration of Conditions of Water Usage and Collection) between 12/27 and 12/30/2021. The sanction was issued by the regulatory agency DAEE (Department of Water and Electricity of the State of São Paulo).

The total value of the fine was R\$23,272.56 and considering CBA's total revenues in 2021 (R\$ 8,400,000.00) and the nature of the fine (due to an error in disclosing the value), it was considered not relevant in this questionnaire.

W3. Procedimentos

W-MM3.2

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

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Tietê 2)
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Número de barragens de rejeitos em operação

1

Número de barragens de rejeitos inativas

0

Comentários

CBA has an industrial waste dam in its Alumínio/SP unit, with attested stability and rated as low-risk according to Ordinance 70.389/17 issued by the National Mining Agency, Brazil.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Pomba)
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Número de barragens de rejeitos em operação

1

Número de barragens de rejeitos inativas

0

Comentários

CBA has 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.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Muriae)
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Número de barragens de rejeitos em operação

1

Número de barragens de rejeitos inativas

0

Comentários

CBA has a mining tailings dam at its Mirai/MG mining unit, with attested stability and rated as low-risk according to Ordinance 70,389/17 issued by the National Mining Agency, Brazil.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Tocantinzinho)
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Número de barragens de rejeitos em operação

1

Número de barragens de rejeitos inativas

0

Comentários

CBA has an active industrial waste dam at its unit in Niquelândia/GO, despite the unit's operations having been interrupted, with attested stability and rated as low-risk according to Ordinance 70.389/17 issued by the National Mining Agency, Brazil.

W-MM3.2a

(W-MM3.2a) 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?

Linha 1

Avaliação das consequências da falha da barragem de rejeitos

Sim, avaliamos as consequências da falha da barragem de rejeitos

Diretrizes de avaliação/classificação

Portaria 70.389/17 - Agência Nacional de Mineração, Brasil

As barragens de rejeitos foram classificadas como “de risco” ou “de alto risco”

Nenhuma das nossas barragens de rejeitos foi classificada como “de risco” ou “de alto risco” (ou equivalente)

Explique

According to Ordinance 70,389/17, all CBA dams (both industrial waste and tailings) were classified as low-risk. The Company has controls in place to ensure the safety of these dams and that they will remain a low risk for society, such as preparation of the Mining Dam Risk Management Plan in accordance with ANM Ordinance 95 and the Operation Manual, indicating the necessary controls for managing maintenance and risk reduction. In addition, we follow the SIGBAR (Integrated Dam Management System) which provides for a frequent monitoring and management routine, with twice weekly inspections reported to specialists and monthly reports to CBA's senior leadership on the status of safety conditions and maintenance and risk control action plans.

W-MM3.2c

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

Procedimento	Detalhes do procedimento	Explique
Níveis de risco aceitáveis	<p>Estabelecimento de orientações e padrões para os níveis de risco aceitáveis, com base em uma avaliação dos potenciais riscos físicos e químicos</p> <p>Estabelecimento de orientações e normas no nível da unidade sobre os graus de risco aceitáveis para a segurança de terceiros em consulta com comunidades potencialmente afetadas, funcionários e órgãos governamentais relevantes</p> <p>Estabelecimento de orientações e padrões locais sobre os níveis de risco aceitáveis em todos os estágios da vida útil, incluindo após o fechamento</p> <p>Estabelecimento de normas para a empresa como um todo sobre os níveis de riscos aceitáveis que seguem uma política empresarial para eliminar ou minimizar os riscos hídricos associados a barragens de rejeitos</p>	<p>For more than two years, CBA has had a management procedure for Dam Safety Management which, based on the legislation Ordinance DNPM 70.389/2019, CETESB Board Decision No. 279/2015/C, CNRH Resolutions #s 144/2012 and 178/2017, establishes monitoring and reporting routines of dams and safety levels through the SIGBAR (Integrated Dam Safety Management System) tool. Within this system, there are 10 modules that cover aspects related to dam safety:</p> <ol style="list-style-type: none"> 1) PRELIM: Persons in charge and responsibilities, map of the unit and its location, technical sheet of dams and identification of dam components; 2) Documents: encompasses all dam documentation (projects, assessments, monitoring data, etc.) 3) Monitoring: guidelines and routines for monitoring and inspections; 4) Safety assessment: after sending the monitoring data, a third-party contractor evaluates this data and sends a monthly technical report that includes the ICS report - Safety Condition Index; 5) Sight management: content of sight management tables must contain the main characteristics of the dam, geotechnical monitoring data, organizational chart, inspection sheets and results of safety assessments; 6) Training: everyone involved needs to be properly trained; 7) Legislation: legislation from all areas must be surveyed and its applicability and the fulfillment of each requirement must be evaluated - today, this monitoring is done on a digital platform called Lus Natura; 8) Emergency: Emergency response plan related to dams; 9) Manual: elaboration of a Dam Manual with all the guidelines to be complied with; 10) Operation: elaboration and compliance with the guidelines established within the manual. <p>In the safety assessment module, the ICS can vary between satisfactory (A), satisfactory with reservations (B), indeterminate (C1), indeterminate with aggravating factor (C2) and unsatisfactory (C3). Within the procedure, the characteristics of each possible index are specified and it is reinforced that the desired level for all dams in all reports is A, which means that the dam was designed according to appropriate engineering standards, built in accordance with the project specifications, it has sufficient and adequate geotechnical instrumentation, an inspection program has been implemented, it is operated according to the project's premises and operating manual, accompanied by a specialized third-party company and does not show any sign of anomalous behavior.</p>

Procedimento	Detalhes do procedimento	Explique
Plano operacional	<p>Um plano operacional alinhado com o quadro estabelecido para os controles críticos e os níveis de riscos aceitáveis</p> <p>Um plano operacional que inclua as restrições operacionais da barragem e seu método de construção</p> <p>Um plano operacional que leve em consideração as consequências das violações das restrições operacionais da barragem</p> <p>Um plano operacional que inclua a revisão periódica dos materiais de fundação e de encosta</p> <p>Um plano operacional que avalie a eficiência das medidas de gestão de risco e se os objetivos de desempenho estão sendo atendidos</p>	<p>For more than two years, CBA has had a management procedure in the Dam Governance Manual that not only contains the responsibilities of each person involved in the process, but also information on legal requirements, risk management, dam projects, implementation of works and more specific information about the operation of the dams. The minimum operational controls that must be implemented in the dam, according to its life cycle stage, are presented to prevent, alert or reduce the possibility of the occurrence of an undesired event and/or minimize the impacts in the case of occurrence. In addition, the geotechnical and structural monitoring that must be carried out at the dam and the inspections that must be carried out fortnightly by members of the dam safety team and every six months by a specialized company are also described. This procedure is updated with information from all existing monitoring instruments for each dam of the CBA units and the reading frequency of each one. If any anomaly is found during the processes described above, maintenance procedures must be started immediately. In cases of need for engineering intervention, the applicable standards and legislation must be met and all are detailed within the specific procedure.</p>
Plano de vida útil das instalações	<p>Um plano de vida útil das instalações que identifique especificações mínimas e objetivos de desempenho para as fases de operação e fechamento</p> <p>Um plano de vida útil das instalações que inclua uma identificação dos potenciais riscos físicos e químicos das fases de projeto e construção</p> <p>Um plano de vida útil das instalações que leve em consideração o uso da água e das terras após o fechamento</p> <p>Um plano de vida útil das instalações que dê detalhes dos recursos humanos e financeiros necessários</p>	<p>In addition to the Dam Governance Manual that describes the operational procedures and their monitoring methods at each stage of the dam's life cycle, CBA has a management standard with guidelines to be followed for the Closing of its units, including in relation to criteria to be to be fulfilled by the contracted company and its work team and methodologies to be followed. When the unit to be closed has dams, there are steps to be evaluated and implemented:</p> <ul style="list-style-type: none"> * Decharacterization of tailings dams; * General recommendations for defining closing actions * Industrial, administrative and support areas <p>Within these stages, baseline conditions of soil, groundwater and surface water quality are evaluated in the area where the deposit will be implanted and in its surroundings, soil permeability in the place foreseen for the implantation, level to the aquifer in the place foreseen for the implantation and natural drainages and water courses in the surroundings. In addition, the Company also has a specific procedure for dam projects, considering from the stage of preparation and construction.</p>
Programa de garantia	<p>Um programa de garantia para a fase operacional da instalação que estabeleça os detalhes dos procedimentos para as inspeções, auditorias e revisões</p> <p>Um programa de garantia para cada fase da vida útil das instalações que inclua a frequência dos vários níveis de inspeções, auditorias e revisões</p> <p>Um programa de garantia para cada fase da vida útil das instalações que inclua o escopo dos vários níveis de inspeções, auditorias e revisões</p> <p>Um programa de garantia que detalhe os requisitos de competência para as pessoas responsáveis pelas inspeções, auditorias e revisões</p> <p>Um programa de garantia que inclua uma auditoria externa que cubra os planos de operação ou de vida útil das instalações</p>	<p>For more than two years, the CBA has had a management procedure in the Dam Governance Manual that contains not only the responsibilities and competencies of each person involved in the process, but also information on legal requirements, risk management, dam projects, execution of works and more information about the operation of the dams. The minimum operational controls that must be implemented in the dam, according to the stage of its life cycle, are presented to prevent, alert or reduce the possibility of the occurrence of an unwanted event and/or minimize the impacts in the case of its occurrence. In addition, the geotechnical and structural monitoring that must be carried out at the dam and the inspections that must be carried out fortnightly by members of the dam's safety team and every six months by a specialized company are also described. This procedure is updated with information from all existing monitoring instruments for each dam of the CBA units and the reading frequency of each one of them. If any anomaly is found during the processes described above, maintenance procedures must be started immediately. In cases of need for engineering intervention, applicable standards and legislation must be met and all are detailed within the specific procedure. CBA also hires a specialized technical consultancy to carry out a periodic assessment of the dam structures and for the monthly safety assessments that are carried out after sending the results obtained in the monitoring.</p>

