VOTORANTIM

Consolidated financial statements and independent auditor's report

December 2023

(A free translation of the original in Portuguese)

Independent auditor's report

To the Board of Directors and Stockholders
Votorantim S.A.

Opinion

We have audited the accompanying consolidated financial statements of Votorantim S.A. (the "Company") and its subsidiaries, which comprise the consolidated balance sheet as at December 31, 2023 and the consolidated statements of income, comprehensive income, changes in equity and cash flows for the year then ended, and notes to the financial statements, including material accounting policies and other explanatory information.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company and its subsidiaries as at December 31, 2023, and their financial performance and their cash flows for the year then ended, in accordance with accounting practices adopted in Brazil and with the International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) (currently described as "IFRS Accounting Standards" by the IFRS Foundation).

Basis for opinion

We conducted our audit in accordance with Brazilian and International Standards on Auditing. Our responsibilities under those standards are described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Company and its subsidiaries in accordance with the ethical requirements established in the Code of Professional Ethics and Professional Standards issued by the Brazilian Federal Accounting Council, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Other matters

Statements of Value Added

The consolidated Statement of Value Added for the year ended December 31, 2023, prepared under the responsibility of the Company's management and presented as supplementary information for IFRS Accounting Standards purposes, was submitted to audit procedures performed in conjunction with the audit of the Company's consolidated financial statements. For the purposes of forming our opinion, we evaluated whether this statement is reconciled with the financial statements and accounting records, as applicable, and if its form and content are in accordance with the criteria defined in Technical Pronouncement CPC 09 - "Statement of Value Added". In our opinion, this Statement of Value Added has been properly prepared in all material respects, in accordance with the criteria established in the Technical Pronouncement, and is consistent with the consolidated financial statements taken as a whole.

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Responsibilities of management and those charged with governance for the consolidated financial statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting practices adopted in Brazil and with the International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) (currently described as "IFRS Accounting Standards" by the IFRS Foundation), and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the ability of the Company and its subsidiaries, as a whole, to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company and its subsidiaries, as a whole, or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Company's financial reporting process.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Brazilian and International Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Brazilian and International Standards on Auditing, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control of the Company and its subsidiaries.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the ability of the Company and its subsidiaries, as a whole, to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company and its subsidiaries, as a whole, to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether these financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Curitiba, March 7, 2024

PricewaterhouseCoopers

PricewaterhouseCoopers
Auditores Independentes Ltda.
CRC 2SP000160/F-6

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Carlos Mendonca
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All amounts In millions of Brazilian real unless otherwise stated

	Note	2023	2022
Assets			
Current assets			
Cash and cash equivalents	9	11,780	10,526
Financial investments	10	4,070	2,965
Derivative financial instruments	6.1.1	280	72
Trade receivables	11 (a)	2,792	3,284
Inventory	12 (a)	7,695	8,082
Taxes recoverable	14	1,364	1,545
Dividends and interest on equity receivable	15	293	401
Securitization of receivables		250	
Other assets		1,086	1,012
		29,610	27,887
Non-current assets classified as held-for-sale	32	260	85
Total current assets		**29,870**	**27,972**
Non-current assets			
Financial investments	10	1	383
Financial instruments - shares	13	7,788	6,613
Trade receivables	11 (a)	26	
Derivative financial instruments	6.1.1	837	813
Taxes recoverable	14	1,920	2,068
Related parties	15	234	239
Deferred income tax and social contribution	22 (b)	2,767	2,045
Judicial deposits	23 (b)	352	346
Securitization of receivables			218
Other assets		513	634
		14,438	13,359
Investments	16 (c)	19,406	20,157
Advances related to investment properties		371	153
Property, plant and equipment	17 (a)	36,441	35,885
Intangible assets	18 (a)	12,843	14,538
Right-of-use assets arising from leases		1,088	1,211
Biological assets		54	72
Total non-current assets		**84,641**	**85,375**
Total assets		**114,511**	**113,347**

The accompanying notes are an integral part of these consolidated financial statements.

All amounts In millions of Brazilian real unless otherwise stated

	Note	2023	2022
Liabilities and equity			
Current liabilities			
Borrowing and debentures	19 (a)	1,110	647
Derivative financial instruments	6.1.1	291	326
Financial instruments - offtake agreements	6.1.1	10	9
Lease liabilities	20 (b)	185	206
Confirming payables	21	2,942	3,219
Trade payables		6,935	7,406
Salaries and payroll charges		1,396	1,329
Taxes payable		989	742
Advances from clients		146	164
Provisions	23 (a)	264	190
Dividends payable	15	508	1,262
Use of public assets	24	141	119
Electrical power futures contracts		241	153
Deferred revenue - silver streaming		181	137
Securitization of receivables		95	
Other liabilities		915	1,040
		16,349	16,949
Liabilities related to assets held-for-sale	32	125	
Total current liabilities		**16,474**	**16,949**
Non-current liabilities			
Borrowing and debentures	19 (a)	24,008	22,223
Derivative financial instruments	6.1.1	708	640
Financial instruments - offtake agreement	6.1.1	85	105
Lease liabilities	20 (b)	933	1,071
Deferred income tax and social contribution	22 (b)	3,757	3,966
Related parties	15	115	141
Provision	23 (a)	3,425	3,529
Use of public assets	24	1,646	1,744
Pension plan and post-employment healthcare benefits	25	405	417
Electrical power futures contracts		630	94
Deferred revenue - silver streaming		386	553
Other liabilities		2,185	1,022
Total non-current liabilities		**38,283**	**35,505**
Total liabilities		**54,757**	**52,454**
Equity			
Share capital	26 (a)	28,656	28,656
Revenue reserves		20,591	18,977
Carrying value adjustments	26 (c)	3,556	5,236
Total equity attributable to the owners of the Company		**52,803**	**52,869**
Non-controlling interests		**6,951**	**8,024**
Total equity		**59,754**	**60,893**
Total liabilities and equity		**114,511**	**113,347**

The accompanying notes are an integral part of these consolidated financial statements.

All amounts In millions of Brazilian real unless otherwise stated

	Note	2023	2022
Continuing operations			
Net revenue from products sold and services rendered	27	48,530	52,895
Cost of products sold and services rendered	28	(40,546)	(42,254)
Gross profit		**7,984**	**10,641**
Operating income (expenses)			
Selling	28	(1,226)	(1,110)
General and administrative	28	(2,731)	(2,876)
Other operating results	29	(1,611)	979
		(5,568)	**(3,007)**
Operating profit before equity results and finance results		**2,416**	**7,634**
Result from equity investments			
Equity in the results of investees	16 (a)	740	1,471
		740	**1,471**
Finance results, net	30		
Finance income		2,940	2,611
Finance costs		(4,009)	(4,114)
Foreign exchange gains (losses) and effects of hyperinflation, net		233	14
		(836)	**(1,489)**
Profit before income tax and social contribution		**2,320**	**7,616**
Income tax and social contribution	22 (a)	(485)	(2,169)
Profit from continuing operations		**1,835**	**5,447**
Discontinued operations			
Profit on discontinued operations			16
Profit for year attributable to the owners of the Company		**1,835**	**5,463**
Profit attributable to the owners of the Company		2,343	4,762
Profit attributable to non-controlling interests		(508)	701
Profit for the year		**1,835**	**5,463**
Weighted average number of shares - thousands (to the owners of the Company)		18,278,789	18,278,789
Basic and diluted earnings per thousand shares, in reais		**128.18**	**260.52**
From continuing operations			
Basic and diluted earnings per thousand shares, in reais		**128.18**	**259.64**

All amounts In millions of Brazilian real unless otherwise stated

	Note	2023	2022
Profit for the year		**1,835**	**5,463**
Other components of comprehensive income to be subsequently reclassified to profit or loss			
Attributable to the owners of the Company	**26 (c)**		
Foreign exchange variations of investees abroad		(1,801)	(1,191)
Hedge accounting for net investments abroad, net of taxes		58	(108)
Hedge accounting for the operations of subsidiaries		22	(11)
Fair value of assets available for sale		95	(3)
Realization of comprehensive results on the sale and settlement of investments		(79)	(80)
Participation in the other comprehensive results of investees		(3)	107
Attributable to non-controlling interests			
Foreign exchange variations on investees abroad		(297)	(586)
Hedge accounting for the operations of subsidiaries		35	36
Participation in the other comprehensive results of investees		49	
		(1,921)	**(1,836)**
Other components of comprehensive income that will not be reclassified to profit or loss			
Attributable to the owners of the Company	**26 (c)**		
Remeasurement of retirement benefits, net of tax effects		(81)	118
Adjustments to the fair value of shares, net of tax effects		(229)	50
Participation in the other comprehensive results of investees		338	(8)
Attributable to non-controlling interests			
Remeasurement of retirement benefits, net of tax effects		(4)	
Adjustments to the fair values of shares, net of tax effects		1	(5)
Credit risk of debts at fair value		1	1
Other components of comprehensive income for the year		**(1,895)**	**(1,680)**
From operations			
Continuing operations		(60)	3,767
Discontinued operations			16
		(60)	**3,783**
Comprehensive income attributable to			
Owners of the Company		663	3,636
Non-controlling interests		(723)	147
		(60)	**3,783**

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

All amounts In millions of Brazilian real unless otherwise stated

		Attributable to the owners of the Company								
			Revenue reserves							
	Note	Share capital	Tax incentives	Legal	Profit retention	Retained earnings	Carrying value adjustments	Total	Non-controlling interests	Total equity
At January 1, 2022		28,656	10	1,352	13,379		6,517	49,914	7,374	57,288
Comprehensive income for the year										
Profit for the year						4,762		4,762	701	5,463
Other components of comprehensive income							(1,126)	(1,126)	(554)	(1,680)
						4,762	**(1,126)**	**3,636**	**147**	**3,783**
Contributions and distributions to shareholders										
Effect of the corporate transaction Auren - Deconsolidation of Votorantim Geração de Energia									469	469
Net gain on the sale of shares - Companhia Brasileira de Alumínio					318			318	412	730
Acquisition of Alux do Brasil Indústria e Comércio Ltda.									21	21
Reclassification of the fair value of shares as part of the acquisition of an investment					155		(155)			
Effect of the initial accounting adjustments for hyperinflationary economies					88			88		88
Acquisitions of non-controlling interests - Alux Brasil Indústria e Comércio Ltda.					(47)			(47)	(28)	(75)
Allocation of profit for the year										
Constitution of reserves				238		(238)				
Mandatory minimum dividends						(1,131)		(1,131)		(1,131)
Distribution of dividends					(1,429)			(1,429)	(371)	(1,800)
Reversed dividends					1,520			1,520		1,520
Profit retention					3,393	(3,393)				
Total distributions to shareholders				**238**	**3,998**	**(4,762)**	**(155)**	**(681)**	**503**	**(178)**
At December 31, 2022		**28,656**	**10**	**1,590**	**17,377**		**5,236**	**52,869**	**8,024**	**60,893**
At January 1, 2023		**28,656**	**10**	**1,590**	**17,377**		**5,236**	**52,869**	**8,024**	**60,893**
Comprehensive income for the year										
Profit (loss) for the year						2,343		2,343	(508)	1,835
Other components of comprehensive income							(1,680)	(1,680)	(215)	(1,895)
						2,343	**(1,680)**	**663**	**(723)**	**(60)**
Contributions from and distributions to shareholders										
Reduction of the share capital of non-controlling shareholders									(96)	(96)
Allocation of the profit for the year										
Constitution of the legal reserve				117		(117)				
Profit retention					1,669	(1,669)				
Distribution of dividends	1.1.1(a)				(1,303)			(1,303)	(254)	(1,557)
Mandatory minimum dividends	26(b)					(557)		(557)		(557)
Interest paid on equity	1.1.1(a)					(473)		(473)		(473)
Reversal of mandatory minimum dividends from prior years	1.1.1(a)				1,131			1,131		1,131
Total distributions to shareholders				**117**	**1,497**	**(2,343)**		**(729)**	**(350)**	**(1,079)**
At December 31, 2023		**28,656**	**10**	**1,707**	**18,874**		**3,556**	**52,803**	**6,951**	**59,754**

All amounts In millions of Brazilian real unless otherwise stated

	Note	2023	2022
Cash flow from operating activities			
Profit before income tax and social contribution		**2,320**	**7,616**
Profit from discontinued operations			**16**
Adjustments to items that do not represent changes in cash and cash equivalents			
Depreciation, amortization and depletion	28	4,009	3,983
Equity in the results of investees	16 (a)	(740)	(1,471)
Interest, indexation and foreign exchange variations		349	1,473
Credits - Eletrobrás		(433)	
(Reversal of) provision for impairment of fixed and intangible assets		533	(51)
Reversal of impairment of investments	29		(827)
Gain (loss) on sales of fixed and intangible assets, net	29	6	(55)
Adjustments to fair value of borrowing and debentures	19 (b)	31	(45)
Constitution (reversal) of provisions, net		(81)	688
Derivative financial instruments		(153)	(161)
Financial instruments - Offtake agreements	29	(8)	(127)
Electrical power futures contracts	29	624	156
Net loss on sales of investments	30	23	756
Gains on valuation at fair value of assets upon loss of control of investees	29		(1,284)
Gains on purchases of investees			(21)
Gains on valuation at fair value of investees acquired through business combinations			(82)
Charges for debt renegotiation		117	3
		6,597	**10,567**
Decrease (increase) in assets			
Financial investments		(212)	214
Derivative financial instruments		(166)	(177)
Trade receivables		(100)	(425)
Inventory		88	(1,472)
Taxes recoverable		328	493
Related parties		(9)	(27)
Judicial deposits		32	(189)
Other accounts receivable and other assets		608	66
Increase (decrease) in liabilities			
Trade payables		203	1,190
Salaries and social charges		133	10
Use of public assets		19	64
Taxes payable		(45)	(581)
Advances from customers		27	(5)
Confirming payables		(112)	29
Other obligations and other liabilities		(304)	(365)
Cash provided by operating activities		**7,087**	**9,392**
Interest paid on borrowing	19 (b)	(1,648)	(1,452)
Interest paid on use of public assets		(146)	(183)
Income tax and social contribution paid		(718)	(1,024)
Net cash provided by operating activities		**4,575**	**6,733**
Cash flow from investing activities			
Proceeds from disposals of fixed and intangible assets		217	231
Sale of shares held in investees			904
Acquisitions of financial instruments - shares		(1,459)	(33)
Advance receipts - put option on AMB	1.1.4 (a)	936	
Dividends received		1,776	457
Acquisitions of property, plant and equipment	17 (a)	(5,050)	(5,064)
Acquisitions of investment properties		(218)	(2)
Receipts from sales of investments		464	60
Acquisitions of net cash investments received from investees			(478)
Increase in biological assets		18	18
Capital increases in and acquisitions of investments		(500)	(1,418)
Acquisitions of intangible assets	18 (a)	(239)	(1,088)
Changes in financial instruments - shares		38	
Net cash used in investing activities		**(4,017)**	**(6,413)**
Cash flow from financing activities			
New borrowing	19 (b)	5,186	4,467
Repayments of borrowing	19 (b)	(1,772)	(5,118)
Return of capital to non-controlling interests		(96)	
Repayments of leasing contracts	20 (b)	(396)	(412)
Derivative financial instruments		67	(170)
Dividends paid		(1,757)	(1,845)
Net cash provided by (used in) financing activities		**1,232**	**(3,078)**
Increase (decrease) in cash and cash equivalents		**1,790**	**(2,758)**
Effect of companies included from consolidation			16
Effect of companies excluded from consolidation			(25)
Effect of fluctuations in exchange rates		(536)	(387)
Cash and cash equivalents at the beginning of the year		**10,526**	**13,680**
Cash and cash equivalents at the end of the year		**11,780**	**10,526**
Non-cash transactions			
Capitalization of interest on equity			(175)

All amounts In millions of Brazilian real unless otherwise stated

	Note	2023	2022
Revenue			
Sales of products and services (less returns and sales rebates)		55,438	60,764
Reversal (provision) for estimated loss on doubtful accounts	11 (c)	(1)	13
Other operating results	29	(1,078)	928
		54,359	**61,705**
Inputs acquired from third parties			
Raw materials and other production inputs		(33,235)	(36,199)
Materials, energy, outsourced services and others		(898)	(936)
(Reversal of) provision for impairment of fixed and intangible assets	29	(533)	51
		(34,666)	**(37,084)**
Gross value added		**19,693**	**24,621**
Depreciation, amortization and depletion	17, 18 and 20	(4,009)	(3,983)
Net value added generated by the Company		**15,684**	**20,638**
Value added received through transfers			
Equity in the results of investees	16 (c)	740	1,471
Finance income and foreign exchange gains	30	6,415	8,610
		7,155	**10,081**
Total value added to distribute		**22,839**	**30,719**
Distribution of value added			
Personnel and payroll charges			
Direct remuneration		3,623	3,469
Social charges		1,320	1,270
Benefits		861	767
		5,804	**5,506**
Taxes and contributions			
Federal		3,466	4,031
State		4,617	4,392
Municipal		35	27
Deferred taxes		(777)	652
		7,341	**9,102**
Third party capital remuneration			
Finance costs and foreign exchange losses	30	7,251	10,099
Rentals		608	549
		7,859	**10,648**
Own capital remuneration			
Non-controlling interests		(508)	701
Dividends and interest on equity		(983)	(1,411)
Reinvested profits		3,326	6,157
Profit of discontinued operations			16
		1,835	**5,463**
Value added distributed		**22,839**	**30,719**

General considerations

1. General considerations

Votorantim S.A. (the "Company", the "parent company", or "VSA") is a Brazilian long-term investment holding company, wholly controlled by the family. With its headquarters in the city of São Paulo, Brazil, the Company's purpose is to manage assets and companies, as well as to invest in other companies in order to further its objectives.

The Company, through its subsidiaries and associates, operates in the following segments: building materials, banking, infrastructure, renewable energy, base metals, orange juice, aluminum, long steel, real estate, investments and environmental management.

1.1 Main events during 2023

1.1.1 Dividends received and paid

(a) Distribution of dividends and payments of Interest on Equity ("JCP") by VSA

The Company paid dividends to its parent company Hejoassu Administração S.A. ("Hejoassu"), based on the accumulated balance of the "Profit Reserves" account, in the amounts of R$ 672 on March 8 and R$ 631 on August 23, 2023, as deliberated on March 1 and August 15, 2023, respectively.

Additionally, in December 2023 the payment of interest on equity in the amount of R$ 473 was deliberated.

(b) Distribution of dividends – Nexa Resources S.A. ("Nexa")

On February 15, 2023, the Board of Directors of the subsidiary Nexa approved dividends distribution to its shareholders in the amount of R$ 131 (US$ 25 million), which was fully paid on March 24, 2023.

(c) Distribution of minimum mandatory dividends – Companhia Brasileira de Alumínio ("CBA")

On April 27, 2023, the Board of Directors of the subsidiary CBA decided upon the distribution of minimum mandatory dividends in the amount of R$ 206 from the profit for the year ended December 31, 2022.

On November 8, 2023, the Board of Directors of the subsidiary CBA deliberated on a proposal for a capital increase through the issuance of new shares for private subscription, using credits from previously paid dividends or in local currency. The completion of this transaction resulted in a cash effect arising from payments to non-controlling shareholders in the amount of R$ 20 and the issuance of 49,643,987 new shares.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

The conversion of dividends into shares took place on December 22, 2023 for shareholders who made such an option, date on which CBA also paid the declared dividends, thus offsetting the dividends payable paid against the payment of the capital subscribed by the shareholders who made such election, in the amount of R$ 185.

On January 18, the Board of Directors of CBA ratified the total capital increase and the consequent issuance of new shares (see Note 34).

(d) Approval and payment of additional dividends – joint venture Auren Energia S.A. (“Auren”)

On April 28, 2023, the Ordinary and Extraordinary General Meeting of the joint venture Auren approved the distribution of dividends in the amount of R$ 1,500, of which R$ 635 represents the minimum mandatory dividend for the year 2022, and R$ 864 relates to additional dividends. On May 15, 2023, the Company received R$ 566 in approved dividends, in proportion to its interest in the investee.

On November 21, 2023, the Board of Directors of the joint venture Auren approved the distribution of extraordinary dividends in the amount of R$ 1,500. On December 19, 2023, the Company received R$ 566 of the approved dividends in proportion to its interest in the investee.

1.1.2 Corporate transactions

(a) Sale of the Niquelândia Unit - CBA

On April 12, 2023, the subsidiary CBA signed an agreement to sell part of the assets and liabilities of the Niquelândia unit, located in the state of Goiás, to Wave Nickel Brasil (“Wave Nickel”) (the “Buyer”). The impairment for the assets related to this operation in the amount of R$ 134, (Note 17 (a)) was reversed, and this reversal was recorded in “Other operating results” (Note 29), resulting in an effect of R$ 19 on the net assets (assets and liabilities) that was the amount negotiated between the parties.

To be received in two installments, R$ 4 in April 2023 and the remaining R$ 15 to be paid at the closing of the deal. Additionally, the subsidiary CBA will receive a 3% royalty on net revenues from mining and industrial production, limited to US$ 10 million per year, and a subscription option in the companies Wave Nickel and Wave Alumminum S.A. (“Wave Alumminum”).

The underlying assets and liabilities, before and after the completion of the negotiations of the net assets, are shown below.

	Before the transaction	After the transaction
Permanent assets		134
Other assets	2	10
Total assets	**2**	**144**
Decommissioning liabilities	99	124
Other liabilities	5	1
Total liabilities	**104**	**125**
Net balance	**(102)**	**19**

The subsidiary CBA reviewed the amounts arising from the recognition of the transaction, referring to the royalties and call options on Wave Nickel and Wave Alumminum, and decided not to recognize this asset, since there are uncertainties regarding the generation of future economic benefits and the impossibility of determining the amount.

As at June 30, 2023, the net assets were transferred to "Assets and liabilities directly associated with non-current assets held-for-sale" (Note 32).

(b) Divestment in Alumina do Norte S.A. (“Alunorte”) - CBA

On September 30, 2023, the management of the subsidiary CBA analyzed a number of options for the divestment of its interest in Alunorte - Alumina do Norte S.A., and the investment was accordingly reclassified to non-current assets held for sale (Note 32) and is recorded at its carrying amount, in accordance with CPC 31, IFRS 5 – Non-current assets held for sale and discontinued operations.

(c) Sale of investment Mineração Rio do Norte S.A. (“MRN”) - CBA

On December 1, 2023, the subsidiary CBA signed an agreement for the sale of its shares in MRN to Rio Tinto do Brasil, which acquired all of the shares. The amount is recorded as “other operating results” (Note 29).

1.1.3 New borrowing

(a) Contracting of financing by Altre Empreendimentos e Investimentos Imobiliários S.A. (“Altre”)

On January 11, 2023, the subsidiary Altre signed a financing agreement with Banco Bradesco S.A. in the form of a business plan amounting to R$ 680, maturing in 2046 at an effective cost of TR + 9.71% p.a., to cover acquisition of a future corporate office tower within the multipurpose real estate complex “Alto das Nações”. The financing will be released according to the progress of the construction of the complex, with completion scheduled for 2025. The mortgages on the offices in the corporate tower and the fiduciary assignment of future lease receivables were provided as collateral.

(b) Borrowing – CBA

In February 2023, the subsidiary CBA and the indirect subsidiary Metalex saw the first release of funds from the contracts signed with the National Bank for Economic and Social Development (BNDES) in the total amount of R$ 179 ,and in July 2023 Metalex received an additional release in the amount of R$ 14.

In March 2023, the subsidiary CBA signed three loan agreements in the form of export financing lines, Export Prepayment (PPE) and Export Credit Notes (NCE), in the aggregate amount of R$ 520 (equivalent to US$ 107 million). In August 2023, one of these contracts was renegotiated, by an amount totaling US$ 78 million (equivalent to R$ 390), generating a non-cash accounting impact on the debt remeasurement of R$ 28, related to the difference in present value between the original cash flow and the refinanced cash flow, in accordance with CPC 48/IFRS 9 – Financial Instruments.

In June 2023, the subsidiary CBA signed a new financing agreement through an NCE in the amount of R$ 500.

In July 2023, CBA contracted a loan from the BNDES Exim line in the amount of R$ 140, which serves as an advance on its future exports, and matures in 2027.

In August 2023, the subsidiary CBA settled its NCE in the amount of US$ 46 million maturing in 2024 and, raised a new loan in the amount of US$ 71 million through an instrument backed by Law 4131/1962 maturing in 2028, extending the term of its debt with BNDES.

In addition, the subsidiary CBA refinanced NCEs in the amount of US$ 275 million, reducing the concentration of maturities from 2025 to 2027 and optimizing the debt profile, with new maturities in 2027, 2028 and 2029. This operation generated a negative non-cash impact in the estimated amount of R$ 82 in CBA's results, referring to the difference in present value between the original cash flow and the refinanced cash flow. The amount was recognized in "Other comprehensive income" up to the refinancing date in the amount of R$ 183, as a result of hedge accounting. It will be appropriated to profit or loss when the revenue ("hedge object") is realized, in accordance with the original maturity dates of the debt (2025, 2026 and 2027).

In November and December 2023 the subsidiary CBA received new releases of borrowing from Financiadora de Estudos e Projetos (FINEP) in the total amount of R$ 33. The contract, signed in 2022 and with maturity in 2032, aims to finance innovation and research and development projects, and releases are made upon proof of expenditure.

(c) Issue of carbon credits - CBA

On March 31, 2023, the subsidiary CBA, in partnership with Reservas Votorantim Ltda. (“Reservas”) received approval for 316,000 metric tons of carbon credits. Reservas Votorantim is a company within the Company’s portfolio, specializing in land management and nature-based solutions for traditional and new economy businesses, and is responsible for managing CBA's environmental areas. The initiative was supported by Legado Verdes do Cerrado, a private reserve for the sustainable development of 32,000 hectares, owned by the Company and located in Niquelândia (GO).

The amount was recorded within “Inventory” (Note 12) and “Other operating results” (Note 29).

(d) Debt management - Votorantim Cimentos S.A. (VCSA)

In July 2023, the subsidiary VCSA entered into a financing agreement for the modernization project of the cement plant located in Salto de Pirapora (SP). One of the main objectives of the project is to increase the unit's thermal replacement level and reduce CO_2 emissions. The project is part of the VCSA long-term sustainability strategy.

The new credit facility was fully granted by the International Finance Corporation (IFC) in the total amount of US$ 150 million, equivalent to R$ 747, with a total term of 10 years. The resources were disbursed to the subsidiary on August 16, 2023.

The financing has sustainability performance indicators (KPIs) associated with the reduction of net greenhouse gas emissions in scope 1 (Kg CO_2/ton of cement). If the subsidiary reaches the agreed CO_2 reduction target by December 2026, it will benefit from a reduction in interest of the financing agreement.

After the disbursement, the subsidiary contracted a derivative operation (swap), aiming both to exchange its exposure to the floating rate in Dollars for the CDI floating rate, and to exchange its currency exposure from US Dollars to Reais. This swap was contracted with another financial institution, resulting in a CDI floating rate + spread.

In order to protect against variations in the fair value of the exchange rate (USD) and interest rate (SOFR+) risk of this financing, the hedging instruments contracted (cross-currency swaps) to exchange the USD/SOFR+ flows for BRL/CDI were designated as fair value hedges of the funding. The subsidiary obtained formal approval of the designation document, in accordance with the requirements of IFRS 9.

In December 2023, the subsidiary VCSA and its subsidiary Votorantim Cimentos Norte Nordeste ("VCNNE") issued their third Real Estate Receivables Certificate ("CRI") in the Brazilian capital market in the amount of R$ 793, as follows:

- VCSA: R$ 112 maturing on December 13, 2033, with remuneration of 11.5148% p.a. and unscheduled monetary restatement + R$ 411 maturing on December 13, 2035, with remuneration at the IPCA + 6.3% p.a. and monetary restatement based on the accumulated variations of the IPCA.

- VCNNE: R$ 57 maturing on December 13, 2033, with remuneration of 11.5148% p.a. and monetary restatement not provided for + R$ 211 maturing on December 13, 2035, with remuneration at the IPCA + 6.3% p.a. and monetary restatement provided for by the accumulated variations of the IPCA.

In December 2023, the subsidiary VCSA issued its 16th public issue of debentures, under the automatic distribution registration model, in the amount of R$ 500.

In December 2023, the subsidiary VCSA settled in advance the remaining balance of R$ 366 of the 6th and 8th issues of debentures with their original maturities in 2025. The funds used came from the 16th issue of debentures.

(e) New revolving credit line - Nexa

On October 20, 2023, the subsidiary Nexa entered into a sustainability linked revolving credit facility with a group of financial institutions in the amount of US$ 320 million (R$ 1.5 billion). The revolving credit facility has a term of five years and the amounts drawn are subject to an initial interest rate at the Secured Overnight Financing Rate (SOFR) + 1.60% p.a.. The applicable margin is subject to compliance with certain key sustainability performance indicators. The new facility replaces the US$ 300 million (R$ 1.4 billion) revolving credit facility of 2019, which was due to mature in October 2024. Up to the date of issue of these financial statements, the subsidiary Nexa had not used this revolving credit line.

On December 12, 2023, the subsidiary Nexa entered into a bank credit line in the amount of US$ 50 million (equivalent to R$ 245), with interest at a rate of 2.57% p.a. Term SOFR, maturing in 2028.

1.1.4 Other transactions

(a) Advances on financial instruments – put option

On January 6, 2023, the Company received an amount of R$ 936 referring to the financial instrument – put option with ArcelorMittal Brasil S.A. ("AMB") (Note 13 (a)). The amount was recorded as an advance under "Other liabilities" in non-current liabilities, given that the Company did not receive the full amount due and, consequently, did not transfer its shares to AMB.

(b) Registration in category A on the Brazilian Securities Commission (CVM) of the subsidiary VCSA

On May 10, 2023, the Brazilian Securities Commission (CVM) approved the subsidiary VCSA's registration as an issuer of securities admitted to trading on a regulated securities market, in Category A, in accordance with CVM Resolution 80, of March 29, 2022, as amended. As a result, the subsidiary is authorized to trade any securities of the Company on the regulated securities markets in Brazil and is subject to compliance with the obligations associated with Category A issuers set forth in CVM Resolution 80 and other applicable regulations.

(c) Relevant negotiation – Hypera S.A. ("Hypera")

On June 12, 2023, the Company started directly to hold 32,398,300 common shares issued by Hypera, a publicly held company, representing 5.11% of its capital stock.

The percentage acquired does not change Hypera's control or administrative structure. VSA does not hold subscription warrants, share subscription rights, share purchase options or debentures convertible into shares issued by Hypera, nor has it entered into an agreement or contract regulating the exercise of voting rights or the purchase and sale of securities issued by Hypera. The respective amounts are recorded within Financial Instruments (Note 13 (b)).

In the second half of 2023, the Company acquired an additional 1,914,500 shares, increasing its ownership interest to 5.57%. The percentage acquired does not change Hypera's control or administrative structure, and therefore the amounts continue to be recorded as "Financial Instruments – shares" (Note 13 (b)).

(d) Contingent liabilities and provisions - ICMS discussion – Nexa Recursos Minerais S.A. ("Nexa BR")

The indirect subsidiary Nexa BR cooperated with the investigation by the Federal Revenue Service of the State of Minas Gerais and the Public Prosecutor's Office of Minas Gerais (the "MG Authorities") into the commercial and value added tax (VAT) affairs of some of its former customers, which, as Nexa previously reported, could result in liabilities for all parties involved in the business relationship. In the third quarter of 2023, the subsidiary and the MG Authorities reached a resolution (the "Tax Resolution") under which, without admitting primary responsibility for the resolved claims, Nexa BR agreed to make ICMS payments to the State of Minas Gerais, including interest and fines, on behalf of certain customers who allegedly failed to make their tax payments properly. Subsequently, on October 20, 2023, the subsidiary and the MG Authorities entered into an additional agreement under which the subsidiary would contribute to the State of Minas Gerais' efforts related to ESG. The two agreements signed total approximately R$ 370, recorded under "Other liabilities", comprising a net provision of R$ 320 recorded under "Other operating results" and R$ 50 recorded under "Finance costs". Nexa BR used accumulated ICMS credits to pay approximately R$ 122, offset a judicial deposit of R$ 32, and paid R$ 21 in cash. The remaining amount will be paid in cash, in monthly installments over a period of approximately four years, subject to indexation at the SELIC interest rate.

In addition, on February 8, 2024, a second and final Tax Resolution was filed with the MG Authorities under which, without admitting primary responsibility for the resolved claims, Nexa BR agreed to make ICMS payments to the State of Minas Gerais, including interest and fines, on behalf of certain customers, recognizing R$ 105 under "Other operating results" and R$ 28 under "Finance costs". Nexa BR estimates that it will use accumulated ICMS credits to pay approximately R$ 52, and will pay the remaining amount in cash, in monthly installments over a period of approximately five years, subject to indexation at the SELIC interest rate.

This resolution concludes the investigation by the MG Authorities in relation to Nexa BR, and the subsidiary does not expect any further developments in relation to these matters, although it reserves its legal right to recover the amounts it has paid, or will pay, from certain customers. These amounts will only be recognized when they are recovered.

(e) Securitization of the balance receivable from the agreement with the Federal Government regarding the indemnifiable assets of Companhia Energética de São Paulo ("CESP").

On June 16, 2023, the joint venture Auren Energia, as the consenting intervening party, entered into an assignment agreement for the acquisition of credit rights and other covenants, through which all of the credit rights arising from the judicial agreement signed between its subsidiary CESP and the Federal Government were assigned to a certain securitization company, definitively and without any co-obligation, aiming to compensate for the reversal of unamortized or non-depreciated assets of the Três Irmãos Hydroelectric Power Plant. In return for the aforementioned assignment, the subsidiary CESP received the amount of R$ 4,164 on June 27, 2023 and, based on CPC 48 – Financial Instruments, the financial assets that were previously recognized in current and non-current assets were fully derecognized. The derecognized amount was R$4,401, of which R$ 4,164 represented the cash receipt of the aforementioned assignment, and R$ 236 the transaction costs, which were recorded as finance costs. In addition, there was a reversal of the provision of R$ 218 of the portion corresponding to the adjustment to the present value recognized on the balance of the indemnifiable asset, thus resulting in a net cost effect on the finance result of R$ 18.

(f) Agreement with Centrais Elétricas Brasileiras S.A. ("Eletrobrás")

On July 4, 2023, the Company entered into a Private Instrument of Transaction and Other Covenants with Eletrobrás to finalize disputes that required the indexation of compulsory loan credits.

On December 22, 2023, the Company and Eletrobrás signed the first amendment to the Private Instrument of Transaction and Other Covenants, recognizing and confirming that the parties were successful in the disputes, obtaining final and unappealable decisions on most proceedings and that, therefore, from that date onward they would proceed with the transfers previously agreed.

Also in December 2023, the Company received R$ 177 through bank transfers. The Company also received the transfer of the ownership of 9,823,673 shares of the joint venture Auren Energia S.A. ("Auren") and 24,662,112 shares of AES Brasil Energia S.A. (AES). Given their characteristics, the shares of Auren were recorded under "Investments" (Note 16) while the AES shares were recorded under "Financial Instruments – shares" (Note 13). The consideration for these receipts was recognized under "Finance Results" (Note 30).

The Company also has the right to receive 524,289 shares in Auren and 3,037,888 shares in AES within the deadlines stipulated in the agreement. The completion of the transfer is subject to the fulfillment of the usual conditions precedent. These shares were valued at their fair value on the date of execution of the first amendment, and are recorded within "Other Assets" in the Company's balance sheet against "Finance Results" (Note 30).

2. Presentation of the consolidated financial statements

2.1 Basis of preparation

(a) Consolidated financial statements

The consolidated financial statements have been prepared and are presented in accordance with the accounting practices adopted in Brazil, in effect on December 31, 2023, including the pronouncements issued by the Accounting Pronouncements Committee (CPCs), as well as in accordance with the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) and the interpretations issued by the International Financial Reporting Interpretations Committee (IFRIC). These financial statements evidence all relevant information specific to the financial statements, which is consistent with the information used by Management in the discharge of their duties.

The Company voluntarily discloses a consolidated statement of value added, according to the accounting practices adopted in Brazil, applicable to public companies, which is presented as an integral part of these financial statements. In accordance with international best practice, this statement is presented as additional information, without prejudice to the full set of financial statements.

The presentation of these financial statements requires the use of certain critical accounting estimates. It also requires management to exercise judgment in the process of applying the Company's accounting practices. Those areas involving a higher degree of judgment or complexity, or where assumptions and estimates are significant to the consolidated financial statements, are disclosed in Note 4.

(b) Approval of the financial statements

The Board of Directors approved the consolidated financial statements for issue on March 5, 2024.

2.2 Consolidation

(a) Main subsidiaries, affiliates and joint ventures

Affiliates are fully consolidated from the date on which control is transferred to the Company.

Unrealized balances and gains on transactions between companies are eliminated. Unrealized losses are also eliminated, unless the transaction provides evidence of a loss (impairment) of the transferred asset. Upon acquisition, the accounting policies of the subsidiaries are changed, where necessary, to ensure consistency with the policies adopted by the Company.

The consolidated financial statements were prepared separately from the individual financial statements issued on March 5, 2024.

Joint operations are accounted for in the financial statements so as to represent the Company's contractual rights and obligations. Therefore, the assets, liabilities, revenues, and expenses related to its interests in joint operations are individually accounted for in the financial statements.

Investments in associates and joint ventures are accounted for using the equity method, and are initially recognized at cost. The Company's investments in associates and joint ventures include goodwill identified on acquisitions, net of any accumulated impairment losses.

Dilution gains and losses on investments in associates and joint ventures are recognized in the statement of income.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

The main subsidiaries, associates and joint ventures of the Company are shown below:

Main consolidated companies	Percentage of total and voting capital		Headquarters	Main activity
	2023	2022		
Subsidiaries				
Acerbrag S.A.	100.00	100.00	Argentina	Steel
Altre Empreendimentos e Investimentos Imobiliários S.A.	100.00	100.00	Brazil	Real estate
Cementos Artigas S.A.	51.00	51.00	Uruguay	Cement
Companhia Brasileira de Alumínio	68.47	67.89	Brazil	Aluminum
Janssen Capital B.V.	100.00	100.00	Netherlands	Holding
Nexa Recursos Minerais S.A.	64.67	64.67	Brazil	Zinc
Nexa Resources Atacocha S.A.A.	58.85	58.85	Peru	Mining
Nexa Resources Cajarmarquilla S.A.	64.61	64.61	Peru	Zinc
Nexa Resources Peru S.A.A	51.77	51.77	Peru	Mining
Nexa Resources S.A.	64.67	64.67	Luxembourg	Holding
Silcar Empreendimentos, Comércio e Participações Ltda.	100.00	100.00	Brazil	Holding
St. Mary's Cement Inc.	83.00	83.00	Canada	Cement
Votorantim Cement North America Inc.	83.00	83.00	USA	Holding
Votorantim Cimentos EAA Inversiones, S.L.	100.00	100.00	Spain	Holding
Votorantim Cimentos International S.A.	100.00	100.00	Luxembourg	Holding
Votorantim Cimentos N/NE S.A.	100.00	100.00	Brazil	Cement
Votorantim Cimentos S.A.	100.00	100.00	Brazil	Cement
VE Participações Ltda.	100.00	100.00	Brazil	Holding
Votorantim Finanças S.A.	100.00	100.00	Brazil	Finance
Votorantim FinCO GmbH	100.00	100.00	Austria	Trading
Votorantim RE		100.00	Luxembourg	Insurance
Joint operations				
Baesa - Energética Barra Grande S.A.	15.00	15.00	Brazil	Electrical power
Great Lakes Slag Inc.	50.00	50.00	Canada	Cement
Exclusive investment funds				
Fundo de Investimento Pentágono VC Multimercado – Crédito Privado	100.00	100.00	Brazil	Finance
Fundo de Investimento Pentágono CBA Multimercado – Crédito Privado	100.00	100.00	Brazil	Finance
Odessa Renda Fixa Crédito Privado	94.19	94.19	Brazil	Finance
Odessa Multimercado Crédito Privado Fundo de investimento VC	100.00	100.00	Brazil	Finance
Odessa Multimercado Crédito Privado Fundo de investimento VM	100.00	100.00	Brazil	Finance
Main non-consolidated companies				
Associates				
CCR S.A.	10.33	10.33	Brazil	Infrastructure
Cementos Avellaneda S.A.	49.00	49.00	Argentina	Cement
Cementos Especiales de las Islas, S.A.	50.00	50.00	Spain	Cement
Enercan - Campos Novos Energia S.A.	47.88	44.76	Brazil	Electricity
IMIX Empreendimentos Imobiliários Ltda.	25.00	25.00	Brazil	Real estate
Supermix Concreto S.A.	25.00	25.00	Brazil	Concrete
Joint ventures				
Auren Energia S.A.	38.72	37.74	Brazil	Electricity
Banco Votorantim S.A.	50.00	50.00	Brazil	Finance
Citrosuco GmbH	50.00	50.00	Austria	Agribusiness
Citrosuco S.A. Agribusiness	50.00	50.00	Brazil	Agroindústria
DBOAT I Fundo de Investimento em Participações Multiestratégia	45.34	50.00	Brazil	Investments
Floen S.A.	50.00	100.00	Brazil	Holding
Grundy-River Holdings LLC	50.00		USA	Concrete
Hutton Transport Ltd.	25.00	25.00	Canada	Transportation
Juntos Somos Mais Fidelização S.A.	44.26	45.00	Brazil	Services
Midway Group, LLC.	50.00	50.00	USA	Cement
RMC Leasing, LLC.	50.00	50.00	USA	Equipment leasing

(b) Transactions with non-controlling interests

The Company treats transactions with non-controlling shareholders as transactions with the owners of the Company's assets. For purchases of non-controlling interests, the difference between any consideration paid and the acquired proportion of the carrying amount of the subsidiary's net assets is recorded in equity. Gains or losses arising from sales of non-controlling interests are also recorded directly in equity, in the "Retained earnings" account.

(c) Loss of control of subsidiaries

When the Company ceases to have control of an entity, any retained interest is remeasured to its fair value, with the change in book value recognized in the income statement. The amounts previously recognized in carrying value adjustments are reclassified to the result.

2.3 Foreign currency conversion

(a) Functional and presentation currency of the financial statements

The functional currency of the Company is the Brazilian real (R$ or BRL).

(b) Transactions and balances

Transactions in foreign currencies are translated into the Brazilian real. When items are remeasured, the exchange rates prevailing at the dates of the transactions, or the dates of valuation are used. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognized in the statement of income, except when they are deferred in equity as net investment hedges.

(c) Subsidiaries with a different functional currency

The results and financial position of all Company entities with a functional currency that is different to the presentation currency are translated into the presentation currency as follow:

(i) The assets and liabilities for each balance sheet presented are translated at the closing rate as at the date of that balance sheet;

(ii) Income and expenses for each statement of income are translated at the average exchange rates for the period, except for subsidiaries in which have the currency of hyperinflationary economy;

(iii) All resulting exchange differences are recognized as a separate component of equity, in "Carrying value adjustments".

The amounts presented in the cash flow statement are extracted from the translated movements of assets, liabilities and profit or loss, as detailed above.

Upon consolidation, exchange differences arising from the translation of net investments in foreign operations, and of borrowing and other foreign currency instruments designated as hedges of such investments, are recognized in equity. When a foreign operation is partially disposed of or sold, exchange differences that were recorded in equity are recognized in the statement of income as part of the gain or loss on the sale.

Goodwill and the fair value of assets acquired from the acquisition of an entity abroad are treated as assets and liabilities of the entity abroad, and are converted at the closing rate.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

The functional currencies defined for the significant foreign subsidiaries are as follow:

Company	Country	Functional currency	Core business
Acerbrag S.A.	Argentina	Argentinian Peso	Long steel
St. Mary's Cement Inc.	Canada	Canadian Dollar	Cement
Votorantim Cimentos EAA Inversiones, S.L. "VCEAA"	Spain	Euro	Cement
Nexa Resources Cajarmarquilla S.A.	Peru	US Dollar	Zinc
Nexa Resources Peru S.A.A	Peru	US Dollar	Mining
Nexa Resources S.A.	Luxembourg	US Dollar	Holding
Votorantim Cimentos International S.A. "VCI"	Luxembourg	US Dollar	Holding
Votorantim FinCO GmbH	Austria	US Dollar	Holding
Janssen Capital B.V.	Netherlands	US Dollar	Holding

3. Changes in accounting policies and disclosures

3.1 New standards and amendments to accounting standards adopted by the Company and its subsidiaries

The Company and its subsidiaries analyzed the amendments to accounting standards that came into force from January 1, 2023 to December 31, 2023, and identified their impacts on their operating and accounting policies to be adopted retrospectively or at the beginning of the 2023 fiscal year, as shown below:

(a) Amendments to CPC 32 / IAS 12 - "Taxes on Income" – Single transaction

As of January 1, 2023, the Company and its subsidiaries adopted the amendment to CPC 32 / IAS 12, which requires the recognition of deferred taxes on transactions that give rise to the initial recognition of an asset or liability, resulting in equal amounts of taxable and deductible temporary differences, such as lease agreements or obligations to dispose of assets.