Procedimento	Detalhes do procedimento	Explique
Processo de gestão de mudanças	Inclusão de um processo formal de gestão de mudanças para a fase de construção da instalação Inclusão de um processo formal de gestão de mudanças para a fase operacional da instalação Inclusão de um processo formal de gestão de mudanças para as fases de encerramento e descomissionamento da instalação	The Company has a management procedure for Risk Change Management that is applicable to any type of change, whether temporary or permanent. The responsibilities and roles of each stakeholder in the process are described, as well as the training of both own and third-party employees, routine and emergency activities and the flow to be followed in case of changes. After identifying the need for change, a meeting is held to classify the level of complexity of the change in order to use the appropriate analysis tool. After that, planning and registration is carried out on the security platform, informing all the necessary changes for the actions to be carried out. After all the actions are completed, the change is evaluated and, if everything is within the forecast, it is approved and finalized. This process is valid for any and all changes carried out in all CBA units, also covering all dams.
Aprovação	Uma política para eliminar ou minimizar os riscos hídricos associados a barragens de rejeitos foi aprovada por um membro do C-suite O plano operacional e o plano de vida útil das instalações são aprovados pelo Gerente de SSMA 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 de gestão de mudanças são aprovados pelo Gerente de SSMA Os resultados do programa de garantia e do processo de gestão de mudanças são aprovados por um diretor do C-suite	Currently, CBA has an Integrated Management Policy that contemplates the Company's performance in a preventive manner, mitigating and minimizing and controlling the hazards and risks of its operations, in addition to recognizing, preventing, controlling and mitigating the environmental impacts of its operations, such as example, depletion of natural resources, alteration of local biodiversity, water, air and soil quality. This Policy is signed by the CEO of the company. In cases of closure of a unit and/or the end of the useful life of one of the dams (which has not yet happened), the entire strategy and actions are approved by the responsible manager and the entire CBA board of directors. The Standards and Procedures described in this issue in relation to dams have all been approved by the EHS manager and the general manager of sustainability, considered an extension of the board of directors. In addition, the company's senior leadership receives monthly updates regarding the ICS (Safety Condition Index) and the status of the dam maintenance and risk control action plans.

W3.3

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

Sim, os riscos hídricos são avaliados

W3.3a

(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 de 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

COSO Enterprise Risk Management Framework

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; Ecolnvent)

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 <i>commodities</i>/matérias-primas
Marcos regulatórios referentes à água
Condições dos ecossistemas e habitats
Acesso a serviços de 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

Comentários

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 de uma vez por ano

Até que momento no futuro os riscos são levados em consideração?

Até 1 ano

Tipo de ferramentas e métodos usados

Outros

Ferramentas e métodos usados

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 água, saneamento e higiene gerenciados de modo seguro para todos os funcionários

Partes interessadas levadas em consideração

Selecione

Comentários

CBA created the Sustainable Procurement Program in 2021, which aims to evaluate all its suppliers in various aspects related to water. It assesses topics such as legal compliance in relation to mandatory authorizations for capturing water and disposing of effluents, the supplier's management level in relation to water resources and possible consumption reduction goals. The service is provided on a partial basis, as all suppliers have not yet been evaluated in these ESG aspects, as the Program implementation schedule will still take place until the end of 2022.
In addition, the issue of legal requirements in relation to water is also addressed during an audit of suppliers that provide services related to waste.
CBA is also certified in the ASI (Aluminum Stewardship Initiative) standard in Performance and Chain of Custody. The Performance Standard defines environmental, social and governance principles and criteria, with the aim of addressing sustainability issues in the aluminum value chain. The ASI Chain of Custody Standard, which complements the Performance Standard, establishes the requirements for creating a Chain of Custody for material that is produced and processed through the aluminum value chain in various sectors. The implementation of this Standard verifies practices at successive stages of the supply chain.
During CBA's risk assessment, other stages of the process were evaluated, such as the supply chain, and two risks considered significant for CBA were mapped: lack or reduction in the supply of pitch and coke - two essential inputs for the electrolysis stage. During the manufacture of both high temperature and steam water are required and therefore we have included the risk of a lack of water at the supplier and how this could impact the supply of the input to CBA.

(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.

CBA has a Risk Management Policy applicable to all its units, with the objective of managing financial, operational, socio-environmental, strategic and compliance risks that considers climate risks analysis. The Company's Risk Management Policy is based on governance guidelines; corporate bylaws of the Company; applicable rules issued by the Commission of Securities (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.

The Risk Management Policy has as main objective to establish guidelines and responsibilities of the Risk Management of the Company, as well as guiding the processes of contextualization, identification, evaluation, analysis, treatment, recording, monitoring and communication of the risks inherent to its activities, incorporating the risk vision into strategic decision-making and in accordance with best market practices. It is applicable to all areas of the Company and its units, which must use the tools made available by the Risk Management and Internal Controls to support the conduct of its processes in order to seek reduction of exposure to risks, internal or external, inherent to CBA's business and that they communicated, contextualized, identified, prioritized, evaluated, recorded, treated and monitored. For the Company, Risk is the possibility that an event will occur and adversely affect the realization objectives, with Risk Management being a set of coordinated activities to direct and control an organization as it pertains to risk, the purpose of which is to create and protect value from performance improvement, encouraged innovation and support the achievement of strategic objectives. The company has a risk identification step that performs the search, recognition and description of them based on the established context and supported by communication and consultation with internal and external stakeholders. The aim is to produce a comprehensive list of Risks, including causes, sources and events, which may have an impact on the achievement of the objectives identified in the context establishment stage. In addition, there is the Risk Analysis phase, which is responsible for understanding the nature of the Risk and determining its level, providing the basis for the assessment and for decisions on risk treatments. The result of the Risk analysis will be to assign, for each identified Risk, a classification both for the Probability (measure of the possibility of occurrence of a Risk event) and Impact (consequence of the materialization of the Risk event in the objectives), whose combination will determine the level of Risk. Next, there is the risk assessment stage, with the purpose of carrying out a Risk assessment and assisting in decision making based on the results of the Risk analysis. It involves comparing the level of Risk with the criteria of Risks established when the context has been considered, to determine whether the Risk and/or its magnitude is acceptable or tolerable or if any treatment is required. Finally, there is the risk treatment phase, which involves the selection of one or more options, to modify the level of Risk and the elaboration of treatment plans that, once implemented, will imply the introduction of new controls or the modification of existing ones.

The purpose of risk identification is to find, recognize and describe risks that can affect CBA to achieve objectives defined. This analysis is carried out considering all the risk factors that are identified through the risk assessment process and are evaluated according to the impact and probability of the risk. The evaluation criteria involve the comparison between the risk rules and probability of occurrence in internal and external environment as well as the controls in place to mitigate the risks. The result of the assessment must be registered, communicated and validated in the governance bodies: Executive Board, Audit Committee and Board of Directors.

Opportunities are mapped by each area of the company and registered in a multi-disciplinary Competitiveness Management platform. Assessments are made several times during the year and the actions and indicators are systematically monitored. This platform also evaluates the magnitude of the opportunity to determine whether it would have a significant financial or strategic impact. Opportunities are also considered in the short, medium and long term. The main opportunities are also presented to the Board of Directors.

Water risks may involve shortage of power generated by hydroplants, shortage of water for production and tailing dam failures.

In addition to the risk management and identification process already mentioned, CBA carried out a climate adaptation study aimed at the operational units, where climate risks were mapped using the WRI Aqueduct, INPE, WorldClim and IPCC Climate Change Projections methodologies.

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 significativo nos 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 of such impacts 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; lesion or clinical conditions requiring medical follow-up and with no potential to become chronic, with ability to work in the same activity maintained; unscheduled stop 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, which treatment necessarily requires 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. Undersigning of terms of conduct or non-compliance.

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	Comentários
Linha 1	5	76-99	<p>In 2021, our Mining areas (Mirai/MG and Poços de Caldas/GO) used a total of 59,978 m³ to produce 923,045 tons of processed bauxite, our Aluminum plant (Alumínio/SP) used 2,350,000 m³ to produce 371,300 tons of primary aluminum and processed products, the Metalex plant (Araçaguama/SP) used 227,088 m³ for 41,761 tons of billets and the Itapissuma plant (Itapissuma/PE) used 227,088 m³ of water to produce 41,761 tons of rolled products. Therefore total water required in 2021 in our direct operations was 2,691,236 m³. Proportionally, mining represents 2.2% of total use, Metalex represents 2%, Itapissuma 8.4% and the remainder (87.3%) refers to our Aluminum Plant. Niquelândia/GO is a plant currently not in production but still with an active dam considered for its risks.</p> <p>During our climate adaptation study dated 2021, CBA plotted water-related risks such as reduced rainfall, water stress, impacts to our electricity generation (due to Brazil's matrix being mostly hydro-powered), dam failures, etc. Although these risks were plotted and evaluated, not all were considered to have significant impacts (financial or business).</p> <p>For this response, only significant impacts were considered:</p> <ol style="list-style-type: none">1) Alumínio/SP: Dam failure, water restrictions and energy shortages;2) Itapissuma/PE: Energy shortages and water restrictions;3) Mirai/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 de instalações por bacia hidrográfica expostas a riscos hídricos que podem ter um impacto financeiro ou estratégico significativo 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)
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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 no setor de metais e mineração associadas a essas instalações

371300

Porcentagem de geração anual de eletricidade 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

Comentários

Financial risks assessed were recorded in the company's "Risk Sheets" files, where all types of company risks are assessed, whether they are related to water. Of all the risks mentioned in this questionnaire, only those with some form of water-related risk were considered, whether impacted by a direct or indirect lack of water for production or contamination by dam failure. In this same file, risk criticality is also evaluated from a financial point of view, with ranges of impacts on the company depending on their severity. As published in the 2021 annual report, the company's revenues for the year were BRL 8.4 billion.