(b) Amendment to CPC 32 / IAS 12 "Taxes on income"– International tax reform - Pillar Two model rules

The Company and its subsidiaries fall within the scope of the Pillar Two rules, published by the Organization for Economic Cooperation and Development (OECD), which is an initiative to implement a global minimum tax of 15%. In jurisdictions where there are operations, the Pillar Two legislation has already been adopted in Luxembourg, effective from January 1, 2024, while in Spain a bill has been published with final approval expected for 2024. Since the Pillar Two legislation was not in force at December 31, 2023, there was no impact on the current taxes of the Company and its subsidiaries taxes. In addition, the temporary exception relating to the recognition and disclosure of information on deferred tax assets and liabilities arising from Pillar Two was applied, as set out in the amendments to IAS 12 issued in May 2023.

The Company and its subsidiaries are studying the impact of this legislation and, based on the preliminary assessment made to date, it is expected that entities in most jurisdictions will not be subject to the top-up tax, due to being eligible for one of the three forms of safe harbor prescribed in the guidelines. This assessment will be refined and completed during 2024, and it will be possible to identify the potential impact of the rules.

(c) Other amendments

Other standards, interpretations, and amendments to accounting standards have been issued, but are not yet mandatory and were not adopted early. The Company believes that the adoption of these standards, interpretations and amendments will not have a material impact on the preparation of its financial statements for the current year or for future periods.

4. Critical accounting estimates and judgments

Based on assumptions, the Company and its subsidiaries make estimates regarding the future. Accounting estimates and judgments are continually reviewed and are based on historical experience and other factors, including expectations of future events, which are considered reasonable for the circumstances. Revisions to these estimates are recognized prospectively.

By definition, the accounting estimates will rarely be the same as the actual results. Estimates and assumptions that present a significant risk of causing material adjustments to the carrying amounts of assets and liabilities for the next fiscal year are described in the respective notes below:

(i) Financial instruments and derivatives (Note 6.1.1);
(ii) Trade receivables (Note 11);
(iii) Inventory (Note 12);
(iv) Investments (Note 16);
(v) Property, plant and equipment (Note 17);
(vi) Intangible assets (Note 18);
(vii) Lease liabilities (Note 20);
(viii) Current and deferred income tax and social contribution (Note 22); and
(ix) Provisions (Note 23).

4.1 Impairment of goodwill and non-current assets

(a) Accounting policy

Non-financial assets with indefinite useful lives, such as goodwill, are not subject to amortization, and the impairment testing is performed at least annually. Assets which are subject to depreciation or amortization undergo impairment testing periodically, or whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. An impairment loss is recognized as an expense in the "Other operating results" line item (Note 29) to the extent that the carrying amount of the asset exceeds its recoverable amount. The recoverable amount is the higher of an asset’s fair value less costs to sell or its value in use. For the purpose of assessing the recoverable amount, assets are grouped at the lowest level for which there is identifiable cash flow (cash-generating unit – CGU). Non-financial assets, except goodwill, that have suffered impairment are subsequently reviewed for the possible reversal of the impairment provision at the balance sheet date.

Goodwill resulting from a business combination is allocated to a CGU or group of CGUs, being the lowest level at which the goodwill is monitored for internal management purposes, and not being larger than an operating segment. Goodwill related to operations in North America and in Europe, Asia, Africa, and Latin America is allocated to each operating segment. See more details in Note 18 (b) for details on the allocation of goodwill.

When an impairment loss is reversed, the carrying amount of an asset or CGU is adjusted to the revised estimate of its recoverable amount, but in such a way that the revised carrying amount does not exceed the carrying amount that would have been determined if no impairment loss had been recognized for the asset or CGU in prior years. The reversal of an impairment loss is recognized as revenue in the "Other operating results" line item (Note 29).

(b) Impairment testing

Impairment testing is performed at least annually for all CGUs to which goodwill is allocated, as well as for other CGUs that do not contain goodwill but which present indicators of impairment. The recoverable amount is measured by using the discounted cash flow model and determined based on the value in use of each CGU. The measurement of these values involves the use of assumptions, judgments, and estimates of future cash flow, and these amounts represent the best estimates of the Company and its subsidiaries.

These calculations use projections of cash flow after tax based on the Strategic Planning approved by the Board of Directors of the Company and its subsidiaries, covering a period of five years. A period of up to ten years may be considered in specific circumstances, such as economic crises, to provide a better reflection of the business and economic cycles of the CGU. The perpetual cash flow is calculated using the projections for the last year (with a zero growth rate).

The Company and its subsidiaries used the projected sales price, volume and discount rate as the main assumptions when calculating the recoverable amounts of the CGUs. The projections were made based on past performance and expectations regarding future market development. The discount rates used are after taxes and reflect specific risks related to the operating segment (geographical region) or CGU being tested.

5. Social and environmental risk management

The Company, through its subsidiaries and associates, operates in several segments, and therefore, its activities are subject to numerous national and international environmental laws, regulations, treaties and conventions, including those regulating the discharge of materials into the environment, which requires the removal and cleaning of contamination from the environment, or relating to environmental protection. Violations of existing environmental regulations expose violators to substantial fines and pecuniary sanctions, and may require technical measures or investments to ensure compliance with mandatory emissions limits.

The Company and its subsidiaries periodically carry out surveys to identify potentially impacted areas and record, based on the best cost estimates, the estimated amounts required for the investigation, treatment and cleaning of potentially impacted locations.

6. Financial risk management

6.1 Financial risk factors

The activities of the Company and its subsidiaries expose them to a variety of financial risks, namely: (a) market risk (including currency, commodity price and interest rate risk); (b) credit risk; and (c) liquidity risk.

Some of the products sold by the company and its subsidiaries, such as aluminum and zinc are commodities, with prices pegged to international indices and denominated in US dollars. Their costs, however, are mainly denominated in Brazilian reais, and therefore, there is a mismatch of currencies between revenue and costs.

Additionally, the Company and its subsidiaries have debts linked to different interest indices and currencies, which may have an impact on their cash flow.

In order to mitigate the various effects of each market risk factor, the Company and its subsidiaries follow a Market Risk Management Policy, approved by the Finance Committee, with the objective of establishing governance and overall guidelines for managing these risks, as well as the metrics for their measurement and monitoring.

The financial risk management process aims to protect the cash flow, as well as its operational (revenue and costs) and financial (financial assets and liabilities) components against adverse market events, such as fluctuations in the prices of currencies, interest rates and commodity prices, and against adverse credit events. In addition, it aims to preserve liquidity.

The following financial instruments may be taken out in order to mitigate and manage risk: conventional swaps, call options, put options, collars, currency futures contracts, interest or commodities contracts, and non-deliverable forward contracts. Strategies that include simultaneous purchases and sales of options are authorized only when they do not result in a net short position in volatility of the underlying asset. The Company and its subsidiaries do not enter into transactions involving financial instruments for speculative purposes.

(a) Market risk

(i) Foreign exchange risk

The Company and its subsidiaries have certain investments in foreign operations, the net assets of which are exposed to foreign exchange risk. The foreign exchange exposure arising from the Company's and its subsidiaries' participation in foreign operations is mainly hedged by borrowing items in the same currency as the investments, which are classified as net investment hedges.

The accounting balances of assets and liabilities indexed to foreign currencies at the closing dates of the balance sheets are as follow:

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

	2023	2022
Assets denominated in foreign currency		
Cash and cash equivalents	4,541	2,353
Financial investments	31	90
Derivative financial instruments	258	152
Trade receivables	631	421
Related parties	11	15
	5,472	**3,031**
Liabilities denominated in foreign currency		
Borrowing and debentures	10,898	9,808
Derivative financial instruments	295	203
Lease liabilities	465	605
Confirming payables	110	102
Trade payables	3,071	1,925
Deferred revenue - silver streaming	567	690
	15,406	**13,333**
Net exposure	**(9,934)**	**(10,302)**

(ii) Hedge accounting for investments in foreign entities

Accounting policy

Any gain or loss on the hedging instrument related to the effective portion of the hedge is recognized in equity, under "Carrying value adjustments". The gain or loss related to the ineffective portion is immediately recognized in profit or loss. Accumulated gains and losses in equity are included in the profit or loss for the period when the overseas investment is made or sold.

The investments presented in the following table were designated as hedged objects, and the debt portion of the subsidiary St. Mary's Cement Inc. (Canada), denominated in Canadian dollars.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

										2023
	Investor					Hedged item			Instrument	Gain
Entity	Currency	Investment	Currency	Designated percentage	Designated net amount	Amount in reais	Currency	Original amount	Amount in reais	Carrying value adjustments
St. Mary's Cement Inc. (Canada)	CAD	VCNA US, Inc.	USD	75.23%	500	2,503	USD	500	2,503	88

										2022
	Investor					Hedged item			Instrument	Loss
Entity	Currency	Investment	Currency	Designated percentage	Designated net amount	Amount in reais	Currency	Original amount	Amount in reais	Carrying value adjustments
St. Mary's Cement Inc. (Canada)	CAD	VCNA US, Inc.	USD	44.96%	500	2,609	USD	500	2,609	(163)

The subsidiaries document and evaluate the effectiveness of the investment hedging operations prospectively, as required by CPC 48 / IFRS 9 - Financial instruments.

(iii) Cash flow and fair value interest rate risk

Interest rate risk arises from the fluctuations of each of the main indices of interest rates on borrowing and on financial investments, which have an impact on the payments and receipts of the Company and its subsidiaries. Borrowing at fixed rates exposes the Company and its subsidiaries to fair value interest rate risk.

(iv) Commodity price risk

The Financial Policies of the Company's subsidiaries establish guidelines for the use of commodities derivatives.

The exposure to each commodity price reflects the monthly projections of production, purchases of inputs and flows of maturities of the related hedges. Hedge transactions, when executed, are classified into the following categories:

Fixed-price commercial transactions - hedge transactions that switch, from fixed to floating, the prices contracted for commercial transactions with customers interested in purchasing products at fixed prices;

Hedges for "quotation periods" - hedges that set prices for the different "quotation periods" between the purchases of certain inputs (metal concentrate) and the sale of products arising from the processing of these inputs;

Hedges for "costs of inputs" - intended to ensure protection against volatility in the prices or costs of its operating subsidiaries for commodities such as oil and natural gas;

Hedges for "operating margin" - intended to set the operating margin for a portion of the production of certain operating subsidiaries.

(b) Credit risk

Derivative financial instruments and financial investments result in exposure to the credit risk of counterparties and issuers. The Company and its subsidiaries adopt a policy of working with issuers which have, at a minimum, been assessed by two of the following three ratings agencies: Fitch Ratings, Moody's or S&P Global Ratings. The minimum rating required for counterparties is "A" (Brazilian scale) or "BBB-" (international scale), or equivalent. For financial assets where issuers do not meet these minimum credit risk ratings, criteria approved by the Board of Directors may be applied as an alternative.

The credit quality of financial assets is disclosed in Note 8. The ratings disclosed in this Note always represent the most conservative ratings from the agencies in question.

The pre-settlement risk methodology is used to assess counterparty risks on derivative transactions, determining (via Monte Carlo simulations) the likelihood of a counterparty not honoring their financial commitments defined in the contracts. The use of this methodology is described in the VSA Financial Policy.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

(c) Liquidity risk

The following table analyzes the financial liabilities of the Company and its subsidiaries, by maturity, corresponding to the period remaining from the balance sheet date to the contractual maturity date.

The amounts disclosed in the table represent the undiscounted contractual cash flow, and these amounts may not be reconciled with the amounts disclosed in the balance sheet for the borrowing and use of public assets.

	Up to one year	From one to three years	From three to five years	From five to ten years	From ten years	Total
At December 31, 2023						
Borrowing and debentures (i)	2,462	2,169	20,016	6,617	3,643	34,907
Derivative financial instruments	291	337	154	66	1	849
Financial instruments - *offtake agreements*	10	53	32			95
Lease liabilities	199	265	142	114	398	1,118
Confirming payables	2,942					2,942
Trade payables	6,935					6,935
Dividends payable	508					508
Related parties		115				115
Use of public assets	85	172	197	708	1,099	2,261
	13,432	**3,111**	**20,541**	**7,505**	**5,141**	**49,730**
At December 31, 2022						
Borrowing and debentures (i)	1,795	2,449	15,711	8,683	3,489	32,127
Derivative financial instruments	326	378	194	67	1	966
Financial instruments - *offtake agreements*	9	78	27			114
Lease liabilities	224	206	109	124	614	1,277
Confirming payables	3,219					3,219
Trade payables	7,406					7,406
Dividends payable	1,262					1,262
Related parties		141				141
Use of public assets	145	250	405	1,029	1,897	3,726
	14,386	**3,502**	**16,446**	**9,903**	**6,001**	**50,238**

(i) For the "borrowing and debentures" balances, financial charges are projected until the final maturity of the contracts. These figures do not consider adjustments to the fair value of the operations contracted based on the provisions of Law No. 4131/1962.

6.1.1 Derivatives contracted

Accounting policy

Initially, derivatives are recognized at their fair values on the date of their contracting, and are subsequently re-measured at their fair values.

The fair values of financial instruments that are not traded on active markets are determined using valuation techniques. The Company and its subsidiaries use their judgment to choose between different methods and to make assumptions, which are mainly based on the market conditions existing at the balance sheet date.

The method for recognizing the resulting gain or loss depends on whether or not the derivative is designated as a hedge instrument in the case of the adoption of hedge accounting. This being the case, the method depends on the nature of the item being hedged. The Company and its subsidiaries adopt hedge accounting and designate certain derivatives as:

(i) Cash flow hedges

With a view to ensuring a fixed operating margin in Brazilian reais for a portion of the production of the metals, mining and aluminum businesses, the subsidiaries enter into commodity forward contracts on sales of certain commodities, in parallel with the sale of US dollar forward contracts. There is also the quotation period hedge, which seeks to equalize the periods between purchases of concentrate and sales of final products of the non-integrated plants, in order to mitigate the relevant exposure.

The effective portion of changes in the fair values of derivatives that are designated and qualify as cash flow hedges is recognized in equity within "Carrying value adjustments” (Note 26 (c)). The gain or loss relating to the ineffective portion is immediately recognized in the profit or loss for the year. The amounts recognized in equity are recorded in the statement of income upon the realization of the hedged exports and/or sales pegged to London Metals Exchange (LME) prices.

(ii) Fair value hedge

With the objective of maintaining the flow of the metal businesses' operating revenue pegged to LME prices, the subsidiaries enter into hedging transactions under which they convert sales at fixed prices to floating prices on commercial transactions with customers interested in purchasing products at fixed prices. Changes in the fair values of derivatives that are designated as derivatives are recognized in the income for the year.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

(a) Effects of derivative financial instruments on the balance sheet and cash flow

The following are the derivative financial instruments and the objects protected by them:

				2023											
	Principal value			12/31/2022	Changes in fair value						12/31/2023				
Programs	2023	2022	As per Unit	Total (net between assets and liabilities)	Net revenue (expenses) from products sold and services rendered	Cost of products sold and services rendered	Other operating income (expenses), net	Finance results, net	Other comprehensive income	Gain (loss) realized	Total (net between assets and liabilities)	2024	2025	2026	2027+
Hedges for sales of zinc at a fixed price															
Zinc forward contracts	7,233	8,297	ton	1	(15)					20	6	4	2		
				1	(15)					20	6	4	2		
Hedges for mismatches in quotation period															
Zinc forward contracts	209,051	209,319	ton	(12)	11	76	(7)		3	(87)	(16)	(16)			
				(12)	11	76	(7)		3	(87)	(16)	(16)			
Foreign exchange hedge															
Turkish Lira forward contracts (USD/TRY)	10	6	USD million	(2)				19		(18)	(1)	(1)			
				(2)				19		(18)	(1)	(1)			
Interest rate hedges															
SOFR floating rate vs. CDI floating rate swaps	50	50	USD million	13				(41)	1	17	(10)			(10)	
IPCA floating rate vs. CDI floating rate swaps	1,743	1,247	BRL	(21)				28		94	101			(86)	187
USD fixed rate vs. CDI floating rate swaps	280	330	USD million	(157)				(277)	9	205	(220)			(110)	(110)
IPCA floating rate vs. USD fixed rate swaps	160	160	BRL	(33)				26		(2)	(9)			(2)	(7)
Variable income vs. CDI fixed rate swaps		7	BRL	(7)				87		(80)					
PRE fixed rate vs. CDI floating rate swaps	170		BRL					4			4			1	3
				(205)				(173)	10	234	(134)			(207)	73
Interest rate hedge - fair value															
SOFR floating rate in USD vs. CDI floating rate in BRL swaps	150		USD million					(45)	(3)		(48)			(32)	(16)
								(45)	(3)		(48)			(32)	(16)
Hedges of operational contracts															
IPCA floating rate vs. USD fixed rate swaps	823	823	BRL	137				159		(42)	254			33	221
IPCA/IGP-M floating rate vs. USD fixed rate swaps (i)	1,531		BRL		(7)	95		61	(4)	(88)	57	243	(36)	(42)	(108)
				137	(7)	95		220	(4)	(130)	311	243	(36)	(9)	113
Total derivative financial instruments				(81)	(11)	171	(7)	21	6	19	118	230	(34)	(248)	170
Offtake agreements measured at fair value through profit or loss															
Offtake agreements	27,562	30,810	ton	(114)			8		11		(95)	(10)	(14)	(36)	(35)
				(114)			8		11		(95)	(10)	(14)	(36)	(35)
Total				(195)	(11)	171	1	21	17	19	23	220	(48)	(284)	135
Derivative financial assets				885							1,117				
Derivative financial liabilities				(966)							(999)				
Offtake agreements				(114)							(95)				
Total derivative financial instruments				**(195)**							**23**				

(i) The principal value of each instrument was estimated based on the change in fair value of the contract by future market indices, converted into present values using the risk-free rate.

On December 31, 2023, derivative transactions net of taxes recognized in "Carrying value adjustments" totaled R$ 22 as discussed in Note 26 (c).

BRL – Brazilian currency (Real)
CDI – Interbank Deposit Certificate
IGP-M – General Market Price Index
IPCA – National Broad Consumer Prices Index
LIBOR – London Interbank Offered Rate
SOFR – Secured Overnight Financing Rate
TRY – Turkish Lira
USD – US Dollar

6.1.2 Estimated fair value

The main financial assets and liabilities are described below, as well as the assumptions for their valuation:

Financial assets - considering the nature and terms, the amounts recorded are similar to their realizable values.

Financial liabilities - subject to interest at normal market rates. The market value was calculated based on the present value of the future cash disbursement, using the interest rates currently available in the market for issues of debt with similar maturities and terms.

The Company and its subsidiaries disclose their fair value measurements based on their level of the following hierarchy:

Level 1 - quoted prices (not adjusted) in active markets for identical assets and liabilities;

Level 2 - information, in addition to quoted prices included in Level 1, that is used by the market for the asset or liability, either directly (as prices) or indirectly (derived from prices);

Level 3 - inputs for the asset or liability that are not based on data used by the market (that is, unobservable inputs).

The fair values of these derivative financial instruments and borrowing and debentures take into account the credit risks of the Company and its subsidiaries. The value of the change in the fair value of the financial liability that is attributable to changes in credit risk is recorded in equity within other comprehensive income.

If the classification of credit risk in other comprehensive income creates or increases the accounting mismatch in the result, the entity must present all gains or losses in the income for the year. The accumulated changes in credit risk remain in other comprehensive income until the settlement of the financial instrument, whereupon they are reclassified to retained earnings, without affecting the income for the year.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

As at December 31, 2023, financial assets measured at fair value and financial liabilities disclosed at fair value were classified at levels 1, 2 and 3 of this hierarchy, as follow:

		Fair value measured based on			2023
	Note	Prices quoted in an active market (Level 1)	Valuation supported by observable prices (Level 2)	Valuation supported by unobservable prices (Level 3)	Total
Assets					
Cash and cash equivalents	9	7,503	4,277		11,780
Financial investments	10	1,281	2,790		4,071
Derivative financial instruments	6.1.1		1,117		1,117
Financial instruments - shares	13 (b)		2,505		2,505
		8,784	10,689		19,473
Liabilities					
Borrowing and debentures	19 (a)	10,490	15,345		25,835
Derivative financial instruments	6.1.1		1,056	(57)	999
Lease liabilities	20 (b)		1,118		1,118
Confirming payables	21		2,942		2,942
Electrical power futures contracts			871		871
		10,490	21,332	(57)	31,765

		Fair value measured based on		2022
	Note	Prices quoted in active market (Level 1)	Valuation supported by observable prices (Level 2)	Total
Assets				
Cash and cash equivalents	9	7,052	3,474	10,526
Financial investments	10	1,675	1,673	3,348
Derivative financial instruments	6.1.1	885		885
Financial instruments - shares	13 (b)		1,330	1,330
		9,612	6,477	16,089
Liabilities				
Borrowing and debentures	19 (a)	10,962	11,017	21,979
Derivative financial instruments	6.1.1	960	6	966
Lease liabilities	20 (b)		1,277	1,277
Confirming payables	21		3,219	3,219
Electrical power futures contracts			247	247
		11,922	15,766	27,688

6.1.3 Sensitivity analysis

The main risk factors affecting the pricing of cash and cash equivalents, financial investments, borrowing and derivative financial instruments are exposure to the fluctuations in the US Dollar, Euro, Moroccan Dirham, Bolivian Boliviano, Turkish Lira, Canadian Dollar, Uruguayan Peso, Tunisian Dinar, Argentine Peso, Namibian Dollar and New Peruvian Sol. Interest rates CDI, IPCA, TJLP, LIBOR/SOFR, US Dollar coupon and commodity prices. The scenarios for these factors are prepared using both market sources and specialized sources of information, in line with the Company's governance policies.

The scenarios as at December 31, 2023 are described below:

Scenario I - Considers shocks to the market curves and quotations as at December 31, 2023, according to the base scenario defined by management at March 31, 2024;

Scenario II: Considers a shock of + or - 25% in the market curves as at December 31, 2023;

Scenario III - Considers a shock of + or - 50% in the market curves as at December 31, 2023.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

						Impacts on profit (loss)					Impacts on comprehensive income				
						Scenario I	Scenarios II & III				Scenario I	Scenarios II & III			
Risk factors	Cash and cash equivalents and financial investments (i)	Borrowing and debentures (i)	Notional values of derivative financial instruments	Per Unit	Changes from 2023	Results of scenario I	-25%	-50%	+25%	+50%	Results of scenario I	-25%	-50%	+25%	+50%
Foreign exchange rates															
USD	5,750	16,813	937	USD million	1.21%	(64)	1,313	2,626	(1,313)	(2,626)	(100)	2,058	4,115	(2,058)	(4,115)
EUR	734	589			-0.20%		(8)	(16)	8	16		(28)	(57)	28	57
MAD	95				-0.80%	(1)	(24)	(48)	24	48					
BOB	47	507			0.48%						(2)	115	230	(115)	(230)
TRY	65		10	USD million	-4.33%	(3)	(16)	(33)	16	33					
CAD	129	170			-0.06%		12	23	(12)	(23)		(2)	(3)	2	3
UYU	37	103			-3.11%						2	16	33	(16)	(33)
TND	178				-0.30%		(44)	(89)	44	89					
ARS	147				-37.59%						(55)	(37)	(74)	37	74
NAD	8				-1.84%							(2)	(4)	2	4
PEN	152				0.87%	1	(36)	(72)	36	72		(2)	(4)	2	4
Interest rates															
BRL - CDI	6,105	3,695	3,341	BRL	-69 bps	(17)	(70)	(140)	70	140					
BRL - IPCA	27	2,892	1,903	BRL	38 bps	(11)	33	66	(33)	(66)					
BRL - TJLP		229			-2 bps		4	7	(4)	(7)					
USD - LIBOR / SOFR		3,556	623	USD million	185 bps	(227)	4,695	9,389	(4,695)	(9,389)	4	(133)	(267)	132	264
US Dollar coupon			363	USD million	6 bps										
BRL - TR		239			0 bps		1	2	(1)	(2)					
Prices of commodities															
Zinc			217	ton	-4.69%	19	44	87	(44)	(87)	1	3	6	(3)	(6)

(i) The balances presented do not reconcile with the explanatory notes, since the analysis performed covered all the most significant currencies, and the interest rates include only the principal amount.

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ARS – Argentine Peso
BRL – Brazilian Real
BOB – Bolivian Boliviano
CAD – Canadian Dollar
CDI – Interbank Deposit Certificate
EUR – Currency of the European Union (Euro)
IPCA – National Broad Consumer Prices Index
LIBOR – London Interbank Offered Rate
MAD – Moroccan Dirham
NAD – Namibian Dollar
PEN – New Peruvian Sol
SOFR – Secured Overnight Financing Rate
TJLP – Long-term Interest Rate, set by the National Monetary Council
TND – Tunisian Dinar
TR – Reference Rate
TRY – Turkish Lira
USD – US Dollar
UYU – Uruguayan Peso

7. Financial instruments by category

Accounting policy

The Company and its subsidiaries classify their financial instruments depending on the purpose for which the financial instruments were acquired. Management determines the classification of financial instruments upon their initial recognition, in the following categories:

(a) Financial instruments at fair value through profit or loss

These are financial assets held for active and frequent trading. These assets are measured at their fair values, and the changes are recognized in the statement of income for the year.

(b) Financial instruments at fair value through other comprehensive income

These are financial instruments that meet the criteria of contractual terms, give rise to cash flow that exclusively represents the payment of principal and interest, and are held under a business model, the objective of which is achieved both by obtaining contractual cash flow and by the sale of the financial assets. The instruments within this classification are measured at fair value through other comprehensive income.

(c) Financial instruments at amortized cost

These are financial instruments held under a business model for the purpose of obtaining contractual cash flow and with contractual terms which give rise to cash flow that exclusively represents the payment of principal and interest. The instruments in this classification are measured at amortized cost.

(d) Impairment of financial assets measured at cost

Impairment is measured as the difference between the book value of the assets and the present value of the estimated future cash flow (excluding future credit losses that were not incurred), discounted at the current interest rates of financial assets. The book value of the asset is reduced, and the amount of the loss is recognized in the statement of income.

If, in a subsequent period, the impairment loss decreases and the impairment can be objectively related to an event occurring after the recognition of the impairment (such as an improvement in the debtor's credit rating), the reversal of the loss will be recognized in the statement of income.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

	Note	2023	2022
Assets			
Amortized cost			
Trade receivables		2,792	3,284
Related parties	15	234	239
Financial instruments - shares	13 (a)	5,283	5,283
		8,309	**8,806**
Fair value through profit or loss			
Cash and cash equivalents (i)	9	11,780	10,526
Financial investments	10	4,071	3,348
Derivative financial instruments		837	813
		16,688	**14,687**
Fair value through other comprehensive income			
Financial instruments - shares	13 (b)	2,505	1,330
Derivative financial instruments		280	72
		2,785	**1,402**
Liabilities			
Amortized cost			
Borrowing	19 (a)	23,188	20,937
Trade payables		6,935	7,406
Lease liabilities	20 (b)	1,118	1,277
Related parties	15	115	141
Confirming payables	21	2,942	3,219
Use of public assets	24	1,787	1,863
		36,085	**34,843**
Fair value through profit or loss			
Borrowing	19 (a)	1,930	1,933
Derivative financial instruments		386	440
Electrical power futures contracts		871	247
		3,187	**2,620**
Fair value through other comprehensive income			
Derivative financial instruments		708	640
		708	**640**

(i) In practice, fair value and amortized cost are equivalent by definition, considering the characteristics of cash equivalents.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

8. Credit quality of financial assets

The local and global ratings were extracted from rating agencies (S&P Global Ratings, Moody's and Fitch Ratings). For presentation purposes, the nomenclature standard of S&P Global Ratings and Fitch Ratings as well as the classifications established in the Financial Policy were considered.

			2023			2022
	Local rating	Global rating	Total	Local rating	Global rating	Total
Cash and cash equivalents						
AAA	5,240	686	5,926	2,852		2,852
AA+	2		2			
AA	325		325	304		304
AA-		493	493		181	181
A+		1,412	1,412		2,016	2,016
A		1,003	1,003		1,362	1,362
A-		677	677		622	622
BBB+		109	109		199	199
BBB		447	447		612	612
BBB-		8	8		15	15
BB		7	7		14	14
BB					267	267
B		37	37		44	44
B-		23	23		85	85
CCC		3	3		89	89
CCC-		100	100		54	54
Unrated (i)	10	1,198	1,208		1,810	1,810
	5,577	**6,203**	**11,780**	**3,156**	**7,370**	**10,526**
Financial investments						
AAA	1,670		1,670	2,022		2,022
AA+	13		13	12		12
AA	8		8	132		132
A+		12	12		3	3
A		18	18		88	88
B-					2	2
Unrated (ii)	2	2,348	2,350		1,089	1,089
	1,693	**2,378**	**4,071**	**2,166**	**1,182**	**3,348**
Derivative financial instruments						
AAA	1,117		1,117	817		817
AA				30		30
A+					16	16
A-					22	22
	1,117		**1,117**	**847**	**38**	**885**
	8,387	**8,581**	**16,968**	**6,169**	**8,590**	**14,759**

(i) Refer to amounts invested in institutions that are not rated by any ratings agency.

(ii) Refer to amounts invested in liquid assets traded abroad that are not classified by rating agencies.

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9. Cash and cash equivalents

Accounting policy

Cash and cash equivalents include cash, bank deposits and other highly liquid short-term investments with original maturities of less than three months, and which are readily convertible into a known amount of cash and subject to an insignificant risk of changes in value.

(a) Breakdown

	2023	2022
Local currency		
Cash and banks	58	90
Bank Deposit Certificates - CDBs	2,437	2,105
Repurchase agreements - government securities	1,929	609
Repurchase agreements - private securities	180	33
National Treasury Notes - NTNs		140
	4,604	**2,977**
Foreign currency		
Cash and banks	5,421	6,213
Time deposits	1,655	1,268
Investment fund quotas	95	68
Other	5	
	7,176	**7,549**
	11,780	**10,526**

Cash and cash equivalents in local currency include deposits in current bank accounts and government securities (overnight operations) or financial institutions, indexed to the interbank deposit rate. Foreign currency cash equivalents are mainly composed of financial instruments in the local currency of the Company and its investees.

The average return on the amounts allocated to cash and cash equivalents in local currency is equivalent to 93.35% p.a. of the CDI (December 31, 2022 - 101.78% p.a. of the CDI).

10. Financial investments

Accounting policy

Financial investments, for the most part, have immediate liquidity, but they are classified as financial investments based on the original maturities, considering the expected destination of the funds. Investments in national currency are comprised of government bonds or financial institutions, indexed to the interbank deposit rate.

Investments denominated in foreign currency are mainly composed of fixed income financial instruments in local currency (time deposits). There are also investments that have immediate liquidity, considering the expected allocation of funds under the Investment Policy. Such investments are comprised of sovereign bonds and ETFs (Exchange Traded Funds) with a low risk concentration on specific assets, following the restrictions defined in the Investment Policy to safeguard liquidity and mitigate the risks of capital loss.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

(a) Breakdown

	2023	2022
Fair value through profit or loss		
Local currency		
Treasury Financial Bills - LFTs	1,225	1,354
Repurchase agreements - Government securities	289	
Bank Deposit Certificates - CDBs	121	494
National Treasury Notes - NTNs	26	250
Certificates of Real Estate Receivables - CRIs	2	
National Treasury Bills - LTNs		11
Investment fund quotas		60
Other	30	
	1,693	**2,169**
Foreign currency		
Assets traded on the market (i)	2,301	1,089
Time deposits	31	90
Investment fund shares	46	
	2,378	**1,179**
	4,071	**3,348**
Current	4,070	2,965
Non-current	1	383
	4,071	**3,348**

(i) Balance refers to assets traded on the market, being investments with a low concentration of risk in specific assets.

The average return on the amounts allocated to financial investments in local currency was 100.20% p.a. of the CDI (December 31, 2022 - 100.76% p.a. of the CDI).

11. Trade receivables

Accounting policy

Trade receivables are amounts referring to the sale of goods or provision of services in the normal course of the activities of the Company and its subsidiaries.

They are initially recognized at fair value and subsequently measured at amortized cost using the effective interest rate method, less the estimated loss on the allowance for loan losses. Accounts receivable from customers in foreign markets are updated based on the exchange rates in effect on the balance sheet date.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

(a) Breakdown

	Note	2023	2022
Brazilian customers		1,097	1,055
Customers outside Brazil		1,756	2,290
Related parties	15	107	80
		2,960	**3,425**
Estimated loss on bad debts with Brazilian customers		(93)	(76)
Estimated loss on bad debts with customers outside Brazil		(49)	(65)
		(142)	**(141)**
		2,818	**3,284**

(b) Breakdown by currency

	2023	2022
Brazilian Real	1,274	1,288
US Dollar	800	1,250
Euro	288	380
Turkish Lira	247	191
Argentinian Peso	64	67
Uruguayan Peso	64	43
Moroccan Dirham	34	43
Other	47	22
	2,818	**3,284**

(c) Changes in the estimated loss on bad debts

	2023	2022
Balance at the beginning of the year	**(141)**	**(154)**
Reversals (additions), net	(35)	(32)
Receivables written off as uncollectible	29	44
Effect of subsidiaries included and excluded from consolidation		(13)
Foreign exchange variations	5	14
Balance at the end of the year	**(142)**	**(141)**

(d) Aging of trade receivables

	2023	2022
Current	2,529	3,040
Up to three months past due	256	227
Three to six months past due	22	23
Over six months past due	153	135
	2,960	**3,425**

12. Inventory

Accounting policy

Presented at the lower of the cost and the net realizable value. The cost is determined using the weighted average cost method. The costs of finished products and products in the process of preparation include raw materials, direct labor, and other direct and indirect production costs (based on normal operational capacity). Raw materials derived from biological assets (e.g.: trees from a plantation, plants, fruit trees, cattle, etc.) are measured at fair value, less selling expenses at the point of harvest, when they are transferred from non-current assets to inventory.

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The subsidiaries, at least once a year, carry out the physical inventory of the goods included in their inventory. Inventory adjustments are recorded under "Cost of products sold and services provided".

The provision for inventory losses substantially refers to obsolete and low-turnover materials.

(a) Breakdown

	2023	2022
Finished products	1,138	1,381
Semi-finished products	2,632	3,058
Raw materials	1,793	1,824
Auxiliary materials and consumables	1,791	1,797
Imports in transit	366	352
Other	458	453
Provision for inventory losses	(483)	(783)
	7,695	**8,082**

(b) Changes in estimated inventory losses

							2023	2022
	Finished products	Semi-finished products	Raw materials	Auxiliary materials and consumables	Maintenance materials	Other	Total	Total
Balance at the beginning of the year	(65)	(335)	(7)	(245)	(9)	(122)	(783)	(478)
Addition	(96)	(88)	(13)	(81)	(185)	(95)	(558)	(547)
Reversal	128	446	10	136	68		788	196
Write-off		15					15	36
Exchange variation	2	(2)	2	(18)		67	51	31
Effect of subsidiaries included and excluded in consolidation					4		4	(21)
Balance at the end of the year	**(31)**	**36**	**(8)**	**(208)**	**(122)**	**(150)**	**(483)**	**(783)**

13. Financial instruments - shares

Accounting policy

The Company holds shares in other companies, which are classified as financial instruments based on the Company's business model.

(a) Amortized cost

In 2018, the Company started to hold a minority interest of 15% in the combined long steel business of AMB. In compliance with the accounting rules, the investment was recognized as a financial instrument valued at fair value through profit or loss, in accordance with IFRS 9 / CPC 48 – Financial instruments.

On March 30, 2022, the Company exercised its put option in relation to the interest, and the matter is being defined under the terms of the agreement. Following this decision, the financial instrument started to be measured at amortized cost, and its fair value on the reclassification date was considered as the gross book value.

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On January 6, 2023, the Company received the amount of R$ 936 referring to the financial instrument. This amount was maintained as an advance in the line item "Other liabilities", given that the Company did not receive the entire amount due and, consequently, did not transfer the shares in AMB.

	2023	2022
Financial instrument - put option	5,283	5,283

(b) Fair value through other comprehensive income and through profit or loss

The value of financial instruments substantially refers to the portion of shares held by the Company in the subsidiaries Janssen Capital B.V., Nexa and Altre, respectively, in the total amount of R$ 2,505.

14. Taxes recoverable

Accounting policy

Taxes recoverable are held in assets mainly for the purpose of recognizing in the balance sheet of the entity the book values that will be subject to future recovery.

	2023	2022
Corporate Income Tax (IRPJ) and Social Contribution on Net Income (CSLL)	1,196	1,418
State Value-added Tax on Sales and Services (ICMS)	905	763
Social Contribution on Revenue (COFINS)	507	625
State Value Added Tax on property, plant and equipment (ICMS)	145	163
Social Integration Program (PIS)	121	152
Value-added Tax (VAT) (foreign companies)	102	195
Withholding Income Tax (IRRF)	87	32
Excise Tax (IPI)	33	38
Social Security Credit	26	49
Other	162	178
	3,284	**3,613**
Current	1,364	1,545
Non-current	1,920	2,068
	3,284	**3,613**

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15. Related parties

Accounting policy

Transactions with related parties are carried out so as not to generate any undue benefit to their counterparties or losses to the Company and its investees. In the normal course of operations, contracts are entered into with related parties (associates, joint ventures and shareholders), related to the purchase and sale of products and services, loans, leasing of goods, sales of raw materials and services.

Assets	Trade receivables		Dividends and interest on equity receivable		Non-current assets	
	2023	2022	2023	2022	2023	2022
Associates or joint ventures						
Auren Energia S.A.	3	2		240	90	92
Auren Comercializadora de Energia Ltda.	29	36				
Banco Votorantim S.A.			206	136		
Cementos Avellaneda S.A.	2	3				
Citrosuco GmbH					63	68
Enercan - Campos Novos Energia S.A.				11		
Midway Group LLC	2	6				
Supermix Concreto S.A.	44	28				
Other	27	5	87	14	81	79
	107	**80**	**293**	**401**	**234**	**239**
Current	107	80	293	401		
Non-current					234	239
	107	**80**	**293**	**401**	**234**	**239**

Liabilities	Trade payables		Dividends and interest on equity payable		Non-current liabilities	
	2023	2022	2023	2022	2023	2022
Parent company						
Hejoassu Administração S.A.			485	1,131		
Associates and joint ventures						
Alumina do Norte do Brasil S.A.	52	48				1
Auren Comercializadora de Energia Ltda.	112	110				
Auren Energia S.A.	4		6	46	88	105
Enercan - Campos Novos Energia S.A.	142	76				
Other	35	26			27	35
	345	**260**	**491**	**1,177**	**115**	**141**
Non-controlling interests			**17**	**85**		
Current	345	260	508	1,262		
Non-current					115	141
	345	**260**	**508**	**1,262**	**115**	**141**

Profit and loss	Sales (purchases), net		Finance income (costs), net	
	2023	2022	2023	2022
Associates and joint ventures				
Auren Comercializadora de Energia Ltda.	304	335		
Auren Energia S.A.			(10)	
Cementos Avellaneda S.A.	19			
Cementos Especiales de las Islas, S.A.	41	35		
Cementos Granadilla S.L.	29	23		
Citrosuco S.A. Agroindústria	3	11		
Midway Group, LLC	49	47		
Supermix Concreto S.A.	372	415		
Other	16	272	(9)	
	833	**1,138**	**(19)**	

16. Investments

Accounting policy

Investments in associates, subsidiaries and joint ventures are accounted for using the equity method from the date on which they become their associates, subsidiaries, and joint ventures.

Associates are those entities in which the Company, directly or indirectly, has significant influence, but not control or joint control over the financial and operating policies. In order to be classified as a joint venture, there must be a contractual agreement that allows the Company to share control of the entity, and which gives the Company the right to the net assets of the joint venture, but not the rights to its specific assets and liabilities.

The Company also recognizes its assets in proportion to its own participation in the assets, liabilities, revenues and expenses of the joint venture. This implies recognizing the joint venture partner's share of the assets, liabilities, revenue and expenses of the joint ventures by adding such amounts to the Company's own assets, liabilities, revenue and expenses using the straight-line method.

(i) Impairment of investments

For the calculation of the recoverable amounts of the investments, the Company and its subsidiaries use criteria similar to those used to test the impairment of goodwill.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

(a) Breakdown

	Information as at 12/31/2023			Equity in the results of investees		Balance	
	Equity	Profit (loss) for the year	Total and voting capital (%)	2023	2022	2023	2022
Investments accounted for based on the equity method - Associates							
CCR S.A.	12,462	1,705	10.33	176	(23)	1,287	1,184
Cementos Avellaneda S.A. (i)	933	70	49.00	(2)	31	457	727
Cementos Especiales de las Islas, S.A.	218	50	50.00	25	21	109	105
Enercan - Campos Novos Energia S.A.	925	523	47.88	250	76	443	413
IMIX Empreendimentos Imobiliários Ltda.	16	7	25.00	2	2	4	4
Supermix Concreto S.A.	440	85	25.00	21	24	110	94
Other				(79)	(21)	103	188
Joint ventures							
Auren Energia S.A.	12,369	(318)	38.73	(119)	1,008	3,586	4,511
Banco Votorantim S.A. (ii)	12,945	1,113	50.00	557	509	6,968	6,761
Citrosuco GmbH	6,551	443	50.00	222	90	3,276	2,945
Citrosuco S.A. Agroindústria	(2,162)	(449)	50.00	(225)	(94)	(1,081)	(963)
DBOAT I Fundo de Investimento em Participações Multiestratégia	507	(10)	45.34	(5)		230	
Floen S.A.	11	(13)	50.00	(6)		5	
Hutton Transport Limited	76	32	25.00	8	8	19	16
Juntos Somos Mais Fidelização S.A.	(12)	(39)	44.27	(17)	(40)	(5)	10
Midway Group, LLC	74	30	50.00	15	7	37	39
RMC Leasing LLC	38	2	50.00	1	1	19	19
Grundy-River Holdings LLC	58	2	50.00	1		29	
Appreciation							
Auren Energia S.A.				(4)	(79)	1,082	1,128
CCR S.A.				(34)		939	961
Citrosuco GmbH				(45)	(47)	688	789
Citrosuco S.A. Agroindústria				(2)	(2)	57	59
Goodwill							
CCR S.A.						553	565
Cementos Avellaneda S.A.						65	166
Citrosuco GmbH						141	152
Citrosuco S.A. Agroindústria						194	194
Enercan - Campos Novos Energia S.A.						79	79
Hutton Transport Limited						10	11
Grundy-River Holdings LLC						2	
				740	**1,471**	**19,406**	**20,157**

(i) There was an effect due to the exchange rate on the dividends received by VC Latam from its associate Avellaneda, in the amount of R$ 37 (December 31, 2022 - R$ 27), which were assumed by the subsidiary VC Latam and recorded in the statement of income under "Equity in the results of investees" This financial cost should be considered when reconciling the equity in the results of this investee for 2022.

(ii) The investment includes an adjustment to fair value in the amount of R$ 495 (December 31, 2022 – R$ 495).

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(b) Information about the investees

The following table presents a summary of the selected financial information of the principal associates and joint ventures as at December 31, 2023:

	Total and voting capital (%)	Current assets	Non-current assets	Current liabilities	Non-current liabilities	Equity including non-controlling interests	Net revenue	Operating results	Finance income (costs)	Profit (loss) for the year
Investments accounted for based on the equity method - Associates										
CCR S.A.	10.33	3,775	15,993	1,606	5,700	12,462	117	(143)	(605)	1,705
Enercan - Campos Novos Energia S.A.	47.88	431	956	266	196	925	1,049	776	16	523
Cementos Avellaneda S.A.	49.00	387	1,270	396	328	933	1,556	271	(102)	71
Cementos Especiales de las Islas, S.A.	50.00	163	96	32	8	219				
IMIX Empreendimentos Imobiliários Ltda.	25.00	10	6			16	8	8	1	7
Supermix Concreto S.A.	25.00	597	550	457	250	440	2,704	171	(41)	85
Joint ventures										
Auren Energia S.A.	38.73	692	12,951	480	793	12,370		(198)	35	(318)
Banco Votorantim S.A.	50.00	4,459	136,447	127,961		12,945	7,205	850		1,113
Citrosuco GmbH	50.00	4,936	3,865	1,899	351	6,551	6,646	371	167	443
Citrosuco S.A. Agroindústria	50.00	5,149	4,955	4,327	7,938	(2,161)	5,846	231	(449)	(449)
Dboat I Fundo de Inv. em Partic. Multiestratégia	45.34	20	492	6		506	3	(20)	10	(10)
Floen S.A.	50.00	13	2	3	1	11		(14)	1	(13)
Grundy-River Holdings LLC	50.00	10	47			57				
Hutton Transport Limited	25.00	71	33	16	17	71				
Juntos Somos Mais Fidelização S.A.	44.27	49	22	70	13	(12)	124	(38)	5	(39)
Midway Group, LLC.	50.00	55	30	12		73				
RMC Leasing LLC	50.00	12	26			38				

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

(c) Changes in investees

	2023	2022
Balance at the beginning of the year	**20,157**	**13,691**
Equity in the results of investees	740	1,471
Foreign exchange variations on investments abroad	(545)	(166)
Effect of Auren's loss of control		2,471
Acquisitions of investments		1,235
Reclassification of financial instruments		1,582
Effects of the corporate transaction - Enercan		471
Capital increase	500	188
Reclassifications to assets held-for-sale (Note 1.1.2 (a))	(102)	(83)
Dividends and interest on equity	(1,671)	(659)
Cash flow hedges	(32)	(145)
Other	359	101
Balance at the end of the year	**19,406**	**20,157**

17. Property, plant and equipment

Accounting policy

Property, plant and equipment are stated at their historical cost of acquisition or construction, less accumulated depreciation. Historical cost also includes finance costs related to the acquisition or construction of qualifying assets.