The values shown as a percentage of the company's facilities that this represents were calculated based on the company's total water needs in 2021. Considering that our facilities have different processes and impacts, CBA understood that performing the proportion based on water needs would be the best way to explain the significance of each unit. Information on income produced by each unit cannot be disclosed for reasons of confidentiality, but the percentage of values recorded indicate if the risk occurred over the company's entire gross revenues for 2021. Risk plotting is very important for defining which investments (both CAPEX and OPEX) will be prioritized to mitigate our company's risks.

In the Tietê 2 river basin, we have only one unit with significant risks plotted, namely Alumínio/SP. It is our most important plant, where we produce primary aluminum and processed products.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Brazilian East Atlantic Coast)
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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 no setor de metais e mineração associadas a essas instalações

41761

Porcentagem de geração anual de eletricidade 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

Comentários

Financial risks assessed were plotted in the company's "Risk Sheets" files, where all types of company risks are assessed, whether they are related to water. Of all the risks mentioned in this questionnaire, only those with some form of water-related risk were considered, whether impacted by a direct or indirect lack of water for production or contamination by dam failure. In this same file, risk criticality is also evaluated from a financial point of view, with ranges of impacts on the company depending on their severity. As published in the 2021 annual report, the company's revenues for the year were BRL 8.4 billion.

The values shown as a percentage of the company's facilities that this represents were calculated based on the company's total water needs in 2021. Considering that our facilities have different processes and impacts, CBA understood that performing the proportion based on water needs would be the best way to explain the significance of each unit. Information on income produced by each unit cannot be disclosed for reasons of confidentiality, but the percentage of the values recorded indicate if the risk occurred over the company's entire gross revenues for 2021. Risk plotting is very important for defining which investments (both CAPEX and OPEX) will be prioritized to mitigate our company's risks.

On the Brazilian East Atlantic Coast basin, we only have our Itapissuma/PE plant - a rolled products plant - and the risks of electricity shortages and restrictions on use or lack of water were considered. Adding both risks, the financial impact for CBA would also be below 10%, yet above 1%.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Muriae)
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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 no setor de metais e mineração associadas a essas instalações

543498

Porcentagem de geração anual de eletricidade 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

Comentários

Financial risks assessed were plotted in the company's "Risk Sheets" files, where all types of risks for the company are assessed, whether they are related to water. Of all the risks mentioned in this questionnaire, only those with some type of water-related risk were considered, whether impacted by a direct or indirect lack of water for production or contamination by dam failure. In this same file, risk criticality is also evaluated from a financial point of view, with ranges of impacts on the company depending on their severity. As published in the 2021 annual report, the company's revenues for the year were BRL 8.4 billion.

The values shown as a percentage of the company's facilities that this represents were calculated based on the company's total water needs in 2021. Considering that our facilities have different processes and impacts, CBA understood that performing the proportion based on water needs would be the best way to explain the significance of each unit. Information on income produced by each unit cannot be disclosed for reasons of confidentiality, but the percentage of the values recorded indicate if the risk

occurred over the company's entire gross revenues for 2021. Risk plotting is very important for defining which investments (both CAPEX and OPEX) will be prioritized to mitigate our company's risks.

In the Muriaé river basin where our Mirai/MG plant is located to mine and process bauxite, we plotted one significant extreme risk in CBA's evaluation, but a possible financial impact would still be below 10% of our annual revenues.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Pomba)
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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 no setor de metais e mineração associadas a essas instalações

0

Porcentagem de geração anual de eletricidade 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

Comentários

Financial risks assessed were plotted in the company's "Risk Sheets" files, where all types of company risks are assessed, whether they are related to water. Of all the risks mentioned in this questionnaire, only those with some form of water-related risk were considered, whether impacted by a direct or indirect lack of water for production or contamination by dam failure. In this same file, risk criticality is also evaluated from a financial point of view, with ranges of impacts on the company depending on their severity. As published in the 2021 annual report, the company's revenues for the year were BRL 8.4 billion.

The values shown as a percentage of the company's facilities that this represents were calculated based on the company's total water needs in 2021. Considering that our facilities have different processes and impacts, CBA understood that performing the proportion based on water needs would be the best way to explain the significance of each unit. Information on income produced by each unit cannot be disclosed for reasons of confidentiality, but the percentage of the values recorded indicate if the risk occurred over the company's entire gross revenues for 2021. Risk plotting is very important for defining which investments (both CAPEX and OPEX) will be prioritized to mitigate our company's risks.

In the Pomba river basin where our Itamarati de Minas/MG plant is located to mine and process bauxite, two risks were evaluated as significant. This plant did not operate in 2021, yet we considered it in some issues due to the active dams.

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Tocantinzinho)
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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 no setor de metais e mineração associadas a essas instalações

0

Porcentagem de geração anual de eletricidade 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

Comentários

Financial risks assessed were plotted in the company's "Risk Sheets" files, where all types of risks for the company are assessed, whether they are related to water. Of all the risks mentioned in this questionnaire, only those with some form of water-related risk were considered, whether impacted by a direct or indirect lack of water for production or contamination by dam failure. In this same file risk criticality is also evaluated from a financial point of view, with ranges of impacts on the company depending on their severity. As published in the 2021 annual report, the company's revenues for the year were BRL 8.4 billion.

The values shown as a percentage of the company's facilities that this represents were calculated based on the company's total water needs in 2021. Considering that our facilities have different processes and impacts, CBA understood that performing the proportion based on water needs would be the best way to explain the significance of each unit. Information on income produced by each unit cannot be disclosed for reasons of confidentiality, but the percentage of the values recorded indicate if the risk occurred over the company's entire gross revenues for 2021. Risk plotting is very important for defining which investments (both CAPEX and OPEX) will be prioritized to mitigate our company's risks.

In the Tocantinzinho river basin we only have one plant, currently shut down, at Niquelândia/GO, but due to its active dam it is considered for this questionnaire.

W4.2

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

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Tietê 2)
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Tipo de risco e Principal fator de risco

Físico crônico	Estresse hídrico
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Principal impacto potencial

Redução ou interrupção da capacidade produtiva

Descrição específica da empresa

In the production unit in the town of Alumínio (SP), we have our integrated plant with all the aluminum chain production steps. Currently water is used in the refinery stage (raw material digestion), smelter stage (gas treatment), foundry and downstream stages (product cooling). Water is essential for our production process and with climate change aggravation, projections show the possibility of rainfall reduction and increase of hydro stress in water basins. CBA has run climate projections for all its units in the aluminum business with the purpose of obtaining its results and drawing up an action plan to increase CBA's climate resilience. With changes in rainfall parameters, our units are exposed to the risk of water shortages, likely to compromise our production, and as consequence 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 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

Alta

Probabilidade

Improvável

É possível indicar 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, 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 the financial impacts created by the lack of production. Calculation of the indicator: Final 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 for example, a continuous improvement of the closed-loop system, furnace room technology, 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 Prensa 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 machines, 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 mentioned 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)
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Tipo de risco e Principal fator de risco

Físico crônico	Dependência de fontes de energia com uso intenso de água
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Principal impacto potencial

Redução ou interrupção da capacidade produtiva

Descrição específica da empresa

In the production unit in the town of Alumínio (SP), we have our integrated plant with all the aluminum chain production steps. Currently water is used in the refinery stage (raw material digestion), smelter stage (gas treatment), foundry and downstream stages (product cooling). Water is essential for our production process and with climate change aggravation, projections show the possibility of rainfall reduction and increase of hydro stress in water basins. CBA has run climate projections for all its units in the aluminum business with the purpose of obtaining its results and drawing up an action plan to increase CBA's climate resilience. With changes in rainfall parameters, our units are exposed to the risk of water shortages, likely to compromise our production, and as consequence 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 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

Alta

Probabilidade

Improvável

É possível indicar um valor para o potencial impacto financeiro?

Sim, uma faixa estimada

Valor do potencial impacto financeiro (moeda)

<Not Applicable>

Valor do potencial impacto financeiro – mínimo (moeda)

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 hydroelectric 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 hydroelectric 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 hydroelectric 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 failure or interruption in the supply of electricity to 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)
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Tipo de risco e Principal fator de risco

Físico crônico	Estresse hídrico
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Principal impacto potencial

Redução ou interrupção da capacidade produtiva

Descrição específica da empresa

The Itapissuma/PE unit turns out rolled products such as foil, sheets and extrusions and was responsible for 8,14% of CBA's total water requirements in 2021. Water is used there especially for product cooling and as water is essential for our production process, CBA has made climate projections using scenario analysis at all its aluminum production units, with the purpose of obtaining results and drawing up an action plan to minimize possible impacts. The results showed an increase in the water stress risk from medium-high to high for the 2030 and 2040 predictions. There is also a likelihood for a 10% reduction in rainfall and a change in the area's rain distribution.