Subsequent costs are included in the asset's carrying amount, or recognized as a separate asset, as appropriate, only when it is probable that future economic benefits associated with these costs will flow to the Company, and these benefits can be measured reliably. The carrying amounts of the replaced items or parts are derecognized.

All other repairs and maintenance are charged to the statement of income during the financial period in which they are incurred. The cost of major refurbishments is included in the carrying value of an asset when the resulting future economic benefits exceed the performance initially expected for the existing asset. Refurbishment expenses are depreciated over the remaining useful life of the asset.

Land is not depreciated. The depreciation of other assets is calculated using the straight-line method to reduce their costs to their residual values over their estimated useful lives.

An asset's carrying amount is written down immediately to its recoverable amount when the asset's carrying amount is greater than its estimated recoverable amount, in accordance with the criteria adopted by the Company and its subsidiaries to determine the recoverable amount.

Gains and losses on disposals are determined by comparing the sales amount with the carrying amount, and are recognized within “Other operating results” in the statement of income.

(i) Impairment of non-financial assets

Assets that are subject to depreciation and amortization are reviewed for impairment whenever events or changes in economic, operational, or technological circumstances may indicate impairment or a loss of the book value. An impairment loss is recognized when the carrying amount of the asset or CGU exceeds its recoverable amount, adjusting the carrying amount to the recoverable amount.

The recoverable amount is the greater of an asset's fair value less costs to sell and its value-in-use. For the purpose of impairment assessment, assets are grouped at the lowest level for which there is separately identifiable cash flow (CGU level). Non-financial assets, except for goodwill, which have been impaired, are subsequently reviewed to analyze the possible reversal of the impairment, at the balance sheet date.

The recoverability of the assets used in the activities of the Company and its subsidiaries is evaluated whenever events or changes in circumstances indicate that the book value of an asset or group of assets may not be recoverable based on the projected future cash flow. If the carrying amounts of these assets exceed their recoverable values, the net amount is adjusted, and the useful life is adjusted to a new level.

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(a) Breakdown and changes

	2023										2022
	Land and improvements	Buildings and construction	Machinery, equipment and facilities	Vehicles	Furniture and fittings	Construction in progress	Asset retirement obligation	Leasehold improvements	Other	Total	Total
Balance at the beginning of the year											
Cost	2,022	18,041	48,279	2,049	287	5,296	1,171	819	765	78,729	78,493
Accumulated depreciation	(81)	(8,297)	(31,245)	(1,396)	(237)		(696)	(550)	(342)	(42,844)	(43,415)
Net balance	**1,941**	**9,744**	**17,034**	**653**	**50**	**5,296**	**475**	**269**	**423**	**35,885**	**35,078**
Additions	8	89	155	2	2	4,775		5	14	5,050	5,064
Disposals	(8)	(2)	(33)	(1)	(1)	(19)	(30)			(94)	(91)
Depreciation	(6)	(661)	(2,045)	(163)	(12)		(37)	(38)	(38)	(3,000)	(2,878)
Foreign exchange variations	(40)	(231)	(480)	(20)	1	(256)	(5)	(8)	(21)	(1,060)	(1,269)
Write-offs due to corporate transactions											(174)
Effects of subsidiaries included and excluded from consolidation (i)	(4)	(54)	(47)	4	1	12		2		(86)	47
Reversal of impairment (ii)		1	35				84			120	
Constitution (reversal) of impairment	(10)	(103)	(156)	(4)		(79)	15			(337)	333
Revision of estimated cash flow							114			114	(195)
Transfers - discontinued operations	(62)	(10)						72			
Reclassification to assets held for sale (iii)			(9)				(124)		(1)	(134)	
Effect of initial adoption of accounting for hyperinflationary economies											110
Transfers (iv)	38	682	2,383	143	5	(3,638)		192	178	(17)	(140)
Balance at the end of the year	**1,857**	**9,455**	**16,837**	**614**	**46**	**6,091**	**492**	**494**	**555**	**36,441**	**35,885**
Cost	1,958	17,914	48,359	2,074	281	6,091	1,191	1,014	864	79,746	78,729
Accumulated depreciation	(101)	(8,459)	(31,522)	(1,460)	(235)		(699)	(520)	(309)	(43,305)	(42,844)
Balance at the end of the year	**1,857**	**9,455**	**16,837**	**614**	**46**	**6,091**	**492**	**494**	**555**	**36,441**	**35,885**
Average annual depreciation rates - %	**1**	**4**	**9**	**20**	**10**		**5**	**9**			

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(i) Refers to the acquisition of a concrete business in the USA by the indirect subsidiary Superior Materials Holdings, LLC, for a total consideration of R$ 15, of which R$ 9 of the net assets acquired were allocated to property, plant and equipment and R$ 5 to intangible assets (Note 18).
(ii) Refers mainly to the reversal of the impairment at the Niquelândia Unit of R$ 121, as detailed in Note 1.1.2 (a).
(iii) Refers mainly to the reclassification of assets available-for-sale at the Niquelândia unit.
(iv) Transfers include the reclassification of “Construction in progress” in the group of property, plant, and equipment to “Software”, “Rights over natural resources”, “Machinery, equipment and facilities” and “Other” in the group of intangible assets.

(b) Construction in progress

The balance is composed mainly of expansion and optimization projects related to the industry.

Segment	2023	2022
Votorantim Cimentos S.A.	2,618	1,905
Nexa Resources S.A.	2,157	2,378
Companhia Brasileira de Alumínio	1,169	823
Acerbrag S.A.	24	76
Other	123	114
	6,091	**5,296**

The main projects in progress by business segment are as follow:

Nexa Resources	2023	2022
Sustaining	1,637	1,166
Expansion and modernization projects	269	929
Security, health and environmental projects	195	201
Other	56	82
	2,157	**2,378**

Votorantim Cimentos	2023	2022
Sustaining	1,024	850
Industry modernization	956	619
Environment and security	271	193
Expansion	44	147
Other	323	96
	2,618	**1,905**

CBA	2023	2022
Alumina factory projects	386	187
Project oven rooms	229	200
Furnace refurbishment	106	87
Plastic transformation projects	103	37
Mining projects	24	19
Rondon projects	18	14
Security, health and environmental projects	17	25
Foundry projects	13	22
Other	273	232
	1,169	**823**

Acerbrag	2023	2022
Sustaining	19	32
Security, health and environmental projects	3	28
Other	2	16
	24	**76**

18. Intangible assets

Accounting policy

(i) Goodwill

Goodwill represents the excess of the cost of an acquisition over the net fair value of the assets and liabilities of the acquired entity. Goodwill on acquisitions of subsidiaries is recorded as "Intangible assets" in the consolidated financial statements. Goodwill is tested annually for impairment and carried at cost less accumulated impairment losses. Impairment losses on goodwill are not reversed. Gains and losses on the disposal of an entity include the carrying amount of any goodwill relating to the entity sold.

Goodwill is allocated to CGUs for the purpose of impairment testing. The allocation is made to those CGUs or groups of CGUs that are expected to benefit from the business combination in relation to which the goodwill arose.

Annually, the Company and its subsidiaries review the net book value of goodwill, in order to assess whether there was any impairment. The recoverable amounts of CGUs were determined according to the value in use, based on the discounted cash flow model. The recoverable amount is sensitive to the rate used in the discounted cash flow method, as well as the expected future cash receipts and the growth rate used for extrapolation purposes.

(ii) Rights over natural resources

The costs of acquiring rights to explore and develop mineral properties and to explore wind resources are capitalized and amortized using the straight-line method over their useful lives, or, when applicable, based on the proportion of depletion of the mines in question.

Once a mine or wind farm starts operating, these costs are amortized and considered a cost of production.

The depletion of mineral resources and wind farms is calculated based on extraction and utilization, respectively, taking into consideration their estimated useful lives.

(iii) Computer software

Costs associated with software maintenance are amortized over their useful lives.

(iv) Use of public assets

This represents the amounts established in the concession contracts regarding the rights to hydroelectrical power generation (onerous concession) under Use of Public Assets agreements.

These transactions are accounted for at the time when the operating permit is awarded, regardless of the disbursement schedule established in the contract. Upon inception, this liability (obligation) and the intangible asset (concession rights) correspond to the total amount of the future obligations discounted to their present value (present value of cash flow from future payments).

The amortization of the intangible asset is calculated on a straight-line basis over the period of the authorization to use the public asset. The financial liability is updated based on the effective interest method and reduced by the contracted payment amounts.

(v) Contractual customer relationships and non-competition agreements

Contractual customer relationships and non-competition agreements acquired through business combinations are recognized at their fair value as at the acquisition date. The contractual customer relationships and non-competition agreements have finite useful lives. Amortization is calculated using the straight-line basis over their estimated useful lives.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

(a) Breakdown and changes

											2023	2022
	Rights over natural resources	Goodwill	Asset retirement obligation	Use of public assets	Contracts, customer relationships and agreements	Hydrological risk renegotiation	Software	Rights over trademarks and patents	Intangible in progress	Other	Total	Total
Balance at the beginning of the year												
Restated	14,936	5,703	635	768	666	341	910	133	160	1,264	25,516	27,342
Accumulated amortization and depletion	(8,661)		(231)	(291)	(426)	(39)	(721)	(70)		(539)	(10,978)	(10,639)
Net balance	**6,275**	**5,703**	**404**	**477**	**240**	**302**	**189**	**63**	**160**	**725**	**14,538**	**16,703**
Additions					1		10		228		239	1,088
Disposals			(30)					(34)		(20)	(84)	(204)
Amortization and depletion	(463)		(61)	(25)	(28)	(26)	(76)	(11)		(8)	(698)	(730)
Foreign exchange variations	(329)	(369)	(47)		(15)		(2)		(12)	(41)	(815)	(1,866)
Effects of subsidiaries included in (excluded from) consolidation		(74)	13		3		1	33		(1)	(25)	(568)
Offtake agreements												208
Constitution of provision for Impairment	(69)	(211)						(1)		(35)	(316)	(282)
Revision of estimated cash flow			(13)								(13)	54
Transfers (i)	83	24	1				65	1	(135)	(22)	17	135
Balance at the end of the year	**5,497**	**5,073**	**267**	**452**	**201**	**276**	**187**	**51**	**241**	**598**	**12,843**	**14,538**
Cost	13,552	5,073	546	768	623	341	956	133	241	1,045	23,278	25,516
Accumulated amortization and depletion	(8,055)		(279)	(316)	(422)	(65)	(769)	(82)		(447)	(10,435)	(10,978)
Balance at the end of the year	**5,497**	**5,073**	**267**	**452**	**201**	**276**	**187**	**51**	**241**	**598**	**12,843**	**14,538**
Average annual amortization and depletion rates - %	**6**		**5**	**7**	**7**		**20**					

(i) Transfers include the reclassification of “Construction in progress” in the group of property, plant and equipment to “Software”, “Rights over natural resources”, and “Other” in the group of intangible assets.

(b) Goodwill on acquisitions

Accounting policy

The Company and its subsidiaries use the acquisition method to account for transactions classified as a business combinations. The consideration transferred for the acquisition of a subsidiary is equivalent to the fair value of the assets transferred, any liabilities incurred and any equity instruments acquired. The consideration transferred includes the fair value of any asset or liability resulting from a contingent consideration arrangement, where applicable. Acquisition-related costs are recorded in the income statement for the year as incurred. Identifiable assets acquired and liabilities assumed as part of a business combination are initially measured at their fair values on the acquisition date. The Company and its subsidiaries recognize the non-controlling interest in the acquiree, both at its fair value and based on the proportionate share of the non-controlling interest in the fair value of the acquiree's net assets. The non-controlling interest to be recognized is determined for each acquisition.

(c) Impairment testing of goodwill

Assets that have an indefinite useful life, for example goodwill, are not subject to amortization and are tested annually for impairment.

The Company and its subsidiaries evaluate at least annually the recoverability of the carrying value of the operating segments of each CGU. The determination of these values involves the use of assumptions, judgments and estimates of future cash flow that represent the best estimates of the Company and its subsidiaries.

The calculations of the value in use are based on cash flow projections, before the calculation of the income tax and social contribution, and based on the financial budgets approved by Management for a projection period of the next five years. The amounts referring to cash flow for periods exceeding five years were extrapolated based on the estimated growth rates. The growth rate does not exceed the long-term average for the sector.

19. Borrowing and debentures

Accounting policy

Borrowing and debentures are initially recognized at fair value, net of transaction costs incurred, and subsequently carried at amortized cost. Any difference between the proceeds (net of transaction costs) and the total amount payable is recognized in the statement of income over the period of the borrowing using the effective interest rate method.

Borrowing costs directly related to the acquisition, construction or production of a qualifying asset that requires a substantial period of time to prepare for its intended use or sale are capitalized as part of the cost of that asset when it is probable that future economic benefits associated with the item will flow to the Company and the associated costs can be measured reliably. Other borrowing costs are recognized as finance costs in the period in which they are incurred.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

(a) Breakdown and fair value

		Current		Non-current		Total		Fair value (iii)	
Type	**Average annual charges**	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**	**2023**	**2022**
Local currency									
Debentures	CDI + 1.54% / IPCA + 4.85% / 11.51% Fixed BRL	56	79	4,579	3,626	4,635	3,705	4,649	3,658
BNDES	IPCA + 5.33% / 2.10% Fixed BRL / SELIC + 3.10% / TJLP + 2.79%	163	160	1,069	1,175	1,232	1,335	1,110	1,149
Export credit notes (i)	134.20% CDI/CDI + 1.95%	13	12	751	252	764	264	772	268
Corporate plan	3.30% of TR			229		229		308	
Development promotion agency	TJLP - 0.24%	12	11	204	152	216	163	183	142
Other	11.08% Fixed BRL	16	16	23	14	39	30	37	29
		260	**278**	**6,855**	**5,219**	**7,115**	**5,497**	**7,059**	**5,246**
Foreign currency									
Eurobonds - USD	6.05% Fixed USD	169	184	9,696	10,546	9,865	10,730	10,165	10,641
Export credit notes	4.89% Fixed USD / SOFR + SOFR TERM 2.13%	489	96	2,341	3,004	2,830	3,100	2,652	2,713
Loans - Law 4131/1962 (ii)	3.14% Fixed USD / SOFR 2.51%	18	7	1,912	1,926	1,930	1,933	1,962	1,897
Syndicated loans/Bilateral agreements	1.62% Fixed EUR / 1.61% EURIBOR	59	52	911	784	970	836	976	756
Export credit notes (prepayment)	2.55% of SOFR	26	8	718	346	744	354	734	392
Development promotion agency	1.40% of SOFR	17		716		733		733	
Eurobonds - BOB	5.40% Fixed BOB	33	14	332	393	365	407	325	321
Other	8.88% Fixed USD / 6.72% Fixed USD / SOFR 2.57%	39	8	527	5	566	13	1,229	13
		850	**369**	**17,153**	**17,004**	**18,003**	**17,373**	**18,776**	**16,733**
		1,110	**647**	**24,008**	**22,223**	**25,118**	**22,870**	**25,835**	**21,979**
Current portion of long-term borrowing and debentures		696	264						
Interest on borrowing and debentures		383	377						
Short-term borrowing and debentures		31	6						
		1,110	**647**						

(i) Some loan contracts are in the form of Export Credit Notes, which aim to finance export-related operations and have linked swap contracts (derivative financial instruments), which aim to exchange exposure to the floating CDI rate in Reais for a fixed rate in US Dollars, with an exchange of currency from Reais to US Dollars.
(ii) The loans related to Law No. 4,131/1962 have swaps (derivative financial instruments) aimed at exchanging floating rates in LIBOR (the benchmark will be changed to SOFR during the 2023 financial year (Note 19(i))) and pre-fixed rates for floating rates in CDI, as well as exchanging currencies, US Dollars for Reals.
(iii) The Company and its subsidiaries use the individual credit risk rate of the Company and its subsidiaries as a reference, and the fair value of the bonds was calculated using unit prices disclosed in the secondary market as a reference.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

Key:

ARS – Argentine Peso
BNDES – National Bank for Economic and Social Development
BRL – Brazilian Real
BOB – Bolivian Boliviano
CDI – Interbank Deposit Certificate
CDOR – Rate Offered in Canadian Dollars
EUR – Currency of the European Union (Euro)
EURIBOR – European Interbank Offered Rate (Europe)
FINAME – Financing of new machinery and equipment manufactured in Brazil at subsidized rates
IPCA – National Broad Consumer Prices Index
LIBOR – London Interbank Offered Rate
SELIC – Special System for Settlement and Custody
SOFR – Secured Overnight Financing Rate
TJLP – Long-Term Interest Rate, set by the National Monetary Council. Until December 2017, the TJLP was used as the index for the BNDES basic cost of financing. From January 2018, the Long-Term Rate (TLP) became the main financial index for BNDES financing.
TR – Referential Rate
TRY – Turkish Lira
USD – US Dollar
UYU – Uruguayan Peso

(b) Changes

	2023	2022
Balance at the beginning of the year	**22,870**	**25,004**
New borrowing (i)	5,186	4,467
Interest	1,696	1,492
Addition of borrowing fees, net of amortization	(34)	22
Fair value adjustments	31	(45)
Foreign exchange variations	(1,183)	(1,385)
Payments - interest	(1,648)	(1,452)
Payments - principal	(1,772)	(5,118)
Adjustments through other comprehensive income (ii)	(131)	(121)
Charges for debt renegotiation (iii)	103	6
Balance at the end of the year	**25,118**	**22,870**

(i) Mainly refers to funding from the subsidiaries Altre and CBA, as detailed in Notes 1.1.3 (a) and (b).
(ii) Refers to the value of the curve of the combined financial instruments designated as subjected to hedge accounting.
(iii) Refers substantially to charges for the debt renegotiation of the subsidiary CBA.

(c) New borrowing and amortization

Through the funding and prepayment of certain debts, the Company and its subsidiaries seek to extend the average maturities, as well as to balance the exposure to different currencies for borrowing against cash generation in these currencies.

The main funding operations carried out during the year were as follow:

Date	Company	Type	Currency	Principal	Principal BRL	Maturity	Cost
Jan-23	Altre Empreendimentos e Investimentos Imobiliários S.A.	Corporate plan	BRL	102	102	2046	TR + 3.33%
Jan-23	St. Mary's Cement Inc.	Syndicated loans/Bilateral agreements	CAD	55	214	2027	CDOR 3M + 1.2%
Jan-23	St. Mary's Cement Inc.	Syndicated loans/Bilateral agreements	USD	25	127	2027	SOFR TERM 3M + 1.2%
Feb-23	Companhia Brasileira de Alumínio	BNDES	USD	27	142	2043	4.85% Fixed
Mar-23	Companhia Brasileira de Alumínio	Export Credit Notes	USD	20	105	2028	SOFR TERM 6M + 2.65%
Mar-23	Companhia Brasileira de Alumínio	Export prepayments	USD	78	400	2028	SOFR TERM 12M + 1.94%
Jun-23	Companhia Brasileira de Alumínio	Export Credit Notes	BRL	500	500	2029	CDI + 1.95%
Jul-23	Companhia Brasileira de Alumínio	BNDES Onlending	USD	30	140	2027	6.31% Fixed
Aug-23	Companhia Brasileira de Alumínio	Loans related to Law 4131	USD	71	341	2028	SOFR TERM 12M + 2.94%
Aug-23	Votorantim Cimentos S.A.	Development agency	USD	150	747	2033	SOFR TERM 6M + 1.4%

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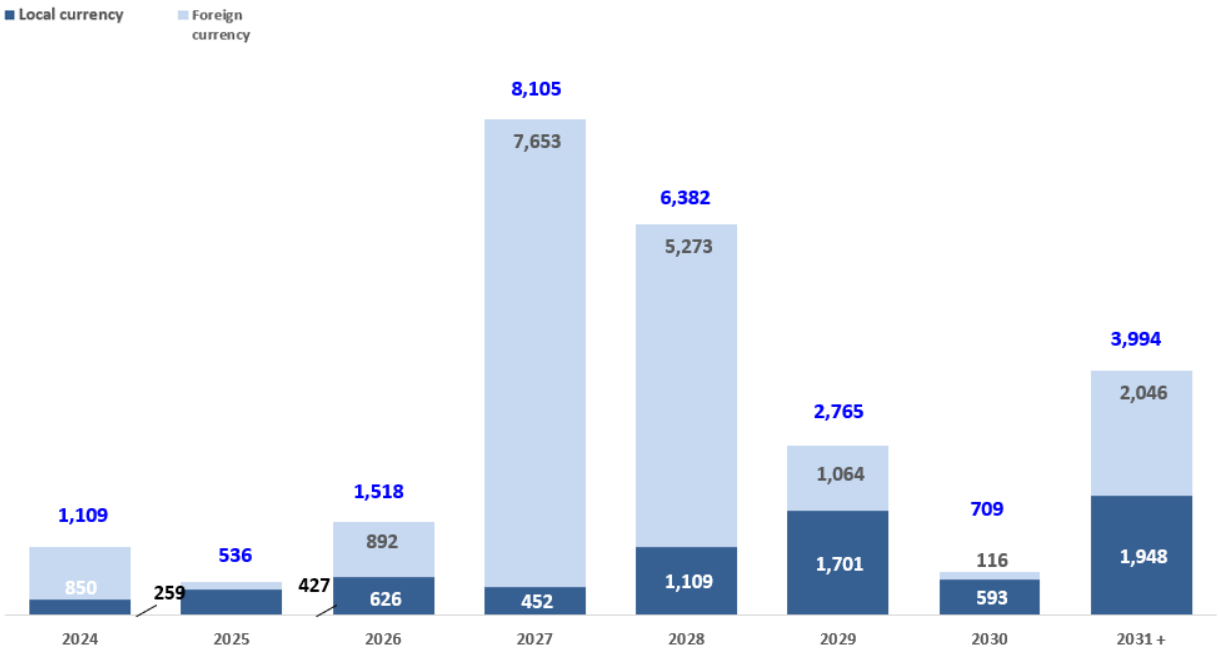
The main amortizations carried out during the year were as follow:

Date	Company	Type	Currency	Principal	Principal BRL	Maturity	Observation
Aug-23	Companhia Brasileira de Alumínio	Export Credit Note	USD	(46)	(223)	2024	Prepayment
Dec-23	Votorantim Cimentos S.A.	Debenture	BRL	(231)	(231)	2025	Prepayment
Dec-23	Votorantim Cimentos S.A.	Debenture	BRL	(136)	(136)	2025	Prepayment
Dec-23	Votorantim Cimentos S.A.	Loans related to Law 4131-MTM	USD	(50)	(244)	2025	Prepayment

(d) Maturity



(e) Breakdown by currency

	Current		Non-current		Total	
	2023	2022	2023	2022	2023	2022
US Dollar	740	294	16,014	15,822	16,754	16,116
Real	260	278	6,855	5,219	7,115	5,497
Euro	20	3	458	585	478	588
Boliviano	47	28	452	536	499	564
Canadian Dollar	3	6	166	5	169	11
Other	40	38	63	56	103	94
	1,110	**647**	**24,008**	**22,223**	**25,118**	**22,870**

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(f) Breakdown by index

	Current		Non-current		Total	
	2023	2022	2023	2022	2023	2022
Local currency						
CDI	64	85	3,422	2,790	3,486	2,875
IPCA	16	17	1,802	1,157	1,818	1,174
TLP	92	94	928	1,018	1,020	1,112
TR			230	36	230	36
TJLP	30	29	198	109	228	138
Fixed rate	12	12	203	5	215	17
SELIC	46	41	72	104	118	145
	260	**278**	**6,855**	**5,219**	**7,115**	**5,497**
Foreign currency						
Fixed rate	331	341	13,874	15,005	14,205	15,346
SOFR	516	19	2,988	973	3,504	992
EURIBOR	3	1	291	301	294	302
LIBOR		8		725		733
	850	**369**	**17,153**	**17,004**	**18,003**	**17,373**
Total	**1,110**	**647**	**24,008**	**22,223**	**25,118**	**22,870**

(g) Collateral

On December 31, 2023, the Company guaranteed or provided sureties for the following borrowing balances:

	2023	2022
Company (i)		
Votorantim Cimentos International S.A.	1,646	1,774
Companhia Brasileira de Alumínio	182	202
Other	32	8
	1,860	**1,984**

(i) In addition to these guarantees, the Company guarantees the debt balance of R$ 1,195 of of the joint venture Auren (December 31, 2022 - R$ 1,244) which is not included in the table above.

On December 31, 2023, the amount of R$ 1,705 (December 31, 2022 - R$ 1,016) was guaranteed by fixed assets under chattel mortgages.

(h) Covenants/financial ratios

Certain loan and financing agreements are subject to compliance with certain financial ratios (covenants).

The Company and its subsidiaries have complied with all the conditions established in the contractual clauses for loans and financing, where applicable.

(i) Reform of LIBOR and other interbank offered rates (IBOR)

Certain loans and financing of the subsidiaries CBA and VCSA were impacted by the LIBOR reform, whereby either: (i) the initial contractual terms were amended to replace the benchmark rate, or (ii) the original agreements already had provisions for the transition to a new benchmark, in both cases applicable from the discontinuation of LIBOR during 2023.

The subsidiaries determined that the criterion for applying the practical expedient described in the amendments to IFRS 9 - Financial Instruments was met for all of the impacted contracts, and thus the replacement of the index in 2023 did not generate a gain or loss in the profit or loss for the year.

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20. Leases

(a) Composition and movement of the rights of use assets

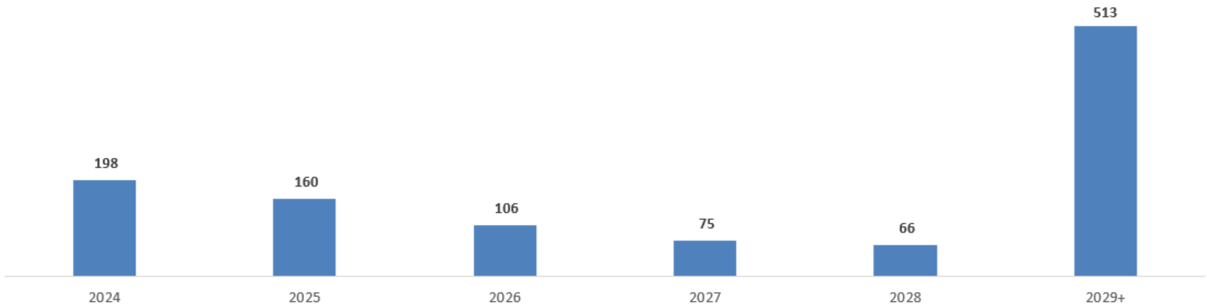
							2023	2022
	Land	Property, buildings and commercial rooms	Machinery, equipment and facilities	IT equipment	Vehicles	Vessels	Total	Total
Balance at the beginning of the year								
Cost	574	257	456	11	345	838	2,481	2,512
Accumulated amortization	(91)	(166)	(350)	(7)	(277)	(379)	(1,270)	(1,020)
Net balance	**483**	**91**	**106**	**4**	**68**	**459**	**1,211**	**1,492**
New contracts	11	26	180	1	29	13	260	209
Remeasurement of principal			3	(1)			2	3
Renegotiation of contracts								3
Effect of initial adoption of accounting for hyperinflationary economies								1
Transfers between classes (i)								(1)
Effect of subsidiaries included in and excluded from consolidation		(2)		(1)			(3)	8
Foreign exchange variations	(29)	1	(13)		(5)	(25)	(71)	(129)
Amortization	(30)	(34)	(103)	(1)	(35)	(108)	(311)	(375)
Balance at the end of the year	**435**	**82**	**173**	**2**	**57**	**339**	**1,088**	**1,211**
Cost	543	270	570	4	352	794	2,533	2,481
Accumulated amortization	(108)	(188)	(397)	(2)	(295)	(455)	(1,445)	(1,270)
Balance at the end of the year	**435**	**82**	**173**	**2**	**57**	**339**	**1,088**	**1,211**

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

(b) Changes in lease liabilities

	2023	2022
Balance at the beginning of the year	**1,277**	**1,551**
New contracts	260	208
Present value adjustments	54	52
Remeasurement of principal	6	3
Renegotiation of contracts	1	(2)
Foreign exchange variations	(84)	(131)
Payments	(396)	(412)
Effect of subsidiaries included in consolidation		8
Balance at the end of the year	**1,118**	**1,277**
Current	185	206
Non-current	933	1,071
Balance at the end of the year	**1,118**	**1,277**

(c) Maturity profile



21. Confirming payables

The subsidiaries signed agreements with financial institutions, with the aim of allowing suppliers in the domestic and foreign markets to prepay their receivables. As part of these operations, suppliers transfer the right to receive notes from the sale of goods to financial institutions which, in turn, become the creditors of the notes. In exchange, the subsidiaries receive the respective resources in advance from the financial institution, at a discount charged directly by the bank at the time of assignment. Regardless of these agreements with financial institutions, commercial conditions are always agreed between the Company or its subsidiaries and the supplier.

The subsidiaries, in the normal course of their business, also receive from their suppliers requests for credit assignments to various financial institutions, for the purpose of anticipating their receivables. When so notified, the Company pays these bills directly to the financial institutions, under the same terms and conditions agreed with the supplier. These cases, as they are not included in the contractual framework defined by the drawee risk agreements, are not highlighted in this classification, and are normally considered within the line item “accounts payable to suppliers”.

Based on the requirements of IFRS 9 / CPC 48 - Financial Instruments, the subsidiaries assessed that these transactions do not result in substantial modifications to the original liabilities with suppliers, and therefore the payments of these securities are presented as cash outflows within the group of operating activities in the statement of cash flow, in accordance with IAS 7 / CPC 03 (R2), and are deemed equivalent to accounts payable to suppliers. The subsidiaries concluded that the economic substance of these transactions is operational in nature, and that the potential effects of adjusting the present value of these transactions were irrelevant for measurement and disclosure purposes.

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

The subsidiaries understand that the presentation of the amounts due as confirming payables is relevant to understanding its equity position.

Accounts payable included in these contracts are shown below:

Operations - confirming payables	2023	2022
Domestic market	506	587
Foreign market	2,436	2,632
	2,942	**3,219**

22. Current and deferred income tax and social contribution taxes

Accounting policy

The income tax and social contribution expenses for the year are comprised of current and deferred taxes. Taxes on profit are recognized in the statement of income, except to the extent that they relate to items recognized directly in equity, in which case the taxes are also recognized in equity.

The current and deferred income tax and social contribution are calculated on the basis of the tax laws enacted or substantively enacted up to the balance sheet date in the countries in which the entities operate and generate taxable income. Management periodically evaluates the positions taken by the Company in its income tax returns in situations where the applicable tax regulations are subject to interpretation. It establishes provisions where appropriate, on the basis of the amounts which are expected to be paid to the tax authorities.

The current income tax and social contribution are shown net, by taxpayer entity, in liabilities when there are amounts to be paid, or in assets where the amounts paid in advance exceed the total due as at the balance sheet date.

Deferred tax assets are recognized only to the extent that it is probable that future taxable profits will be available against which the temporary differences and/or tax losses can be utilized.

Deferred income tax assets and liabilities are presented on a net basis in the balance sheet when there is a legal right and an intention to offset them upon the calculation of current taxes, generally where they relate to the same legal entity and the same taxation authority. Thus, deferred tax assets and liabilities in different entities or in different countries are presented separately, and not on a net basis.

The Company and its subsidiaries are subject to income taxes in all the countries in which they operate. The provision for income tax and social contribution is calculated individually by entity based on the tax rates and rules in effect at the entity's location. The Company and its subsidiaries also recognize provisions for anticipated tax audit issues based on estimates of where additional taxes will be due. Where the final tax outcome of these matters is different from the amounts initially recorded, such differences will have an impact on the current and deferred tax assets and liabilities in the period during which the determination is made.

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(a) Reconciliation of Corporate Income Tax (IRPJ) and Social Contribution on Net Income (CSLL) expenses

The income tax and social contribution amounts presented in the statements of income for the years ended December 31 are reconciled with their Brazilian standard rates as follow:

	2023	2022
Profit before income tax and social contribution	**2,320**	**7,616**
Statutory rates	**34%**	**34%**
Income tax and social contribution at statutory rates	**(789)**	**(2,589)**
Adjustments for the calculation of income tax and social contribution at effective rates		
Credit from income tax paid abroad IN 1520/14	345	439
Equity in the results of investees	252	500
Donations and grants of investments	147	175
Recognition of deferred charges on exchange variations of fixed assets	69	58
Tax incentives	66	226
Credit referring to the non-levying of "IRPJ" and "CSLL" on the "SELIC" due on debts	59	9
Difference related to the tax rates of companies abroad	50	12
Additions/exclusions without constitution of a deferred tax provision	45	144
Interest on equity	37	(85)
Realization of other comprehensive income on disposals of investments	11	28
Prior-year adjustments	(50)	183
Impairment of goodwill without constitution of a deferred tax provision	(53)	(86)
Tax loss and negative basis without constitution of a deferred tax provision	(177)	(432)
Addition of profit abroad under IN 1520/14	(435)	(807)
Permanent additions and exclusions, net	(62)	56
IRPJ and CSLL calculated	**(485)**	**(2,169)**
Current	(1,262)	(1,517)
Deferred	777	(652)
IRPJ and CSLL on result	**(485)**	**(2,169)**
Effective rate - %	**21%**	**28%**

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

(b) Breakdown of deferred tax balances

	2023	2022
Tax credits on tax losses	**2,786**	**2,567**
Tax credits on temporary differences		
Estimation of losses on investments, fixed and intangible assets	757	827
Tax benefit on goodwill	503	503
Tax, civil and labor provision	440	476
Financial instruments - firm commitment	270	84
Asset retirement obligation	182	180
PPR - Provision for profit sharing	214	230
Use of public assets	188	134
Investment Tax Credit (ITC)	177	85
Environmental liabilities	131	130
Provision for inventory losses	120	124
IFRS 16 - Leases	117	32
Social benefits	83	7
Provision for energy charges	74	71
Deferred gains on derivative instruments	67	135
Provision for social security obligations	46	96
Settlement credits for estimated losses	37	29
Adjustments to fair value	23	
Deductions – Legislation in Morocco and Spain (government benefits)	13	35
Estimated asset write-offs	8	8
Other tax credits	228	168
Tax debts on temporary differences		
Adjustments to useful lives of property, plant and equipment (depreciation)	(1,764)	(1,689)
Appreciation of assets	(1,520)	(1,906)
Deferred losses on derivative instruments	(2,522)	(2,511)
Goodwill amortization	(348)	(305)
Foreign exchange variations	(213)	(166)
Capitalized interest	(191)	(126)
Adjustments to fair value - financial instruments	(166)	(390)
Deferred acquisition gains	(130)	(132)
Hydrological risk renegotiation	(109)	(95)
IFRS 16 - Leases	(131)	(28)
Use of public assets	(55)	(5)
Adjustments to present value	(35)	(35)
Fair value adjustments		(164)
Other tax debts	(270)	(290)
Net	**(990)**	**(1,921)**
Net deferred tax assets related to the same legal entity	**2,767**	**2,045**
Net deferred tax liabilities related to the same legal entity	**(3,757)**	**(3,966)**

(c) Effect of deferred income tax and social contribution on the profit for the period and comprehensive income

	2023	2022
Balance at the beginning of the year	**(1,921)**	**(1,128)**
Effects on the results for the year - continuing operations	777	(652)
Effect on other components of comprehensive income	154	(141)
Balance at the end of the year	**(990)**	**(1,921)**

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(d) Realization of deferred income tax and social contribution on tax losses

	2023	Percentage
2024	648	24%
2025	313	11%
2026	446	16%
2027	198	7%
After 2028	1,181	42%
	2,786	**100%**

23. Provision

Accounting policy

The Company and its subsidiaries are parties to tax, civil, labor, environmental and other legal claims in progress at different court levels. Provisions against potentially unfavorable outcomes of litigation in progress are established and updated based on management's evaluations, supported by the opinion of external legal advisors, and requires a high level of judgment regarding the matters involved.

The judicial deposits are subject to indexation and, when they have a corresponding provision, they are presented on a net basis in "Provisions". Judicial deposits that do not have corresponding provisions are presented in non-current assets.

(i) Provisions for tax, civil, labor, environmental and other legal claims

Provisions for tax, civil, labor, environmental and other legal claims are recognized when: (i) the Company has a present legal or constructive obligation as a result of past events; (ii) it is probable that an outflow of resources will be required to settle the obligation; and (iii) the amount of such outflow can be reliably estimated. Losses classified as possible are not recognized for accounting purposes, and are disclosed in the notes to the financial statements. Contingencies for which losses are classified as remote are neither provisioned nor disclosed, except when, due to the relevance of the case, the Company and its subsidiaries consider its disclosure justified. A classification of losses as possible, probable or remote is based on Management's assessment, based in turn on the opinion of its legal advisors.

Provisions are measured at the present value of the expenses that are expected to be necessary to settle the related obligation (including any legal fees), reflecting current market assessments of the time value of money and the risks specific to the obligation. The increase in the provision due to the passage of time is recognized as an interest expense. Provisions do not include future operating losses.

(ii) Asset retirement obligations

The calculation of asset retirement obligations involves the use of judgment about certain assumptions. In environmental terms, they refer to the future obligation to restore a site to an ecological condition similar to that existing before the beginning of the project or activity, or to carry out compensatory measures, agreed with the applicable bodies, if it is impossible to return the areas to their pre-existing condition. These obligations arise from the beginning of the environmental degradation of the area occupied by the operation, or from the time when a formal commitment is made to the environmental body, under which the degradation must be compensated. The dismantling and removal of an asset following its period of operations occurs when it is permanently retired, through the interruption of its activities, or by its sale or disposal.

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Expenditure relating to mine retirement is recorded within asset retirement obligations The asset retirement cost, equivalent to the present value of the obligation (liability), is capitalized as part of the carrying amount of the asset, which is depreciated over its useful life. These liabilities are recorded as provisions.

The Company and its subsidiaries recognize a liability at fair value relating to the demobilization of assets in the period during which they occur, against the corresponding intangible asset. The Company and its subsidiaries consider the accounting estimates related to the recovery of degraded areas and the costs of closing a mine as a critical accounting practice, because these estimates involve considerable amounts of provisions, as well as assumptions including interest rates, inflation, the useful lives of the assets considering their current stage of exhaustion, the costs involved and the projected depletion dates of each mine. These estimates are reviewed annually by the Company and its subsidiaries.

(iii) Obligations for environmental liabilities

An environmental liability must be recognized when there is an obligation on the part of the Company and its subsidiaries through having incurred an environmental cost which has not yet been disbursed.

(a) Breakdown and changes

						2023	2022
		Lawsuits					
	Asset retirement obligation	Tax	Labor	Civil	Other	Total	Total
Balance at the beginning of the year	**2,158**	**926**	**284**	**256**	**95**	**3,719**	**3,751**
Additions	33	45	158	33	55	324	490
Reversals		(83)	(61)	(17)	(15)	(176)	(185)
Judicial deposits, net of write-offs		5	57			62	(44)
Settlements with cash effect	(253)	(30)	(65)	(10)	(8)	(366)	(239)
Settlements of judicial deposits		(9)	(13)	(2)		(24)	(13)
Present value adjustments	184					184	166
Indexation, net of reversals	33		6	23	3	65	108
Transfers			(12)		10	(2)	
Foreign exchange variations	(62)	(4)	(2)	1	(5)	(72)	(98)
Revision of estimated cash flow	(25)					(25)	(217)
Balance at the end of the year	**2,068**	**850**	**352**	**284**	**135**	**3,689**	**3,719**
Current	127	27	86	24		264	190
Non-current	1,941	823	266	260	135	3,425	3,529
	2,068	**850**	**352**	**284**	**135**	**3,689**	**3,719**

(b) Provision for tax, civil, labor, environmental, other contingencies, and outstanding judicial deposits

				2023				2022
	Judicial deposits	Provision	Net amount	Outstanding judicial deposits (i)	Judicial deposits	Provision	Net amount	Outstanding judicial deposits (i)
Tax	(160)	1,010	850	292	(166)	1,092	926	229
Labor	(70)	422	352	34	(127)	411	284	26
Civil	(12)	296	284	4	(12)	268	256	5
Other	(1)	136	135	22	(1)	96	95	86
	(243)	**1,864**	**1,621**	**352**	**(306)**	**1,867**	**1,561**	**346**

(i) The Company and its subsidiaries have balances deposited in relation to lawsuits classified by Management, based on the opinion of the legal advisors of the Company and its subsidiaries, as representing remote or possible losses, for which no provision has been recorded.

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(c) Ligation in process with a likelihood of loss considered possible

The Company and its subsidiaries are parties to lawsuits involving risks of loss classified by Management as possible, based on the assessment of its legal advisors, for which no provisions have been recorded.

	2023	2022
Tax	14,694	13,442
Civil	9,933	9,290
Environmental	685	611
Labor and social security	507	373
	25,819	23,716

(c.1) Comments on contingent tax and public rights liabilities with a likelihood of loss considered possible

The following are the main contingent liabilities related to tax proceedings in progress, with a likelihood of loss deemed possible, for which no provision has been recorded. In the table below, we present an analysis of the relevance of these processes:

Nature	2023	2022
Tax assessment notice - "IRPJ/CSLL" (i)	1,938	1,796
"IRPJ/CSLL" – Profits abroad (ii)	1,958	1,490
"ICMS" – Neutrality (iii)	697	734
Disallowances of "PIS/COFINS" credits (iv)	1,306	1,195
Compensation for the exploration for mineral resources ("CFEM ") (v)	662	499
Disallowance of "IRPJ/CSLL" negative balance	308	316
Tax assessment notice – "ICMS" (vii)	155	140
"ICMS" on electricity charges (viii)	369	453
"IRPJ/CSLL" – Transfer costs (ix)	67	211
Collection of ICMS due to divergences regarding the destination of the property (x)	90	92
Other lawsuits	7,144	6,515
	14,694	13,442

(i) Tax assessment notice – "IRPJ / CSLL"

In December 2016, the subsidiary VCSA was assessed by the Federal Revenue of Brazil for a historical amount of R$ 470 in relation to the collection of IRPJ and CSLL for the period of 2011, due to the alleged undue deduction of expenses and operating costs. In January 2018, VCSA became aware of the lower court decision of the Special Federal Revenue Office, which partially upheld the objection, reducing the amount of the notice by approximately R$ 114. In December 2018, the PGFN's Official Appeal was unfavorably judged, and the Company's Voluntary Appeal was partially upheld. The PGFN filed a Special Appeal which was partially admitted, but shortly afterwards the Company filed Counterarguments to the PGFN's Special Appeal, as well as filing a Special Appeal against the party which was judged unfavorably by the CARF.

The Company is currently awaiting the judgment of these Special Appeals by the Superior Chamber of CARF. As at December 31, 2023, the amount of the contingency, including indexation, is R$ 671 (December 31, 2022 - R$ 619), of which R$ 65 is assessed as probable and for which a provision has been duly constituted, the amount of R$ 255 is assessed as possible and the remainder as remote, totaling R$ 380.

In December 2017, the subsidiary was assessed by the Brazilian Federal Revenue Service for the amount of R$ 1,294 in relation to the alleged non-payment or underpayment of IRPJ and CSLL for the period from 2012 to 2013, due to: (i) capital gains allegedly obtained due to a barter transaction entered into by the subsidiary; and (ii) the supposedly incorrect amortization of goodwill. In October 2018, the subsidiary became aware of the decision of the lower court, which rejected the subsidiary's challenge. At the moment, the lawsuit is awaiting the judgment of the CARF. At December 31, 2023, the amount of the contingency, including indexation, is R$ 1,712 (December 31, 2022 - R$ 1,588), and a loss is assessed as possible.

(ii) Profits abroad – "IRPJ/CSLL"

The Company and its subsidiaries have received assessments issued by the Brazilian Federal Revenue Service (RFB) for alleged failure to pay IRPJ and CSLL on profits earned abroad by its subsidiaries or associates.

In 2023, the Company successfully resolved one of these discussions, resulting in a decrease of R$ 66, however, the Company also received two new assessments, resulting in an increase of R$ 546.

The assessment notices total R$ 1,958 as at December 31, 2023.

(iii) "ICMS": neutrality

Between 2011 and 2013, seven notices of infraction with fines were issued against the subsidiary Citrovita Agro Industrial Ltda. ("CAI"), mainly relating to the collection of credited ICMS, as highlighted in transfer invoices from other branches, specifically relating to exports, the outputs of which are not taxed. The assessment notices total, as at December 31, 2023, the amount of R$ 696, an amount reduced in relation to the same period last year, due to a final success in one of the proceedings in the amount of R$ 53, leaving five infraction notices remaining, of which one is already in the judicial phase.

(iv) PIS and COFINS credit proceedings

The subsidiary CBA is a party to Decisions and Assessment Notices regarding the disallowance of PIS and COFINS credits on items used in the production process, which the federal tax authorities believe do not give rise to an entitlement to credit in respect of these contributions The restated amount at December 31, 2022 is R$ 827. All proceedings are currently pending administrative decisions.