Prazo

De hoje até um ano

Magnitude do potencial impacto

Média

Probabilidade

Improvável

É possível indicar 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 control of water needs 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 also being studied, such as drilling a new well to obtain 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

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

País/área e Bacia hidrográfica

Brasil	Não conhecido
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Estágio da cadeia de valor

Cadeia de fornecimento

Tipo de risco e Principal fator de risco

Físico crônico	Estresse hídrico
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Principal impacto potencial

Redução ou interrupção da capacidade produtiva

Descrição específica da empresa

In its industrial unit in the city of Alumínio (SP), we have our integrated plant that has all the aluminum chain production steps. Inside it, CBA has an anodic paste factory where the coal-tar pitch and petroleum coke inputs are mixed to then be destined to form the anode of the vat, through cooking in the ovens in the smelting stage. It is in this step that the reduction of alumina by carbon to obtaining metallic aluminum. In addition to being an essential input for the aluminum manufacturing process, petroleum coke can also influence the quality of the anode and, consequently, the efficiency of the production process through its structure, porosity, resilience, and impurities present. Currently, the company has only one approved supplier for this product. The lack of material supply or the reduction of its quality brings direct negative impacts to CBA, since the aluminum production process depends on this input, such as, for example, the reduction of its production capacity or even the total stoppage of activities for lack of input or for not reaching the minimum qualities of the CBA standard. This risk was mapped considering a possible lack of water at our supplier, since the coke manufacturing process uses a system called Hydrocracker, which needs large amounts of water vapor for the oil phase separation process and, therefore, supplier dependence on water is also high.

Prazo

De hoje até um ano

Magnitude do potencial impacto

Alta

Probabilidade

Improvável

É possível indicar 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

Financial impact was assessed considering that if the petroleum coke supplier is unable to supply the necessary amount of material, in part or in whole, for the company's normal operation, it will be necessary to purchase the material from other sources.

Currently, as it is the only petroleum coke supplier approved by CBA, the solution would be to import anodic paste as a final product instead of producing it internally at the Alumínio/SP unit. The value of this impact is the additional cost that the company would have if it were necessary to import directly, considering the worst-case scenario of total imports of the material.

Principal resposta ao risco

<i>Upstream</i>	Diversificar os fornecedores
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Descrição da resposta

Some actions were mapped to try to mitigate the risk of lack of coke, such as:

* Carrying out a study of alternative imports and blending in case of unavailability of national coke, with a deadline until December/22.

* Development of alternative supplier to supply demand by December/2022.

* Investment in storage and blending structure at CBA for importing larger quantities by December/2022.

* Establishment of procedure for purchasing anodic paste (as a last resort) already done in 2021.

* Anodic Paste Factory Upgrade, which will even reduce the amount of coal-tar pitch included in the anodic paste currently produced and used in the pot rooms, among other actions.

Custo da resposta

96000000

Explicação do custo da resposta

Part of the actions mentioned above will not cost the company, such as, for example, the search for new suppliers and the structuring of a procedure for the importation of anodic paste. The cost presented deals with the upgrade of the current Anodic Paste Factory located at CBA to increase the installed production capacity from 23.5 ton/hour of anodic paste to 29t/h. 55.6% of the entire cost of the work refers to the purchase of equipment and machinery (both national and international), 17.2% for civil, electromechanical and IT services, 17.1% for other costs in general, 4.4% for management and engineering activities and the remaining 5.7% is included as a contingency in the project in case of cost changes or any unmapped 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	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 its industrial unit in the city of Alumínio (SP), we have our integrated plant that has all the aluminum chain production steps. Inside it, CBA has an anodic paste factory where the coal-tar pitch and petroleum coke inputs are mixed to then be destined to form the anode of the vat, through cooking in the ovens in the smelting stage. It is in this step that the reduction of alumina by carbon to obtaining metallic aluminum. In addition to being an essential input for the aluminum manufacturing process, coal-tar pitch can also influence the quality of the anode and, consequently, the efficiency of the production process through its softening point, fixed carbon, amount of quinoline insoluble, among other characteristics. The lack of material supply or the reduction of its quality brings direct negative impacts to CBA, since the aluminum production process depends on this input, such as, for example, the reduction of its production capacity or even the total stoppage of activities for lack of input or for not reaching the minimum qualities of the CBA standard. This risk was mapped considering a possible lack of water at our supplier, since the coal-tar pitch production process needs large amounts of water for the cooling of machines and products and, therefore, the supplier's dependence on water is high. In the event of a lack of water, the supplier's production process may have to be stopped.

Prazo

De hoje até um ano

Magnitude do potencial impacto

Alta

Probabilidade

Improvável

É possível indicar 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 assessed considering that if the coal-tar pitch supplier is unable to supply the necessary amount of material, partially or totally, for the company's normal operation, it will be necessary to acquire the material in another way. Currently, the most viable solution found would be to import the anodic paste as a final product instead of producing it internally at the Alumínio/SP unit. The value of the mapped impact is the additional cost that the company would have if it were necessary to carry out this import, considering the worst-case scenario of total import of the material.

Principal resposta ao risco

<i>Upstream</i>	Diversificar os fornecedores
-----------------	------------------------------

Descrição da resposta

During the risk assessment process, the company mapped some actions that it understands as keys to mitigating or minimizing the risk of lack of tar supply to produce anodic paste, such as:

- * Coal-tar pitch melting plant enabling the expansion of the acquisition of imported pitch, with higher quality and lower melting cost to be completed by April/22.
- * Study of alternative supply of the input.
- * Increase in the coal-tar pitch stock at the unit to be enough for 20 days of production (action already implemented).
- * Monthly monitoring of coal-tar pitch quality from national suppliers (action already implemented).

Custo da resposta

16580000

Explicação do custo da resposta

Most of the actions mapped by the company do not involve cost for implementation and have already been possible to be implemented more quickly, such as the monthly monitoring of product quality and the increase in stock, since there was space for storage. The mentioned response cost includes the construction of the infrastructure to melt the pitch inside the current anodic paste factory located at the Alumínio/SP plant. The main objective of this project is to expand CBA's access to this vital input. Currently, liquid coal-tar pitch is in short supply throughout the market and, when the Company purchases solid coal-tar pitch, it is necessary to hire a service to melt this material and deliver it by truck. With the construction of the area and purchase of equipment for the internal performance of this service, the risk of material shortage will be practically zero. Of the total cost presented, 49.4% corresponds to the purchase of national equipment, 18% is destined for civil construction, 14% for electromechanical assembly, 12% for the purchase of materials to be used in the installation, 1.6% for consulting and project management and the remaining 5% for contingency in case of something unmapped. The percentages may change until the end of the project, considering that they are 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) Dê 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 materializar a oportunidade

The objective established in CBA's ESG Strategy is to reduce, by 2030, the consumption of new water per ton of liquid aluminum produced in the Integrated Aluminum Factory in Alumínio/SP, which is CBA's plant with the highest water consumption (83% of CBA's annual consumption). Since 2019, this KPI has decreased by 10.9%, being 1.8% in the last year. In addition, at this unit, 100% of the water destined for the production processes is already treated and reused internally, with no external discharge. When the closed-loop system (water resilience project) was created in 2002, the objective was to treat effluents, capture rainwater and recirculate the water only for industrial purposes. Now, the goal is to reuse it in other processes that still require new potable water. Conceptual work was also initiated with the aim of reassessing this water circuit system to propose improvements in order to increase its recirculation potential. During the year, 2,350 thousand cubic meters were collected at the Alumínio/SP unit. This project is very important for the company, as it helps to reduce the company's external dependence on water. The more processes that are mapped to use recycled water, the lower the need for CBA to collect water and the greater the region's water availability for society.

Prazo estimado para a realização

4 a 6 anos

Magnitude do potencial impacto financeiro

Baixa

É possível indicar um valor para o potencial impacto financeiro?

Sim, uma estimativa de valor único

Valor do potencial impacto financeiro (moeda)

498576.55

Valor do potencial impacto financeiro – mínimo (moeda)

<Not Applicable>

Valor do potencial impacto financeiro – máximo (moeda)

<Not Applicable>

Explicação do impacto financeiro

CBA's closed loop system (water resilience project) was not created seeking financial return. It was thought of in terms of water availability for the Alumínio/SP plant (main unit) and the environmental benefits that a reduction in freshwater consumption would bring to the nearby community. The project has existed for 20 years at the company and, annually, opportunities for improvement are evaluated in search of greater efficiency in water recirculation. The financial impact shown refers to an avoided cost of treating both drinking water (R\$1.33/m³) and industrial water (R\$1.79/m³) at the unit. In 2021, 3 projects were implemented to increase the reuse of water in specific locations of the unit, for example, reuse of water from the Foundry's compressors and reuse of purge water from the compressed air towers that meant the reduction of 125,925m³/year being treated as both fresh water and industrial effluent and an estimated annual gain of R\$392,886.00 (Results = 126,000m³ * [R\$1.33 + R\$1.79]). Projects that will start in 2022 were also mapped, such as reuse of purge water from the ingot machine system and reuse of purge water from the compressors of foundry 1 and 2, and it is estimated to give a cost avoidance to CBA of about R\$105,690.55 and a reduction of 75,835m³/year (Results = 65,335m³ * R\$1.33 + 10,500m³ * R\$1.79). An evaluation of the closed-loop system is constantly carried out with the hiring of specialized companies to seek new opportunities in the existing system.

Tipo de oportunidade

Eficiência

Principal oportunidade relacionada à água

Melhor eficiência hídrica nas operações

Descrição e estratégia específicas da empresa para materializar a oportunidade

There is a project in progress at CBA aiming to reduce 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 disposal in the dam, also giving rise to a possible 20-year increase in the dam's useful life. In order 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 indicar um valor para o potencial impacto financeiro?