In June 2022, the subsidiary VCSA received a tax assessment notice from the Brazilian Internal Revenue Service in the amount of R$ 402, indicating the partial disallowance of credits from the exclusion of ICMS from the PIS/COFINS calculation base. The Company filed a challenge and is currently awaiting judgment. At December 31, 2023, the restated amount of the contingency is R$ 478 (December 31, 2022 - R$ 428).

In the opinion of management and its independent legal advisors, based on legal precedent and case law, the probability of defeat in these cases is rated as possible.

(v) Financial Compensation for the Exploration of Mineral Resources - CFEM

The subsidiaries Nexa BR, CBA and VCSA had several assessments drawn up by the National Department of Mineral Production - "DNPM" for alleged failure to pay or lower collection of CFEM from 1991 to 2015. As at December 31, 2023, the amount of the possible loss amounted to R$ 662.

(vi) IRPJ/CSLL negative balance credit

VSA and its subsidiaries received decisions regarding the disallowance of the negative balances of IRPJ and CSLL credits. The amount under discussion in the proceedings totaled R$ 308 in December 2023. In the same year, seven proceedings were closed, totaling R$ 45 in amount involved, and three new proceedings totaled R$ 19.

Currently, two proceedings are in the judicial sphere and the remainder awaits an administrative decision due to the filing of objections by the Company and its subsidiaries.

In the opinion of Management and its independent legal advisors, it appears that there was a misconception on the part of the RFB when assessing the amounts presented by the Company, which is why the likelihood of loss in the proceedings is considered as possible.

(vii) ICMS: corporate transaction

In the fourth quarter of 2016, the subsidiary CAI received a notice of infraction with an amount up to December 31, 2021 of R$ 180. In 2022, there was a favorable decision regarding the exclusion of an item from the infraction notice, reducing the debit amount to R$ 140. In 2023, the proceedings ended the administrative level and started the judicial level, with a remaining amount of R$ 155 under discussion.

(viii) ICMS on electricity charges

The subsidiary CBA has judicial and administrative discussions regarding the levying of ICMS on the sector charges levied on electricity tariffs. As at December 31, 2023, the amount under discussion amounted to R$ 268. Currently, the administrative and judicial proceedings are awaiting a decision.

In the opinion of Management and its independent legal advisors, the assessment is unfounded, which is why the likelihood of loss in these proceedings is considered as possible.

(ix) IRPJ/CSLL - Transfer price

Between 2007 and 2010, three infraction notices were issued against the subsidiary CAI relating to the collection of IRPJ and CSLL and the adjustment to the tax loss base, due to disallowances made by the company in the calculation of its transfer prices during the fiscal years 2003 and 2004. In October 2018, one of the proceedings was resolved in favor of CAI, leaving two remaining proceedings in the amount of R$ 211, updated to December 31, 2022. In 2022, one of the proceedings proceeded to the judicial phase, while the other is awaiting the judgment of an appeal by the Administrative Board of Tax Appeals.

In 2023, the judicial proceeding remained awaiting judgment, while the administrative proceeding received a favorable decision that reduced the amount under discussion from R$ 169 to R$ 13. The remaining amount was subject to the subsidiary joining the Tax Litigation Reduction Program (PRLF) for payment in return for a discount on interest and fines. Currently, the amount involved in the proceedings totals R$ 67.

(x) Collection of ICMS due to divergences regarding the destination of the item

The subsidiary CBA was assessed for alleged failure to pay ICMS. As at December 31, 2023, the amount of these assessments was R$ 90.

In the opinion of Management and its independent legal advisors, the criteria adopted in relation to the destination of the assets are in accordance with the pertinent legislation, and thus the probability of losing the lawsuit is considered possible.

(xi) IRPJ/CSLL - Expenses deduction

In December 2016, the subsidiary CAI was assessed by the RFB for the collection of IRPJ and CSLL, due to the disallowance of exclusions from the calculation base of the said taxes in the calendar year 2011. The amounts claimed by the tax assessment notice total R$ 78. In 2018 there was a definitive reduction of approximately 90% of the debt amount, due to the partially favorable decision granted in the first instance. Currently, the Company is awaiting the judgment of the voluntary appeal filed and the amount under discussion totals R$ 7.

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(c.2) Comments on contingent civil liabilities with a likelihood of loss considered possible

Nature	2023	2022
CADE Administrative Proceedings and Annulment Action (i)	6,532	6,065
Public-Civil Actions – arising from Administrative Proceedings (ii)	2,394	2,280
Other proceedings	1,007	945
	9,933	**9,290**

(i) CADE's Administrative Proceedings and Annulment Actions

In 2006, SDE initiated an investigation that culminated in the initiation of an administrative proceeding ("PA") against several companies in the cement sector in Brazil, including the subsidiary VCSA, based on alleged anti-competitive practices, including the formation of a cartel with other companies to fix the prices and quantities of products. In January 2011, a technical note was issued by SDE and after the investigation phase was completed, in July 2015, CADE reached the final terms of its decision, determining the following sanctions, among others, to the subsidiary VCSA: (1) a fine of approximately R$ 1,563 (20% of gross annual sales in 2016, based on Law No. 12529/11); (2) several structural penalties, as follow: (2.i) the sale of all its equity interests in other cement companies and concrete companies in Brazil, (2.ii) the sale of 20% of its installed capacity of concreting services in Brazil, and in relevant markets where subsidiary VCSA has more than one concrete plant; and (2.iii) the sale of a specific cement asset, which, in CADE's opinion, was directly related to the alleged anti-competitive practice; and (3) other penalties which, in summary, include: (3.i) a prohibition against carrying out any mergers for a period of five years in the cement market (among the convicted companies) and the concrete market (any act), or association (among the condemned companies) for greenfield projects in the cement, slag and concrete sectors; (3.ii) a prohibition against contracting with official financial institutions in the case of lines of credit subsidized by public programs or resources; (3.iii) a recommendation to the Federal Revenue not to grant federal tax installments or to cancel, in whole or in part, tax incentives or public subsidies already granted.

In October 2015, the subsidiary VCSA filed an ordinary action to annul (annulment action) the decision under the PA or, at least, to reduce the penalties applied, and at the end of November 2015 an injunction was granted to suspend the effects of the decision in the PA, preventing CADE from demanding compliance with the obligations until a judgment on the merits of the annulment action has been issued. CADE was summoned and presented its defense, while the subsidiary VCSA presented its reply in November 2016. Economic expert evidence was granted, and, in May 2021, the judicial expert's report was presented. In November 2021, the parties presented their statement and technical opinions in relation to the expert report On May 30, 2023, a hearing was held, but the expert report is awaited, as determined at the hearing.

VCSA classified the probability of loss in relation to the annulment action as possible. and therefore no provisions were made. As at December 31, 2023, the updated amount of the estimated possible contingency (comprised exclusively of fines) of VCSA was R$ 2,394 (December 31, 2022 - R$ 2,280). VCSA emphasizes that this estimate does not represent any agreement with CADE's conviction, or with any of the penalties imposed in the PA, but is merely estimate for the purposes of possible contingency reporting.

(ii) Public Civil Actions – arising from Administrative Proceedings - VCSA

(a) Public Civil Actions of the State Public Ministry of Rio Grande do Norte (ACP-MPE/RN)

In January 2012, the State Public Prosecutors of Rio Grande do Norte ("MPE/RN") filed a Public Civil Action ("ACP") against the subsidiary VCSA, five other cement companies and entities representing the cement and concrete industry, for alleged violation of Brazilian competition law, based on a technical note from the Secretariat of Economic Law ("SDE") of 2011.

MPE/RN made the following generic demands for compensation: (1) damages for collective pain and suffering of R$ 5,600 (with indexation until January 2012), with solidarity between the defendants, to the National Fund for Diffuse Rights; (2) homogeneous individual property damage to consumers equivalent to 10% of the amounts paid for cement or concrete purchased by consumers of the brands represented by the defendants between 2002 and 2006, for settlement and individual collection by each consumer; (3) a fine of 1% to 30% of the gross income of the last fiscal year, not less than the supposed benefits (Art. 23, I, Law No. 8,884/1994); and (4) other requests, including: (4.i) a prohibition, for a period of at least five years, against obtaining financing from governmental financial institutions or from participating in bidding processes run by federal, state or municipal, government entities or agencies; and (4.ii) a determination not to grant federal taxes in installments, and the cancellation of tax incentives or public subsidies.

In September 2021, the preliminaries raised by the defendants were rejected. The production of expert witnesses was also determined, establishing that the burden of proving the damage is on the MPE/RN. As at the date of these financial statements, the appeals against the decision rejecting the preliminaries are awaiting judgment. There has not yet been any judicial expert testimony.

(b) Public Civil Actions of the Federal Public Ministry of São Paulo (ACP-MPF/SP)

In an apparently similar way, also based on the PA, in October 2021, the Federal Public Prosecutors of São Paulo (MPF/SP) filed an ACP against all persons and entities convicted in the PA, alleging violations of Brazilian competition law, as a result of the alleged formation of a cartel.

The MPF/SP filed, among others, the following requests with the ACP-MPF/SP: (1) a preliminary injunction prohibiting changes in the corporate structure of the defendant companies (and their subsidiaries or associates); (2) economic-financial damages with solidarity between the Defendants: (i) a total main claim of R$ 28.92 billion (updated to January 2014) based on alleged overpricing 20% between 1987 and 2007 (49.78% of which was allocated to VCSA); and (ii) a total subsidiary order of R$ 7.78 billion (updated to June 2021) based on alleged overpricing of 2.7% between 1994 and 2004 (49.78% of which was allocated to VCSA); (3) pain and suffering of R$ 10 billion updated until October 2021 (49.78% allocated to VCSA); (4) the depositing of the penalty amount; (5) recognition of the effects for future individual claims; (6) a prohibition against contracting with official financial institutions; and (7) refusal to grant the payment of taxes in installments, or the cancellation in whole or in part of any incentives and subsidies.

The request for a preliminary injunction (item (1) above) was denied by the lower court in November 2021. VCSA was summoned and presented its defense within the legal deadline.

Due to the filing of the ACP-MPF/SP and the similarity between the ACP requests, including those of the same nature, the subsidiary revised the expected possible loss on the ACPs, as a whole, and also of each of the requests made in these ACPs for the evaluation of the amounts included in the possible contingency item. The subsidiary calculated on a consolidated basis the amount of possible contingency reporting for both ACPs, based on the following assumptions: (a) an assessment based on the values (for pain and suffering and property damages) indicated by the public prosecutors, which does not mean that VCSA agrees with these values; (b) given the similarities between the orders, the values of orders of the same nature were not duplicated; (c) the calculations represent best estimates, at this time, based on the available data (internal and public), on the procedural progress on the current jurisprudence and in the assessment of its legal advisors, including in relation to requests that are, at this time, illiquid, invaluable or without material impact for VCSA; and (d) finally, the subsidiary VCSA used several assumptions to estimate the amounts and percentages of claims allocated to it, but cannot guarantee that such assumptions will prevail, especially considering the current stage of the proceedings and including the solidarity claims made by the public prosecutors, as described above, which give an estimated updated amount of possible contingency for both ACPs at December 31, 2023 of R$ 6,532 (December 31, 2022 – R$ 6,065). This estimate does not represent any agreement by VCSA with the requests made by the Prosecutors, but merely represents an estimate for possible contingency reporting purposes. The subsidiary VCSA classified the likelihood of loss on the ACPs as possible, and therefore no provisions were made.

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24. Use of Public Assets

Accounting policy

The amount is originally recognized as a financial liability (obligation) and as an intangible asset (right to use a public asset) which corresponds to the amount of the total annual charges over the period of the agreement, discounted to present value (the present value of the future cash flow).

The subsidiaries own or participate in companies that hold concession contracts in the electrical energy industry. Most of these contracts provide for annual payments from the commencement of operations, and are adjusted by the General Market Price Index for the Use of Public Assets.

The contracts have an average duration of 35 years, and the amounts to be paid annually are as follow:

							2023			2022
Plants/Companies	Investor	Concession start date	Concession end date	Payment start date	Ownership interest	Intangible assets (Note 18)	Liabilities	Ownership interest	Intangible assets (Note 18)	Liabilities
Salto Pilão	Companhia Brasileira de Alumínio	Apr-02	Jan-42	Dec-09	60%	137	652	60%	147	681
Salto do Rio Verdinho	Companhia Brasileira de Alumínio	Dec-02	Dec-44	Jul-10	100%	6	28	100%	6	31
Itupararanga	Companhia Brasileira de Alumínio	Feb-04	Feb-24	Mar-05	100%			100%		1
Piraju	Companhia Brasileira de Alumínio	Dec-98	Nov-38	Dec-02	100%	1	7	100%	1	8
Ourinhos	Companhia Brasileira de Alumínio	Jul-00	Nov-38	Aug-04	100%	1	6	100%	1	7
Fumaça (i)	Companhia Brasileira de Alumínio	Jun-96	Jun-46		100%	51	77	100%	53	66
France	Companhia Brasileira de Alumínio	Jun-96	Jun-46		100%	39	59	100%	41	50
Porto Raso	Companhia Brasileira de Alumínio	Jun-96	Jun-46		100%	25	37	100%	26	31
Serraria	Companhia Brasileira de Alumínio	Jun-96	Jun-46		100%	17	26	100%	18	22
Barra	Companhia Brasileira de Alumínio	Jun-96	Jun-46		100%	63	142	100%	71	98
Capim Branco I and Capim Branco II	Pollarix S.A.	Aug-01	Sep-36	Oct-07	13%	2	13	13%	2	15
Picada	Pollarix S.A.	May-01	Jun-36	Jul-06	100%	24	97	100%	25	107
Pedra do Cavalo	Votorantim Cimentos N/NE S.A.	Mar-02	Apr-44	Apr-06	100%	86	643	100%	86	746
						452	**1,787**		**477**	**1,863**
Current							141			119
Non-current						452	1,646		477	1,744
						452	**1,787**		**477**	**1,863**

(i) The changes to the current line items were generated by the update of UBP balances, after reviewing of short-term installments.

25. Pension plan and post-employment health care benefits

Accounting policy

The Company, through its subsidiaries abroad (St. Mary's - VCNA, VCEAA, and Artigas) and in Brazil (Votorantim Cimentos Norte Nordeste – VCNNE and Votorantim S.A.) participates in pension plans managed by a private pension entity, which provides post-employment benefits to employees.

The liability recognized in the balance sheet in respect of defined benefit pension plans represents the present value of the defined benefit obligation as at the balance sheet date less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using market interest rates denominated in the currency in which the benefits will be paid, and which have terms to maturity approximating the terms of the related pension obligations. In countries such as Brazil, where there is no active market for such obligations, the market rates for government securities are used.

Actuarial gains and losses arising from changes in actuarial assumptions and pension plans are recognized within "Carrying value adjustments" in the period during which they arise.

Past service costs are recognized immediately in the statement of income, unless the changes to the pension plan are conditional on the employees remaining in service for a specified period (the vesting period). In this case, past service costs are amortized on a straight-line basis over the vesting period.

For defined contribution plans, the Company's subsidiaries pay contributions to the pension plan administrators on a compulsory, contractual or voluntary basis. The group no longer has payment obligations once the contributions have been paid. Contributions are recognized as employee benefit expenses when they are due. Prepaid contributions are recognized as assets to the extent that a cash refund or a reduction in the future payments is available.

The Company's subsidiaries have a defined contribution plan for employees. Certain subsidiaries, however, have a defined benefit plan.

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The table below shows where the balances and activities related to post-employment benefits are allocated within the consolidated financial statements.

	2023	2022
Rights recorded in the balance sheet relating to:		
Pension plan benefits	83	126
Assets recorded in the balance sheet relating to:	**83**	**126**
Obligations recorded in the balance sheet relating to:		
Pension plan benefits	56	222
Post-employment healthcare benefits	349	195
Liability recorded in the balance sheet	**405**	**417**
Expenses recognized in the statement of income relating to:		
Pension plan benefits	9	5
Post-employment benefits	**14**	**17**
	23	22
Remeasurement with:		
Pension plan benefits - gross amount	26	6
Post-employment healthcare benefits	10	(66)
Deferred income tax and social contribution	(7)	2
Pension plan benefits - net amount	**29**	**(58)**

(a) Defined contribution pension plan

The Company and its Brazilian subsidiaries sponsor private pension plans available to all employees administered by Fundação Senador José Ermírio de Moraes ("FUNSEJEM"), a private, not-for-profit pension fund. Under the terms of the regulations of the fund, the contributions of the employees to FUNSEJEM are matched by the sponsors in accordance with the employee's remuneration level. For employees whose remuneration is lower than the threshold established by the regulations, the Company matches the contributions up to the level of 1.5% of their monthly remuneration.

For employees whose remuneration exceeds the threshold, the Company matches the contributions of employees that represent up to 6% of their monthly remuneration. Voluntary contributions can also be made to FUNSEJEM. Once the plan contributions have been made, no additional contributions are required.

(b) Defined benefit pension plan

The Company has subsidiaries with defined pension plans in North America, South America and Europe, which follow similar regulatory standards. The defined benefit pension plans also offer healthcare and life insurance, among other benefits. The cost of these retirement benefits and of the other plan benefits granted to employees are determined busing y the projected benefit method on a *pro rata* basis considering the length of service and the best expectations of management regarding the return on plan assets, salary adjustments, costs and mortality trends, and the age of retirement of employees. The amounts recognized in the balance sheet are determined as follows:

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	2023	2022
Present value of funded obligations	737	588
Fair value of plan assets	(694)	(731)
Surplus (deficit) of funded plans	43	(143)
Present value of non-funded obligations	266	403
Total deficit of defined benefit pension plans	309	260
Impact of the minimum fund requirement/asset ceiling	13	31
Assets and liabilities in the balance sheet	**322**	**291**

The changes in the defined benefit obligation and the fair value of the plan assets during the year were as follow:

	2023					2022
	Present value of funded and unfunded obligations	Fair value of plan assets	Total	Impact of the minimum fund requirement/asset ceiling	Total	Total
Balance at the beginning of the year	**993**	**(732)**	**261**	**30**	**291**	**347**
Current service costs	12		**12**		**12**	12
Financial income (costs)	29	(36)	**(7)**	3	**(4)**	23
Past service costs and curtailments	1		**1**		**1**	1
	42	**(36)**	**6**	**3**	**9**	**36**
Remeasurements:						
Return on assets, excluding the amounts included as finance income		24	24		24	195
Gains arising from changes in demographic assumptions						(9)
Gains arising from changes in financial assumptions	24		24		24	(254)
Losses (gains) arising from experience	26		26		26	4
Changes in the asset ceiling, excluding the amounts included as finance cost	3	(3)		6	5	3
	53	**21**	**74**	**6**	**80**	**(61)**
Exchange variations	(44)	34	(10)		(61)	(24)
Contributions		13	13		13	14
Payment of benefits	(64)	54	(10)		(10)	(21)
Balance at the end of the year	**980**	**(646)**	**334**	**39**	**322**	**291**

The defined benefit obligation and the plan assets, by country, are as follow:

	2023					2022				
	Brazil	Europe	North America	Latin America	Total	Brazil	Europe	North America	Uruguay	Total
Present value of the obligation	182	2	537		721	179	14	537		730
Fair value of plan assets	(74)	(2)	(618)		(694)	(70)		(661)		(731)
	108		(81)		27	109	14	(124)		(1)
Present value of non-funded obligations		68	194	4	266		66	191	4	261
Impact of minimum funds requirement/asset ceiling	29				29	31				31
	137	**68**	**113**	**4**	**322**	**140**	**80**	**67**	**4**	**291**

The actuarial assumptions used were as follow:

	2023			2022		
	Change in assumption	Increase in assumption	Reduction in assumption	Change in assumption	Increase in assumptions	Decrease in assumptions
Discount rate	0.50%	Decrease of 5.04%	Increase of 5.27%	0.50%	Decrease of 3.24%	Increase of 4.7%
Inflation rate						
Future salary increases	0.50%	Increase of 0.32%	Decrease of 0.32%	0.50%	Increase of 0.57%	Decrease of 0.53%
Increases in future pension plans	0.25%			0.25%		
		Increase of one in the assumption	Reduction of one in the assumption		Increase of one in the assumption	Reduction of one in the assumption
Life expectancy		Decrease of 2.91%	Increase of 2.87%		Decrease of 5.82%	Increase of 0.96%

(c) Post-employment benefits (pension and healthcare)

The Company operates post-employment healthcare plans through VSA and its indirect subsidiaries in North America, VCNA, and in Europe, VCEAA. The accounting method, assumptions and frequency of evaluations are similar to those used for defined benefit pension plans. Most of these plans are not funded. The obligations relating to these plans are included in the movements of the defined benefit obligations previously presented.

26. Equity

Accounting policy

(i) Share capital

Share capital is represented exclusively by common shares that are classified as equity.

(ii) Dividends

Dividends are recognized as a liability in the Company's financial statements at year-end based on the Company's bylaws. Any amount that exceeds the minimum required dividend of 25% of the profit for the year is only recognized on the date on which it is approved by the stockholders at a General Meeting. When a Company presents a loss for the year, no dividend is paid.

(iii) Earnings per share

The earnings per share are calculated by dividing the profit attributable to the controlling stockholders by the weighted average number of common shares during the year. The weighted average number of shares is calculated based on the periods during which the shares were outstanding.

(iv) Legal reserve and retained earnings reserve

The legal reserve is constituted through the appropriation of 5% of the profit for the fiscal year or the remaining balance, limited to 20% of the capital stock. Its purpose is to ensure the integrity of the share capital. It can only be used to offset losses and increase capital. When the Company presents a loss for the year, there will be no appropriation to the legal reserve.

The retained earnings reserve refers to the retention of the remaining balance of retained earnings in order to meet the business growth plan established in the Company's investment plan.

(v) Tax incentive reserve

The tax incentive reserve is credited with tax incentive benefits, which are recognized in the income statement for the year and allocated to retained earnings. These incentives are not included in the calculation of the mandatory minimum dividend.

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(vi) Carrying value adjustments

Carrying value adjustments include:

(a) The effective portion of the cumulative net change in the fair value of hedging instruments used as hedges of cash flow until the recognition of the cash flow being hedged;
(b) Cumulative translation adjustments on foreign exchange differences arising from the translation of the financial statements of foreign operations;
(c) Exchange differences on the effective portion of hedges of the Company's net investments in foreign operations; and
(d) Actuarial losses (gains) on and measurements of retirement benefits.

(a) Share capital

As at December 31, 2023 and December 31, 2022, the fully subscribed and paid-up capital of the Company was R$ 28,656, consisting of 18,278,788,894 common shares.

(b) Dividends

The minimum mandatory dividends of R$ 1,131 calculated based on the profit for 2022 were reversed based on the decision of the shareholders at the Ordinary and Extraordinary General Meeting held on April 23, 2023 and were retained in the Company's equity.