Sim, uma estimativa de valor único

Valor do potencial impacto financeiro (moeda)

31795206.6

Valor do potencial impacto financeiro – mínimo (moeda)

<Not Applicable>

Valor do potencial 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 equipments 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, as a result, will 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 bringing as 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)
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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)

2350

Comparação da captação total com o ano de reporte anterior

Mais baixo

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

1891

Captação de água salobra de superfície/água do mar

0

Captação de águas subterrâneas - renovável

459

Captação de águas subterrâneas - não-renovável

0

Captação de água produzida/arrastada

0

Captação de fontes terceirizadas

0

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

0

Comparação das descargas totais com o as do ano de reporte 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 consumido nesta instalação (megalitros/ano)

2350

Comparação do consumo total com o ano de reporte anterior

Mais baixo

Explique

In the Alumínio/SP unit, there is a closed loop water system. This means that all the water inputs from surface and underground withdrawals is treated in our Effluent Treatment Plants and reused in areas where use of potable water is not mandatory. Through continuous improvement processes in the system, more water is reused, and the company's environmental impact is lower. In this system, all effluent generated at the unit (including those from bathrooms and administrative areas) is treated as industrial water and returned to the process in mapped and approved areas. Information on both new water capture and water reuse is constantly monitored by the responsible sector at the Company. CBA also has several projects aimed at reducing water consumption, such as the modernization of the oven room technology, the Filter Press project, among others. The water consumption volume is calculated by subtracting the Water Discharge Volume from the Water Withdrawal Volume. According to the WRI Aqueduct, the current water stress is Low-Medium (10-20%) in the area. The water is taken from the lakes on the property, in addition to the wells.

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)
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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)

227.09

Comparação da captação total com o ano de reporte anterior

Mais alto

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

0

Captação de água salobra de superfície/água do mar

0

Captação de águas subterrâneas - renovável

227.09

Captação de águas subterrâneas - não-renovável

0

Captação de água produzida/arrastada

0

Captação de fontes terceirizadas

0

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

151

Comparação das descargas totais com o as do ano de reporte anterior

Mais alto

Descargas em água doce superficial

0

Descargas em água salobra de superfície/água do mar

151

Descargas em águas subterrâneas

0

Descargas em destinos terceirizados

0

Total de água consumido nesta instalação (megalitros/ano)

151.48

Comparação do consumo total com o ano de reporte anterior

Mais alto

Explique

Even though this is our first year of reporting to CDP, we are able to provide comparisons regarding with previous year because of the internal control done and verified by a third party during the elaboration of the Annual Report. The volume of water used is calculated by subtracting Water Discharge Volume from Water Withdrawal Volume. According to the WRI Aqueduct, current water stress is Medium-High (20-40%) in the area. Water is only withdrawn from wells.

Número de referência da instalação

Instalação 3

Nome da instalação (opcional)

Mirai/MG - This unit has mining and processing of bauxite

País/área e Bacia hidrográfica

Brasil	Outro, especifique (Muriae)
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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)

15.25

Comparação da captação total com o ano de reporte anterior

Mais baixo

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

4.07

Captação de água salobra de superfície/água do mar

0

Captação de águas subterrâneas - renovável

11.18

Captação de águas subterrâneas - não-renovável

0

Captação de água produzida/arrastada

0

Captação de fontes terceirizadas

0

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

2.23

Comparação das descargas totais com o as do ano de reporte anterior

Mais baixo

Descargas em água doce superficial

2.231

Descargas em água salobra de superfície/água do mar

0

Descargas em águas subterrâneas

0

Descargas em destinos terceirizados

0

Total de água consumido nesta instalação (megalitros/ano)

13.02

Comparação do consumo total com o ano de reporte anterior

Mais baixo

Explique

As this is our first year of reporting to CDP, we cannot provide comparisons regarding increased or reduced water withdrawal and discharges at our facilities. The volume of water consumption is calculated by subtracting Water Discharge Volume from the Water Withdrawal Volume. According to the WRI Aqueduct, current water stress is Low-Medium (10-20%) in the area. The water is obtained from wells and surface water bodies.

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 was confirmed by a third party during the 2021 Annual Report verification process, which was developed following GRI and SASB standards and audited according to the ISAE 3000 Standard. In addition, CBA has ISO 14001 certification and the ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units.

Explique

<Not Applicable>

Captação de água – volume por fonte**Porcentagem verificada**

76-100

Norma de verificação utilizada

All the data used was confirmed by a third party during the 2021 Annual Report verification process, which was developed following GRI and SASB standards and audited according to the ISAE 3000 Standard. In addition, CBA has ISO 14001 certification and the ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units.

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 was assured by a third party during the 2021 Annual Report verification process, which was developed following GRI and SASB standards and audited according to the ISAE 3000 Standard. In addition, CBA has ISO 14001 certification and the ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units. The monitoring program adopts as a legal parameter the CONAMA (Brazilian National Environment Council) Resolution 430 of 2011, which provides for conditions and standards for discharge of effluents. Not only does monitoring comply with State Environmental Agencies' technical requirements. Effluent sample analyses are held and reported to these agencies. We undergo constant operational monitoring of effluent quality, including parameters such as pH, temperature and dissolved oxygen. We also monitor parameters such as COD, color and suspended solids daily. Furthermore, we monitor BOD, nitrogen, phosphorus, among numerous other parameters.

Explique

<Not Applicable>

Descargas de água – volume total

Porcentagem verificada

76-100

Norma de verificação utilizada

All the data used was assured by a third party during the 2021 Annual Report verification process, which was developed following GRI and SASB standards and audited according to the ISAE 3000 Standard. In addition, CBA has ISO 14001 certification and the ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units.

Explique

<Not Applicable>

Descargas de água – volume por destino

Porcentagem verificada

76-100

Norma de verificação utilizada

All the data used was assured by a third party during the 2021 Annual Report verification process, which was developed following GRI and SASB standards and audited according to the ISAE 3000 Standard. In addition, CBA has ISO 14001 certification and the ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units.

Explique

<Not Applicable>

Descargas de água – volume por nível de tratamento final

Porcentagem verificada

76-100

Norma de verificação utilizada

All the data used was assured by a third party during the 2021 Annual Report verification process, which was developed following GRI and SASB standards and audited according to the ISAE 3000 Standard. In addition, CBA has ISO 14001 certification and the ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units.

Explique

<Not Applicable>

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

Porcentagem verificada

76-100

Norma de verificação utilizada

All the data used was assured by a third party during the 2021 Annual Report verification process, which was developed following GRI and SASB standards and audited according to the ISAE 3000 Standard. In addition, CBA has ISO 14001 certification and the ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units. The monitoring program adopts as a legal parameter the CONAMA (Brazilian National Environment Council) Resolution 430 of 2011, which provides for conditions and standards for discharge of effluents. Not only does monitoring comply with State Environmental Agencies' technical requirements. Effluent sample analyses are carried out and reported to these agencies. We undergo constant operational monitoring of effluent quality, including parameters such as pH, temperature and dissolved oxygen. We also monitor parameters such as COD, color and suspended solids daily. Furthermore, we monitor BOD, nitrogen, phosphorus, among numerous other parameters.

Explique

<Not Applicable>

Consumo de água – volume total

Porcentagem verificada

76-100

Norma de verificação utilizada

All the data used was assured by a third party during the 2021 Annual Report verification process, which was developed following GRI and SASB standards and audited according to the ISAE 3000 Standard. In addition, CBA has ISO 14001 certification and the ASI (Aluminum Stewardship Initiative) Performance and Chain of Custody standards in its units.

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) Seleccione as opções que melhor descrevem o escopo e o conteúdo da política hídrica.

	Escopo	Conteúdo	Explique
Linha 1	Na empresa como um todo	<p>Descrição da dependência da empresa em relação à água</p> <p>Descrição do impacto da empresa em relação à água</p> <p>Descrição das normas de desempenho em relação à água para as operações diretas</p> <p>Referência a normas internacionais e iniciativas de reconhecimento mundial relacionadas à água</p> <p>Objetivos e metas da empresa para a questão hídrica</p> <p>Compromisso de alinhar-se com iniciativas de políticas públicas, como os ODSs</p> <p>Compromissos além da conformidade regulatória</p> <p>Compromisso com a inovação na questões hídricas</p> <p>Compromisso com a conscientização e a formação das partes interessadas</p> <p>Compromisso com a governança da água e/ou a ação coletiva</p> <p>Compromisso com serviços de água, saneamento e higiene gerenciados em segurança no local de trabalho</p> <p>Reconhecimento do direito humano à água e ao saneamento</p> <p>Reconhecimento das vinculações ambientais, por exemplo, devido às mudanças climáticas</p> <p>Outro, especifique (Legal requirements for authorization of water abstraction and effluent disposal, water-related impact assessment of changes, assessment and treatment of risks, accidents and incidents involving water.)</p>	<p>CBA's public policy is the Integrated Management Policy and, in addition, it has the Water and Liquid Effluent Management Program, which is an exclusively internal program applicable to the entire Aluminum and Nickel business. Currently, CBA does not have a specific Water Policy publicly available, but is studying the possibility of creating and publishing one in the coming years.</p> <p>The aluminum manufacturing process has a high consumption of water when compared to other production processes and, therefore, plays a fundamental role in the conservation of water resources. CBA recognizes the importance of the water issue and, therefore, describes in its program the goal of the ESG Strategy 2030 of 20% reduction in the consumption of new water per ton of liquid aluminum produced. As support for achieving this objective, the need for technological innovation inside and outside the Company is reinforced, focusing on improvements in parameters and reuse processes, in addition to meeting legal requirements, while ensuring the distribution of potable water to everyone within of the CBA locations - as it is a basic human right.</p> <p>In this program, the need for training and qualification of all those involved in the collection and treatment of water is also described, in addition to making all employees and third parties aware of how to avoid wasting water, always basing their management on the certification of ASI and ISO standards. - globally recognized initiatives.</p> <p>CBA's relationship and engagement with companies, institutions and commitments to public initiatives such as the SDGs and the UN Global Compact are included in the 'complementary information' of the Program, as is CBA's commitment to participate in specific forums and committees on water. Currently, the Company is an active member of Basin Committees and of the Water working group of CEBDS (Brazilian Business Council for Sustainable Development).</p> <p>In terms of environmental aspects and impacts, the Company links water issues to other environmental impacts, such as climate change and its adverse consequences.</p> <p>In addition to the Corporate Water and Effluent Program, each unit has a specific unit that will provide more detailed information applied exclusively to that location.</p>

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	Explique
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 pot room technology modernization project and the water resilience project at the Alumínio/SP unit, both already under implementation.
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.
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 modernization of pot room technology, which will avoid the consumption of 27 million m³ 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	In 2021, CBA created the Sustainability committee which will operate 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 analyse 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) Dê mais detalhes sobre a supervisão das questões hídricas pelo conselho.

	Frequência com a qual as questões hídricas são incluídas na pauta planejada	Mecanismos de governança nos quais as questões hídricas estão integradas	Explique
Linha 1	Programada - algumas reuniões	Monitoramento da implementação e do desempenho Análise e orientação dos principais planos de ação Análise e orientação de estratégia Análise e orientação da estratégia de responsabilidade corporativa Análise das prioridades de inovação / P&D Definição de objetivos de desempenho	<p>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.</p> <p>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.</p>

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	Crítérios 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	CBA has an independent member with sustainability and climate change experience and considered a reference in the topic in the Brazilian market. As published in CBA's 2021 Annual Report, one of its members is also a member of the Advisory Board of Instituto Ethos and WRI Brasil (World Resources Institute), both of which are widely known for their involvement in water issues, natural resources in general and SDGs. As these are important positions in renowned institutions, the member's technical knowledge on water-related topics can be affirmed. This member is responsible for advising our Sustainability Committee and bringing improvement ideas by means of his market vision of best practices.	<Not Applicable>	<Not Applicable>

W6.3

(W6.3) Mencione o(s) cargo(s) ou comitê(s) de gerência 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)

Responsabilidade

Avaliação das futuras tendências de demanda de água
Avaliação de riscos e oportunidades hídricas
Gestão de riscos e oportunidades hídricas

Frequência de reporte das questões hídricas para o conselho

Frequência maior que trimestral

Explique

CBA has the Executive Sustainability Committee since 2019, which includes the CEO, Directors, General Managers, independent members (a member of the board and an external Sustainability Specialist). The responsibilities of this Committee in water-related issues are reviewing the performance strategy, monitoring trends, assess risks and opportunities, approve projects, provide resources for implementation, define goals and monitor results. Water management was identified as one of CBA's materiality themes during our assessment in 2020. In 2021, our CEO participated in the elaboration and approval of the 2030 ESG Strategy, which contemplates goals for freshwater consumption reduction. In addition, he also 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 pot room technology modernization project and the closed-circuit project at the Alumínio/SP unit, both already under implementation.

Nome do(s) cargo(s) e/ou comitê(s)

Diretor Financeiro (CFO)

Responsabilidade

Avaliação das futuras tendências de demanda de água
Avaliação de riscos e oportunidades hídricas
Gestão de riscos e oportunidades hídricas

Frequência de reporte das questões hídricas para o conselho

Frequência maior que trimestral

Explique

Besides being a part of the Executive Sustainability Committee, the CFO is responsible for helping carry out the company's strategy regarding financial resources. If, aside from the strategy, there's an assessed risk which need an action plan to prevent it from happening, the CFO also has the responsibility of helping prioritize these investments.

Nome do(s) cargo(s) e/ou comitê(s)

Comitê de Sustentabilidade

Responsabilidade

Avaliação das futuras tendências de demanda de água
Avaliação de riscos e oportunidades hídricas
Gestão de riscos e oportunidades hídricas

Frequência de reporte das questões hídricas para o conselho

Frequência maior que trimestral

Explique

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

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	Comentários
Linha 1	Sim	CBA includes corporate ESG goals related to the 2030 Strategy for professionals at all levels in the Aluminum Business, with regard to cash bonuses for eligible employees at all levels. Goals are rated by topics according to the areas involved. Senior Management (C-Suite) has as a goal the average of all consolidated results, equal to 10% of its total variable compensation. In 2021 the Primary Business Director and the Technology and Innovation Director had as a goal one of the Company's ongoing projects to provide significant reduction in water requirements to the operation (Modernization of the Pot Room Technology project), as air emissions will be reduced and there will be no need to maintain atmospheric gases wet treatment.

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	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 (Engineer Director)	Redução nos volumes de consumo Melhorias na eficiência – operações diretas	CBA has goals linked to monetary reward for all eligible employees, not just for the C-Suite, such as, for example, the progress goal in the Project for Modernization of the Pot Room Technology (which was divided into phases) applicable to the Primary Business Director and the Technology and Innovation Director. This project will reduce atmospheric emissions and therefore make wet gas treatment obsolete. The achievement of the target was evaluated at the end of the year through the objectives of 5 actions in CBA's rule (100, 300 00 targets) with specific actions for each level. In addition, there was also the goal of evaluating the Closed-loop System at the Alumínio/SP unit with a focus on optimizing internal consumption and reducing the water indicator, and we reached target 500, completing all planned actions. All targets related to monetary reward are chosen according to their positive impact on the progress of the ESG Strategy 2030 objective of reducing new water consumption by 20% in the Aluminum/SP unit, the company's highest consumption unit. The projects that will bring the most positive results are prioritized to become monetary reward goals. For 2022, we have established different goals for different areas of the company in order to move us further into accomplishing our 2030 objective. The indicators used vary according to each goal, but are updated monthly for the entire board.
Recompensa não-monetária	Selecione	Selecione	

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 locations where it operates and offers scholarships for water-related projects development, creating policies and governing activities based on all the applicable regulations at national, state and municipal levels. CBA contributes to the development of public policies by participating in forums such as the Brazilian Business Council for Sustainable Development (CEBDS), whereby knowledge and best practices are exchanged with other companies. CBA is also a signatory of the Global Compact (a business movement led by the United Nations) and the 2030 Agenda, and supports the 17 Sustainable Development Goals (SDGs). We participate in business groups such as ABAL (Brazilian Aluminum Association); IAI (International Aluminum Institute) and ASI (Aluminum Stewardship Initiative) and disclosed our Annual Report (GRI standards) with detailed water-related information to all our stakeholders in the value chain. CBA also has a code of conduct for its employees and suppliers and should there be suspicions of inconsistency with the code's provisions, the "Ethics Line" may be used - which is a confidential information channel open to all our stakeholders and evaluated by a third party to avoid conflicts of interest. In addition, the Company ensures a Non-Retaliation Policy against any suspicion/report made through its channels. These commitments are important to ensure transparency and that the company undertakes best market practices.

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

Sim (é possível anexar o relatório – opcional)

CBA_Annual Report_2021.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 a 2030 ESG Strategy aligned with the 2030 Agenda and Sustainable Development Goals (SDGs) with 10 levers, divided into 15 programs and 31 objectives. One of these objectives deals directly with water use at the Company's main unit located in Alumínio/SP and that represents over 80% of all water needs. The aim is to reduce volumes of new water per ton of liquid aluminum produced by 20%. compared to the base year of 2019. Since 2019, this indicator has decreased by 10.9%, with 1.8% in 2021 alone. Internally, this objective is monitored monthly, with information sent directly to the CBA Board of Directors, and its evolution is published every year in the Annual Report.
Planejamento financeiro	Sim, as questões hídricas estão integradas	> 30	Water-related risks and opportunities have influenced direct costs with the strategy of reducing its use and improving process efficiency. Our 2030 ESG Strategy (Time horizon: 10 years) has a lever to develop our sustainability objectives. As part of our planning structure, every year we perform our PE (Strategic Planning), which provides a projection of CBA's investments over the next 5 years. Within this analysis, all projects with potential for implementation are taken into account and this portfolio includes project opportunities focused on reducing water use or improving its reuse. In 2021 CBA went public on the São Paulo Stock Exchange (B3) and floated part of its shares in the market. In our strategy to allocate the proceeds from the IPO, the company decided to invest these proceeds from the Initial Offering to fund the Company's organic growth for the next two years, directed to the following projects (Capital allocation): (i) upgrading of pot room technology; (ii) dry disposal of waste; (iii) production of additional aluminum from recycling; and (iv) additional production of primary aluminum. Due to the IPO CBA obtained R\$ 663,385.80 (net), 70% to be used for organic growth, and 30% for inorganic growth (M&A).

W7.2**(W7.2) Na organização, qual é a tendência das despesas de capital (CAPEX) e das despesas operacionais (OPEX) com relação à água para o ano de reporte, e qual é a tendência prevista para o próximo ano de reporte?****Linha 1****CAPEX relacionados à água (+/- % de variação)**

6

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

10.46

OPEX relativos à água (+/- % de variação)

10

Tendência futura prevista para o OPEX (+/- % de variação)

50

Explique

In 2021, CBA's total CAPEX investment exceeded R\$482 million, including almost R\$30 million for three projects related to water and its risks. Our biggest projects refer to dry disposal at the dam in Alumínio/SP, modernizing our furnace room technology and investments to improve water recovery and treatment. For 2022 there was an increase in the CAPEX budget and the significance of water-related investments will be over 20%, considering projects on water stress and reduced needs in the process. In 2021 CBA's total OPEX investment in the Alumínio/SP plant (CBA's largest expenditure and representation) was more than R\$1.5 billion and investments in water totaled over R\$10 million, mostly regarding the costs of operating, maintaining and improving our water and effluent treatment systems, both essential for the company since we depend on potable water. For 2022 the prediction is to increase this investment to about R\$15 million.

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

	Uso da análise de cenários	Comentários
Linha 1	Sim	In 2021 CBA held a study on adaptation to climate change, in which it projected climate scenarios related to its direct operations in the years 2030, 2040, 2050 and 2060. In this study information was obtained from tools/platforms globally and locally known (such as Aqeduct - from WRI, World Clim and INPE) to analyze the impact on our operations of a number of plotted risks. The geographic coordinates of the plants were used in the projections and temperature, rainfall, drought risk, seasonal and inter-annual changes and hydric stress were evaluated. Our operations were rated in 5 areas, with the Alumínio/SP, Araçariquama/SP and Sorocaba/SP plants forming Area 1; The Itapissuma/PE plant form Area 2; the Mirai/MG and Itamarati de Minas/MG mining plants are in Area 3; and Areas 4 and 5 do not include any of the plants covered in this questionnaire (exclusions detailed in W0.6a).

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 relacionados à água	Influência na estratégia de negócios
Linha 1	Climáticos	<p>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).</p> <p>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 units 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 hydric stress. Every scenario analysis was performed for each area according to the following ratings: Area 1: Alumínio/SP, Araçariquama/SP and Sorocaba/SP plants; Area 2: Itapissuma/PE; Area 3: Miraf/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.</p>	<p>Within the three areas evaluated in the study, the following possible impacts were found:</p> <p>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 Araçariquama/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.</p> <p>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.</p> <p>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.</p>	<p>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 modernizing technology in the pot room 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 2021, CBA reached an indicator of 2.56 ton CO2e per ton of produced aluminum with world average at 10.68 ton CO2e per ton of produced aluminum; and in the refinery stage, the CBA indicator was 0.2 ton CO2e per ton of alumina while the world average was 1.2 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.</p>

W7.4

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

Linha 1

A empresa usa um preço interno sobre a água?

Não, mas no momento estamos estudando práticas de avaliação da água

Explique

CBA is studying the possibility of implementing internal water pricing, including separation between industrial and potable water. First, this pricing will be evaluated together with the internal carbon pricing during the CAPEX project feasibility analysis. This step already exists and works perfectly, only a review of the material will be made to include this new assessment. Once the implementation for CAPEX has been successful, the next phase of implementation will begin for projects in other areas of the unit, such as Competitiveness Management and Market Development & Innovation.

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	<p>CBA understands the importance of investing in process improvements and technology changes aimed at reducing our water needs or improving reuse of this resource. This way projects and investments are constantly carried out in our operations and facilities to help the company achieve its goal in the ESG Strategy 2030, which is to reduce water needs by 20% in its main production unit (Alumínio/SP). In addition to the Engineering sector (responsible for CAPEX projects), there are also Competitiveness Management and Market Development & Innovation areas that assess ESG criteria - including water use - for all their actions, and hence can have their projects with prioritized sustainability gains. These areas are also responsible for working together with our clients in order to solve issues found in their businesses. According to CBA's 2021 Annual Report, the company's new water capture indicator was 6.81 m³/ton aluminum produced at its integrated unit in Alumínio/SP, which includes the bauxite refinery stages, smelting, foundry, and plastic processing. This is due to the reduction projects and to the water resilience project in place at the Alumínio/SP unit. This project ensures that all effluents will be treated and reused as industrial water in any possible processes (some require use of potable water to avoid impurities in the products). This unit manufactures primary products (ingots, rods, billets, caster rolls and plate sheet) and processed products (foil, sheets, and extrusions).</p> <p>For all evaluations and values obtained, the same steps considered in the CBA water intensity indicator were considered to be possible a fair comparison, and, therefore, the indicators include all steps from the refinery to the plastic transformation process.</p> <p>In addition, as part of the criteria definition process, it was also evaluated that among the three CBA units that manufacture aluminum (Alumínio/SP, Araçariçama/SP and Itapissuma/PE), the Alumínio/SP unit is responsible for more than 77% of all CBA production and, therefore, it can be considered as the most representative plant in the company's water footprint.</p> <p>In addition to considering the water intensity indicator in the assessment, other strategies of the company were also considered to reduce its water footprint not only in its direct operations, but also in its customers. CBA seeks to serve its customers in the best possible way by working on specific projects to solve challenges together. An example of a project run jointly in partnership was the development of an aluminum spray bar to reduce weight in a section of the bar. With this reduction, it was possible to increase the size of the spray bar, generating productivity gains in the field, reducing fuel consumption and soil compacting. The new product favors good practices by modern agricultural production technologies, with a more efficient use of water, especially in the lime tanks used to dilute agricultural pesticides. We do not see a reduced water consumption in this project in terms of volume, as this depends on the customer's mix.</p>	<Not Applicable>	<p>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:</p> <ol style="list-style-type: none"> 1) United States: 12.3 m³/ton, 2) Russia: 14.74 m³/ton, 3) India: 17.8 m³/ton and 9.86 m³/ton, 4) Australia: 15.2 m³/ ton. <p>Companies located in Norway and South Africa did not disclose information regarding water consumption in their production process.</p> <p>As already mentioned, considering the three units that manufacture aluminum (Alumínio/SP, Araçariçama/SP and Itapissuma/PE), the Alumínio/SP unit is responsible for more than 77% of all CBA production and its indicator of 6.81 m³/ton is 30% lower than the lowest indicator evaluated by a manufacturer of the same size. Therefore, it can be considered that CBA products have a low impact on water.</p>

W8. Metas

W8.1

(W8.1) Descreva a abordagem usada para estabelecer e monitorar os objetivos e/ou metas hídricas.

	Níveis das metas e/ou dos objetivos	Monitoramento no nível corporativo	Método de estabelecimento e monitoramento de metas e/ou objetivos
Linha 1	Metas e objetivos da empresa como um todo Metas e/ou objetivos específicos da unidade/instalação	As metas são monitoradas no nível corporativo	<p>CBA is committed to preserving the planet's natural resources and biodiversity, contributing to the fight against climate change, therefore, the Company is committed to reducing use of water in all stages of production. CBA is committed to preserving the planet's natural resources and biodiversity, contributing to the fight against climate change, therefore, the Company is committed to reducing use of water in all stages of production.</p> <p>To prepare the goals/targets of its 2030 ESG Strategy, a materiality assessment was carried out in 2020 with the involvement of stakeholders from different stages of the value chain, including internal stakeholders such as employees. After defining the priority themes, attainable but challenging goals and targets were set, which serve as guidelines for the definition of the company's annual targets. The main water-related objective of the ESG 2030 Strategy is to reduce by 2030 use of new water by 20% per ton of liquid aluminum produced in Alumínio/SP, the plant that uses this input the most (87% of CBA's entire needs). Since 2019, this indicator has declined by 10.9%.</p> <p>All goals of the monetary reward program are created to leverage and support the company's evolution within its 2030 ESG Strategy. The goals are defined by the CBA board and cascaded to all eligible employees in areas and positions that have a direct and/or indirect role in achieving them. Other studies and assessments of the current situation of each unit are taken into account before the elaboration of goals, such as the study of climate adaptations (which checks areas under water stress), priorities in relation to applicable legislation for each unit, representativeness consumption of the input, among others.</p> <p>This means that all targets created annually were prioritized in a list of several others so that they can bring the best result for the company within the goals set. The targets are monitored at the corporate level monthly and presented to the company's board of directors on their status. The progress of the goals established within the ESG 2030 Strategy are published annually in the CBA Annual Report with all information having been verified by a third party.</p> <p>In addition to the wide-company target mentioned above, other units have also created specific water-related targets. For example, our Integrated Aluminum Factory/SP and the Mirai/MG and Poços de Caldas/GO mining units.</p>

W8.1a

(W8.1a) Dê detalhes das metas relacionadas à água monitoradas no nível corporativo e o progresso alcançado.

Número de referência da meta

Meta 1

Categoria da meta

Intensidade hídrica dos produtos

Nível

Na empresa como um todo

Motivação principal

Menor impacto ambiental

Descrição da meta

Reduce the consumption of freshwater by 20% per ton of liquid aluminum produced

Métrica quantitativa

Porcentagem de redução por produto

Ano-base

2019

Ano de início

2020

Ano da meta

2030

Porcentagem da meta alcançada

58

Explique

CBA established in its ESG Strategy to reduce by 2030 use of freshwater by 20% per ton of liquid aluminum produced in Alumínio/SP (unit with 87% of CBA's entire needs). This target was disclosed in our 2021 Annual Report and despite being a specific indicator for Alumínio/SP, it is a goal that reflects over the entire company. According to information disclosed in the 2021 Annual Report, in 2019, the water intensity indicator was 9.78m³/ton, while the indicator in 2021 was 6.33m³.

This unit has a closed loop system which reuses internally all water, with no external discharge. In parallel to this, several actions are being taken to help increase process efficiency, such as modernizing the Pot Room Technology, which is estimated to reduce annual use of water by over 120,000 m³. For 2022, one of the monetary reward targets is the Water Resilience project, applicable to all eligible employees in the Energy business and to the entire C-Level.

Número de referência da meta

Meta 2

Categoria da meta

Consumo de água

Nível

Unidade/instalação

Motivação principal

Menor impacto ambiental

Descrição da meta

Reduction on treated and untreated water consumption in Poços de Caldas/GO.

Métrica quantitativa

Porcentagem de redução por unidade de produção

Ano-base

2021

Ano de início

2021

Ano da meta

2021

Porcentagem da meta alcançada

100

Explique

Our mining units set specific water-related goals for 2021. In Poços de Caldas/GO, the target for untreated water consumption was to not exceed 3,925m³ and consumption was 3,166m³/year, at a volume of 759m³ below the target. For treated water consumption at the same unit, the target was 4,452m³ and consumption was 3,835m³, 617m³ less. In 2022, the unit again stipulated a target related to the limit of consumption of untreated water, which is 3.906m³. This target is directly linked to the company's strategy to reduce its water consumption at all stages of the aluminum manufacturing process and reduce its environmental impact.

Número de referência da meta

Meta 3

Categoria da meta

Reciclagem/reutilização da água

Nível

Unidade/instalação

Motivação principal

Menor impacto ambiental

Descrição da meta

Guaranteed availability of recirculated water at our mining plant Mirai/MG

Métrica quantitativa

Outro, especifique (Guaranteed availability of recirculated water)

Ano-base

2021

Ano de início

2021

Ano da meta

2021

Porcentagem da meta alcançada

100

Explique

Our mining units set specific water-related goals for 2021. In Miraf/MG, considering the importance of keeping the water recirculation system in full operation, the main water-related target was to ensure that industrial water recirculation percentage was at least 97 % throughout the year and the result was 99.7%, fully reaching the stipulated target. For 2022, new goals have been developed to ensure continuous improvement of processes such as raising the industrial water recirculation target to 99%.

Número de referência da meta

Meta 4

Categoria da meta

Intensidade hídrica dos produtos

Nível

Unidade/instalação

Motivação principal

Menor impacto ambiental

Descrição da meta

Reduce the consumption of freshwater per ton of liquid aluminum produced at the Alumínio/SP unit.

Métrica quantitativa

Porcentagem de redução por produto

Ano-base

2021

Ano de início

2021

Ano da meta

2021

Porcentagem da meta alcançada

100

Explique

In addition to the wide-company target, the Alumínio/SP unit also created a specific water reduction target for 2021 to help achieve the objective established in the ESG Strategy already mentioned. The unit set the target of reducing the 2030 baseline by 0.5% in 2021 and surpassed this result, reducing 1.8%. For 2022, the unit raised its target from a 0.5% to a 1.5% reduction from the baseline until December/2022. These targets are part of the company's annual monetary reward system and are directed to areas and positions that have a direct and/or indirect role in achieving them.

W9. Verificação

W9.1

(W9.1) A organização verifica alguma outra informação sobre a água reportada no seu reporte 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	All the data reported in this module were audited by an independent third party to ensure their transparency as found in CBA's 2021 Annual Report. The Annual Report was developed following GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) Standards, and the evidence and data collection methods used by CBA were also verified during the process. The assurance report is publicly disclosed jointly with the Annual Report.
W1 Estado atual	Water accounting (volumes of water collection, disposal and recycling)	ISAE 3000	All the data reported in this module were audited by an independent third party to ensure their transparency as found in CBA's 2021 Annual Report. The Annual Report was developed following GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) Standards, and the evidence and data collection methods used by CBA were also verified during the process. The assurance report is publicly disclosed jointly with the Annual Report.
W4 Riscos e oportunidades	Detailed opportunities data	ISAE 3000	In this module, all the data regarding projects and investments (CAPEX) were audited by an independent third party to ensure their transparency as reported in CBA's 2021 Annual Report. The Annual Report was developed following GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) Standards, and the evidence and data collection methods used by CBA were also verified during the process. The assurance report is publicly disclosed jointly with the Annual Report.
W7 Estratégia	Integration of water-related issues to the 2030 ESG Strategy	ISAE 3000	All the data reported in this module were audited by an independent third party to ensure their transparency as found in CBA's 2021 Annual Report. The Annual Report was developed following GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) Standards, and the evidence and data collection methods used by CBA were also verified during the process. The assurance report is publicly disclosed jointly with the Annual Report.
W8 Metas	Water-related targets and goals	ISAE 3000	All the data reported in this module were audited by an independent third party to ensure their transparency as found in CBA's 2021 Annual Report. The Annual Report was developed following GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) Standards, and the evidence and data collection methods used by CBA were also verified during the process. The assurance report is publicly disclosed jointly with the Annual Report.
SW Módulo do Programa Supply Chain	Water-related targets and goals and water intensity by product	ISAE 3000	All the data reported in this module were audited by an independent third party to ensure their transparency as found in CBA's 2021 Annual Report. The Annual Report was developed following GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) Standards, and the evidence and data collection methods used by CBA were also verified during the process. The assurance report is publicly disclosed jointly with the Annual Report.

W10. Aprovação

W-FI

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

W10.1

(W10.1) Dê detalhes sobre a pessoa que assinou (aprovou) as respostas sobre água para o CDP

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

W10.2

(W10.2) Indique se a organização concorda que o CDP transfira seus dados publicamente divulgados sobre as estratégias de resposta aos impactos e riscos à iniciativa Water Action Hub do CEO Water Mandate [isso se aplica apenas a W2.1a (resposta aos impactos), W4.2 e W4.2a (resposta aos riscos)].

Sim

SW. Módulo do programa Supply Chain

SW0.1

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

	Receita anual
Linha 1	8400000000

SW1.1

(SW1.1) Alguma das instalações indicadas em W5.1 pode exercer um impacto em 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

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 has to reduce or paralyze its operations.

Comentários

After carrying out the internal mapping on which CBA products AMBEV indirectly purchases , it was found that, roughly estimated, the products come 95% from the Alumínio/SP unit and 5% from the Itapissuma/PE unit.

Número de referência da instalação

Instalação 2

Nome da instalação

Itapissuma / PE

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 has to reduce or paralyze its operations.

Comentários

After carrying out the internal mapping on which CBA products AMBEV indirectly purchases , it was found that, roughly estimated, the products come 95% from the Alumínio/SP unit and 5% from the Itapissuma/PE unit.

SW1.2

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

	É possível fornecer dados de geolocalização das instalações?	Comentários
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 unit.

SW1.2a

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

Identificador	Latitude	Longitude	Comentários
Alumínio/SP - Refinery, Smelters, Casting and Transformation aluminium plant	- 23.5350 07	- 47.261304	Indicator facilities refer only to facilities with potential water hazards (not necessarily water stressed areas) that could impact our client. Geolocation data from other units without mapped risks is not being presented at this time.
Itapissuma/PE - Casting and Transformation aluminium plant	- 7.79733 9	- 34.905503	Indicator facilities refer only to facilities with potential water hazards (not necessarily water stressed areas) that could impact our client. Geolocation data from other units without mapped risks is not being presented at this time.

SW2.1

(SW2.1) Proponha algum projeto hídrico mutuamente benéfico no qual a organização possa colaborar com membros específicos do Programa Supply Chain do CDP.

Membro solicitante

Ambev S.A

Categoria do projeto

Avaliação hídrica dos relacionamentos

Tipo de projeto

Avaliação dos impactos relacionados à água dos produtos ou serviços de modo a identificar eficiências

Motivação

In addition to increasing knowledge about the water impact that a specific CBA product has throughout its chain, finding possible aspects to improve its performance and reduce the impact.

Prazo estimado para concluir o projeto

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

Detalhes do projeto

Today, CBA is not a direct supplier to Ambev, so information about the impact of CBA products within the company's production process is very limited. With this, there are the following opportunities for joint development:

- 1) Carry out a mapping to understand how the CBA product impacts Ambev's process (This way it will be possible to provide specific emissions indicators on CBA products);
- 2) Carry out an LCA study (Life Cycle Analysis) of the Ambev product that uses CBA products (CBA currently has the SimaPro software to carry out these assessments and is supported by the Ecoinvent database);
- 3) Jointly develop new products together with CBA's Market Development and Innovation team. The company has a team dedicated to the development of new products and solutions for CBA customers and has a history of 103 projects developed in 2021, together with 54 companies.
- 4) Currently, CBA has the innovative ReAl project that is capable of recycling multilayer packaging (long life packaging), which offers the opportunity to partner with companies that use this type of packaging (Evaluating Ambev's product portfolio, it was analyzed that at least one of the products has synergy with this new technology developed by CBA).

Resultado projetado

At first, it is not possible to present the expected results, as we do not have the necessary information for this type of evaluation in detail.

In general, the first expected result of the partnership with AMBEV is a product life cycle analysis report, considering the cradle-to-grave scenario.

After carrying out the evaluation, it will be possible to understand the main points of impact on water consumption and, with that, propose projects with mutual benefits.

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

6.33

Numerador: Aspecto hídrico

Captação de água

Denominador

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

Comentários

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 circuit project has been implemented since 2002 to minimize water abstraction, which has already brought a significant reduction of 10.9% when compared to 2019.

Nome do produto

Beneficiated bauxite

Valor da intensidade hídrica

0.06

Numerador: Aspecto hídrico

Captação de água

Denominador

Extraction and processing of bauxite

Comentários

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.

Enviar sua resposta

A resposta está sendo enviada em qual idioma?

Inglês

Confirme como a resposta deve ser gerenciada pelo CDP

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

Confirme abaixo

Li e aceito os Termos aplicáveis