During 2023, the Company decided to pay to its parent company Hejoassu Administração S.A. the amount of R$ 1,303 corresponding to dividends related to part of the balance of the "Profit reserves" account accumulated until December 31, 2023 and also recognized the mandatory minimum dividends for the year 2023, in the amount of R$ 84, already deducting interest on equity, as detailed in the chart below:

	2023	2022
Profit attributable to controlling shareholders	2,343	4,762
(-) Legal reserve	(117)	(238)
Dividend calculation basis/Interest on equity	**2,226**	**4,524**
Mandatory minimum dividend (25%)	557	1,131
Allocation:		
Distribution to shareholders		
Mandatory minimum dividend	84	1,131
Interest on equity	473	
Proposed amount	**557**	**1,131**
Revenue reserves	1,669	3,393
	2,226	**4,524**
% Value of dividends and interest on equity per share	**0.03**	**0.06**

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(c) Carrying value adjustments

	Attributable to the owners of the Company							
	Exchange variations on investments abroad	Hedge accounting for net investments abroad	Hedge accounting for the operations of subsidiaries, net of taxes	Fair value of assets available-for-sale	Fair value of shares	Remeasurement of retirement benefits	Other components of comprehensive income	Total
As at January 01, 2022	**11,881**	**(5,293)**	**(50)**	**207**	**297**	**(319)**	**(206)**	**6,517**
Exchange variations of investees located abroad	(2,008)							(2,008)
Hedge accounting for investments abroad, net of taxes		(108)						(108)
Hedge accounting for the operations of subsidiaries, net of taxes			(11)					(11)
Adjustments for hyperinflationary economies	817							817
Reclassification of fair value of shares as part of acquisitions of investments					(155)			(155)
Adjustments to fair value of shares, net of taxes					50			50
Realization of comprehensive income on sale of investments	(80)							(80)
Fair value of assets available-for-sale of investments				(3)				(3)
Remeasurement of retirement benefits, net of taxes						118		118
Credit risk of debts valued at fair value							(8)	(8)
Participation in other comprehensive income of investees							107	107
As at December 31, 2022	**10,610**	**(5,401)**	**(61)**	**204**	**192**	**(201)**	**(107)**	**5,236**
As at January 01, 2023	**10,610**	**(5,401)**	**(61)**	**204**	**192**	**(201)**	**(107)**	**5,236**
Exchange variations of investees located abroad	(1,801)							(1,801)
Hedge accounting for investments abroad, net of taxes		58						58
Hedge accounting for operations of subsidiaries			22					22
Adjustments to fair value of shares, net of tax effects					(229)			(229)
Fair value of assets available-for-sale of investments				95				95
Remeasurement of retirement benefits, net of taxes						(81)		(81)
Realization of other comprehensive income- shares					(79)			(79)
Interest in other comprehensive income of investees							335	335
As at December 31, 2023	**8,819**	**(5,343)**	**(39)**	**299**	**(116)**	**(282)**	**228**	**3,556**

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(d) Non-controlling interests

						2023
	Non-controlling interests (%)	Current assets	Non-current assets	Current liabilities	Non-current liabilities	Equity attributable to non-controlling interests
Nexa Resources S.A.	35.32%	888	4,194	875	2,081	2,126
St. Mary's Cement Inc.	17.00%	349	1,902	309	748	1,194
Companhia Brasileira de Alumínio	32.11%	1,429	2,735	630	2,103	1,431
Nexa Resources Peru S.A.A	16.27%	515	904	239	174	1,006
Cementos Artigas S.A.	49.00%	106	297	81	65	257
Yacuces, S.L.	49.00%	1	152			153
Itacamba Cemento S.A.	33.33%	104	208	37	151	124
CBA Energia Participações S.A.	66.67%	14	237	6		245
Pollarix S.A.	66.67%	40	237	18	30	229
Other		12	186	12		186
		3,458	**11,052**	**2,207**	**5,352**	**6,951**

						2022
	Non-controlling interests (%)	Current assets	Non-current assets	Current liabilities	Non-current liabilities	Equity attributable to non-controlling interests
Nexa Resources S.A.	35.32%	1,087	4,903	852	2,405	2,733
St. Mary's Cement Inc.	17.00%	272	2,078	259	805	1,286
Companhia Brasileira de Alumínio	32.11%	1,145	2,598	611	1,494	1,638
Votorantim Resources Cajamarquilla S.A.	0.01%		749			749
Nexa Resources Peru S.A.A	16.27%	605	340	229	187	529
Cementos Artigas S.A.	49.00%	112	307	91	61	267
Yacuces, S.L.	49.00%	1	156			157
Itacamba Cemento S.A.	33.33%	101	236	32	179	126
CBA Energia Participações S.A.	66.67%	21	237	30		228
Pollarix S.A.	66.67%	28	268	31		265
Other			46			46
		3,372	**11,918**	**2,135**	**5,131**	**8,024**

27. Net revenue from products sold and services rendered

Accounting policy

Revenue represents the fair value of the consideration received or receivable from the sale of goods in the ordinary course of the business of the subsidiaries. Revenue is shown net of value added tax, rebates and discounts, after the elimination of sales among consolidated companies.

The subsidiaries recognize revenue when: (i) the amount of revenue can be measured reliably; (ii) is probable that future economic benefits will flow to the entity; and (iii) specific criteria have been met for each of the Company's and its subsidiaries' activities.

Revenue cannot be reliably measured if all terms of sale are not resolved. The subsidiaries bases their estimates on historical results, taking into account the type of customer, the type of transaction and the specifics of each agreement.

Revenue recognition is based on the following principles:

(i) Sales of products and services

Revenue is shown net of value added tax, returns, rebates and discounts, after eliminating sales among consolidated companies.

(ii) Sale of surplus energy

The Company's energy contracts are carried out in the free and regulated Brazilian commercial markets, and are fully registered with CCEE, the agent responsible for the accounting and settlement of the entire national integrated system (SIN).

The accounting recognition of revenue results from the amounts to be billed to customers in accordance with the methodology and prices established in each contract, adjusted for the amounts of energy actually generated, when applicable. These adjustments are determined through the CCEE mechanism that verifies the net exposure of the subsidiaries CBA and VCSA.

The mechanisms explained above result in the recognition of gross revenue, at its fair value, presented net of any sales tax, to the extent that it is probable that economic benefits will flow to the subsidiaries CBA and VCSA.

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(a) Reconciliation of revenue

	2023	2022
Gross sales		
Sales of products - domestic market	27,191	30,888
Sale of products - foreign market	26,536	28,391
Supply of electrical energy	492	642
Services provided	1,576	1,171
	55,795	**61,092**
Taxes on sales, services and other deductions	(7,265)	(8,197)
Net revenue	**48,530**	**52,895**

(b) Information on the geographical areas in which the Company operates

The geographical areas are determined based on the locations of the Company's customers. The net revenue of the subsidiaries classified by currency and destination is as follows:

(i) Revenue by destination

	2023	2022
Brazil	22,928	26,027
United States	6,624	6,745
Peru	3,264	4,435
Argentina	1,972	2,837
Canada	2,786	2,489
Spain	1,862	1,408
Turkey	1,328	1,209
Singapore	1,145	863
Switzerland	1,055	668
Morocco	557	622
Uruguay	518	499
Luxembourg	386	493
Bolivia	455	422
Chile	419	628
Tunisia	356	369
Japan	161	366
Colombia	192	347
Taiwan	134	334
Austria	240	251
Italy	107	163
Belgium	99	93
Ecuador	73	79
Germany	88	33
Other countries	1,781	1,515
	48,530	**52,895**

(ii) Revenue by currency

	2023	2022
Real	22,025	24,303
US Dollar	17,539	19,701
Canadian Dollar	2,484	2,481
Euro	2,059	1,392
Argentinian Peso	1,449	2,291
Turkish Lira	1,194	926
Moroccan Dirham	557	622
Uruguayan Peso	432	412
Boliviano	438	399
Tunisian Dinar	352	368
Other currencies	1	
	48,530	**52,895**

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28. Expenses by nature

				2023	2022
	Cost of products sold and services rendered	Selling	General and administrative	Total	Total
Raw materials, inputs and consumables	24,835	79	2	24,916	26,824
Employee benefit expenses (a)	3,747	556	1,501	5,804	5,506
Depreciation, amortization and depletion	3,870	36	103	4,009	3,983
Transportation expenses	3,996	103	4	4,103	4,081
Outsourced services	2,087	118	763	2,968	2,958
Other expenses	2,011	334	358	2,703	2,888
	40,546	**1,226**	**2,731**	**44,503**	**46,240**

(a) Employee benefit expenses

	2023	2022
Salaries and bonuses	3,623	3,469
Payroll charges	1,320	1,270
Benefits	861	767
	5,804	**5,506**

(i) Healthcare (post-retirement) – Employee benefits

The liability related to the healthcare plan for retired employees is stated at the present value of the obligation, less the market value of the plan assets, adjusted by actuarial gains and losses and past service costs, in a manner similar to the accounting methodology used for defined benefit pension plans. The post-retirement healthcare obligation is calculated annually by independent actuaries. The present value of the post-retirement healthcare obligation is determined based on an estimate of the future cash outflow.

Actuarial gains and losses arising from changes in actuarial assumptions are fully recognized within “Carrying value adjustments” in the period during which they arise.

(ii) Employee profit sharing – Employee benefits

A provision is recorded to recognize expenses related to employee profit sharing. This provision is calculated based on the qualitative and quantitative targets established by management and recorded in the statement of income as “Employee benefits”.

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29. Other operating results

	2023	2022
Tax benefits	431	516
Tax recovery	43	66
Net income from waste sales	53	19
Income from rentals and leasing	38	38
Financial instruments - offtake agreements	8	127
Gains on revaluation at fair value upon loss of control of investees		1,284
Reversal of impairment of investments		827
Gain (loss) on sales of fixed and intangible assets, net	(6)	55
Gain (loss) on hedging operations	(7)	2
Loss on sales of investments	(23)	(756)
Mining royalties and exploration rights	(96)	(15)
Judicial provisions, net	(189)	(206)
Reversal (constitution) of provision for impairment of fixed and intangible assets	(533)	51
Project expenses	(462)	(650)
Electrical power futures contracts	(624)	(156)
Other expenses, net	(244)	(223)
	(1,611)	**979**

30. Finance results, net

Accounting policy

(i) Finance income (costs)

Finance income is comprised interest rates on loans and financial investments, monetary and exchange variations on assets and liabilities, linked to loans with swap instruments, as a result of the net exchange variations of gains and losses on derivative financial instruments (swap contracts) and various discounts that are recognized in the income for the year on an accruals basis.

(ii) Foreign exchange variations

A foreign currency transaction will be initially recognized in the functional currency by applying the spot exchange rate between the functional currency and the foreign currency on the transaction date to the amount in foreign currency.

At the end of each reporting period, monetary items in foreign currencies must be converted using the closing exchange rate.

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Foreign exchange variations arising from the settlement of monetary items or the translation of monetary items at rates different from those at which they were converted upon initial measurement during the period or in previous financial statements will be recognized in the statement of income in the year during which they arise.

	2023	2022
Finance income		
Income from financial investments	725	701
Reversal of updates to provisions	193	128
Derivative financial instruments	500	985
Interest on financial assets	190	258
Monetary updating of assets	155	154
Fair value of borrowing	119	141
Eletrobras agreement	657	
Interest and indexation - Use of public assets	47	
Gain on settlement of CO_2 loans		49
Interest on related party transactions	12	31
Other finance income	342	164
	2,940	**2,611**
Finance costs		
Interest on borrowing	(1,672)	(1,654)
Capitalization of interest on borrowing	76	99
Derivative financial instruments	(479)	(756)
Indexation of provisions	(326)	(304)
Charges for debt renegotiation (i)	(117)	(3)
Interest and indexation on asset retirement obligations	(146)	(3)
Fair value of borrowing	(139)	(90)
Charges on discount transactions	(135)	(87)
Charges on the securitization of receivables	(99)	(93)
Adjustments to present value - CPC 12	(92)	(165)
PIS/COFINS on finance results	(137)	(79)
Commission on financial operations	(67)	(136)
Interest on related party transactions	(31)	(21)
Interest on silver streaming	(27)	(30)
Funding expenses	(44)	(34)
Income tax on remittances of interest abroad	(20)	(19)
Interest and monetary adjustment - Use of public assets	(51)	(134)
Premium paid on bond repurchase (Tender Offer)		(192)
Other finance costs	(503)	(413)
	(4,009)	**(4,114)**
Net monetary losses of subsidiaries in hyperinflationary economies	217	80
Foreign exchange variations, net	16	(66)
Finance results, net	**(836)**	**(1,489)**

(i) Refers mainly to the non-cash effects of the renegotiation of the debts of the subsidiary CBA in the amount of R$ 110 (R$ 28 related to the renegotiation of the Pre-export Finance contract and R$ 82 related to the refinancing of NCEs).

31. Tax benefits

The subsidiaries are eligible for tax incentives under certain state and federal industrial development programs aimed at attracting regional industrial investment, promoting employment and income generation, as well as complementing and diversifying the industrial matrices of the states. These state fiscal incentives take the form of percentage financing of up to 75%, presumed credit at a percentage of up to 95% and the deferred payment of taxes or partial reductions of the duty amounts due for imports of assets and inputs.

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32. Assets and liabilities directly associated with non-current assets held-for-sale

Accounting policy

Assets are classified as held for sale when their carrying amounts are to be recovered mainly through sale, and when their sale is considered highly probable.

An asset or group of assets to be classified as held for sale must be measured at initial recognition at the lower of what its carrying amount would have been had it not been so classified, and its fair value less costs to sell. If the asset or group of assets is acquired as part of a business combination, it must be measured at its fair value less costs to sell. When sale is expected to occur after one year, the entity shall measure the selling expenses at present value. Any increase in the present value of the selling expenses that results from the passage of time must be presented in profit or loss as a finance cost.

Depreciation of assets held for trading ceases when a group of assets is designated as held for sale. The assets and liabilities in the group of discontinued assets are presented in a single line item in either assets or liabilities.

The breakdown of assets and liabilities held-for-sale by company is shown below:

	2023	2022
Assets		
Companhia Brasileira de Alumínio	246	78
Votorantim Cimentos S.A.	10	2
Nexa Resources Peru S.A.A	4	5
	260	**85**
Liabilities		
Companhia Brasileira de Alumínio	125	
	125	

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33. Segment information

To provide greater transparency, the Company opted to disclose its financial information by business segment, with the elimination of balances and transactions between companies in the same segment, before: (i) the elimination of transactions between business segments; and (ii) the elimination of investments held by holding companies.

Additionally, eliminations and reclassifications between the companies are highlighted, so the net result corresponds to the consolidated financial information of VSA, which is disclosed as supplementary information. This supplementary information is not intended to be in accordance and is not required by the accounting practices adopted in Brazil or by IFRS.

(a) Capital management

The financial leverage ratios are calculated according to the information of each of the industrial segments, considering the accumulated results for 12 months, based on the applicable loan covenants, and are summarized as follow:

	Note		Industrial segments
		2023	2022
Net debt			
Borrowing and debentures	19 (a)	25,118	22,870
Leases	20 (b)	1,118	1,277
Cash and cash equivalents	9	(11,679)	(10,526)
Financial investments	10	(4,071)	(3,225)
Derivative financial instruments	6.1.1	(118)	81
Net debt (A)		**10,368**	**10,477**
Adjusted EBITDA			
Profit for the year		1,835	5,463
Additions (exclusions):			
Continuing operations			
Equity in the results of investees		(591)	(1,376)
Finance results, net		815	1,483
Income tax and social contribution		368	2,086
Depreciation, amortization and depletion		4,009	3,983
EBITDA before other additions and extraordinary items		**6,436**	**11,639**
Additions:			
Dividends received		1,510	170
Extraordinary items			
Discontinued operations			(13)
Losses on sales of investments		15	776
Reversal of impairment of investments			(827)
Net gains on fair value remeasurement upon the deconsolidation of investees			(1,361)
Mark-to-market of energy futures contracts		624	143
Provision for impairment of fixed and intangible assets		483	11
Recognition at fair value of assets held-for-sale			48
Offtake agreements		(8)	(124)
Other		568	(2)
Adjusted annualized EBITDA (B)		**9,628**	**10,460**
Gearing ratio (A/B)		**1.08**	**1.00**

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(b) Balance sheet - business segments

										2023
Assets	Votorantim Cimentos	Nexa Resources	CBA	Acerbrag	Holding and other	Eliminations	Total industrial segments	Votorantim Finanças	Eliminations	Total Consolidated
Current assets										
Cash and cash equivalents	4,857	2,214	1,350	102	3,156		11,679	101		11,780
Financial investments	1,057	54	379	45	2,535		4,070			4,070
Derivative financial instruments	1	38	241				280			280
Trade receivables	1,642	687	382	66	72	(57)	2,792			2,792
Inventory	3,500	1,644	1,937	242	372		7,695			7,695
Taxes recoverable	244	282	361	32	370		1,289	75		1,364
Dividends receivable	1				735	(552)	184	206	(97)	293
Securitization of receivables	250						250			250
Other assets	273	208	212	55	338		1,086			1,086
	11,825	5,127	4,862	542	7,578	(609)	29,325	382	(97)	29,610
Assets held-for-sale	10	4	246				260			260
	11,835	5,131	5,108	542	7,578	(609)	29,585	382	(97)	29,870
Non-current assets										
Financial investments					1		1			1
Financial instruments - shares		27			7,761		7,788			7,788
Trade receivables			2		24		26			26
Derivative financial instruments	612		225				837			837
Taxes recoverable	687	445	672	8	108		1,920			1,920
Related parties	52		54		164	(36)	234			234
Deferred income tax and social contribution	802	1,138	302	10	271	244	2,767			2,767
Judicial deposits	242	67	21		22		352			352
Other assets	253	151	26		105	(22)	513			513
	2,648	1,828	1,302	18	8,456	186	14,438			14,438
Investments	1,041	209	236		40,240	(22,246)	19,480	6,968	(7,042)	19,406
Advances for investment properties	70				301		371			371
Property, plant and equipment	18,482	11,217	5,928	418	396		36,441			36,441
Intangible assets	8,070	5,177	943	1	253	(1,601)	12,843			12,843
Right to use assets arising from leases	973	54	49	1	11		1,088			1,088
Biological assets					54		54			54
	31,284	18,485	8,458	438	49,711	(23,661)	84,715	6,968	(7,042)	84,641
Total assets	**43,119**	**23,616**	**13,566**	**980**	**57,289**	**(24,270)**	**114,300**	**7,350**	**(7,139)**	**114,511**

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

										2023
Liabilities and equity	**Votorantim Cimentos**	**Nexa Resources**	**CBA**	**Acerbrag**	**Holding and other**	**Eliminations**	**Total industrial segments**	**Votorantim Finanças**	**Eliminations**	**Total Consolidated**
Current liabilities										
Borrowing	272	693	103	29	13		1,110			1,110
Lease liabilities	144	18	21	1	1		185			185
Derivative financial instruments	239	50	2				291			291
Financial instruments - offtake agreements		10					10			10
Confirming payables	1,560	1,133	249				2,942			2,942
Trade payables	3,576	2,170	957	242	32	(43)	6,934	1		6,935
Salaries and payroll charges	722	330	199	22	122		1,395	1		1,396
Taxes payable	422	240	41	80	164		947	42		989
Advances from customers	98	11	18	11	8		146			146
Provisions		123	141				264			264
Dividends payable	559	14	6		487	(558)	508	97	(97)	508
Use of public assets	54	9	78				141			141
Electrical power futures contracts	54	32	155				241			241
Deferred revenue - silver streaming		181					181			181
Securitization of receivables	95						95			95
Other liabilities	504	188	85	4	142	(8)	915			915
	8,299	5,202	2,055	389	969	(609)	16,305	141	(97)	16,349
Liabilities related to assets held-for-sale			125				125			125
	8,299	5,202	2,180	389	969	(609)	16,430	141	(97)	16,474
Non-current liabilities										
Borrowing and debentures	11,875	7,661	4,241		231		24,008			24,008
Lease liabilities	868	26	28		11		933			933
Derivative financial instruments	547	1	160				708			708
Financial instruments - offtake agreement		85					85			85
Deferred income tax and social contribution	1,281	872	12		1,424		3,589	168		3,757
Related parties	49	14	65	2	11	(26)	115			115
Provisions	1,247	1,415	629	1	133		3,425			3,425
Use of public assets	589	102	955				1,646			1,646
Pension plan and post-employment health care benefits	266				139		405			405
Electrical power futures contracts	29	45	556				630			630
Deferred revenue – silver streaming		386					386			386
Other liabilities	525	561	29		1,070		2,185			2,185
	17,276	11,168	6,675	3	3,019	(26)	38,115	168		38,283
Total liabilities	25,575	16,370	8,855	392	3,988	(635)	54,545	309	(97)	54,757
Equity										
Total equity attributable to the owners of the Company	15,641	5,697	4,465	367	53,290	(26,656)	52,804	7,041	(7,042)	52,803
Non-controlling interests	1,903	1,549	246	221	11	3,021	6,951			6,951
Total equity	17,544	7,246	4,711	588	52,301	(23,635)	59,755	7,041	(7,042)	59,754
Total liabilities and equity	**43,119**	**23,616**	**13,566**	**980**	**57,289**	**(24,270)**	**114,300**	**7,350**	**(7,139)**	**114,511**

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(c) Statement of income - business segments

										2023
	Votorantim Cimentos	Nexa Resources	CBA	Acerbrag	Holding and other	Eliminations	Total industrial segments	Votorantim Finanças	Eliminations	Total Consolidated
Continuing operations										
Net revenue from products sold and services rendered	26,682	12,863	7,348	1,479	192	(34)	48,530			48,530
Cost of products sold and services rendered	(20,800)	(11,375)	(7,272)	(1,077)	(56)	34	(40,546)			(40,546)
Gross profit	**5,882**	**1,488**	**76**	**402**	**136**		**7,984**			**7,984**
Operating income (expenses)										
Selling	(948)	(205)	(47)	(15)	(11)		(1,226)			(1,226)
General and administrative	(1,353)	(456)	(390)	(55)	(466)		(2,720)	(11)		(2,731)
Other operating results	360	(1,586)	(592)		207		(1,611)			(1,611)
	(1,941)	(2,247)	(1,029)	(70)	(270)		(5,557)	(11)		(5,568)
Operating profit (loss) before equity in the results of investees and finance results	3,941	(759)	(953)	332	(134)		2,427	(11)		2,416
Equity in the results of investees										
Equity in the results of investees	55	117	67		1,352	(1,000)	591	557	(408)	740
Finance results, net										
Finance income	943	129	490	49	1,316	(4)	2,923	17		2,940
Finance costs	(2,039)	(1,045)	(654)	(135)	(102)	4	(3,971)	(38)		(4,009)
Foreign exchange variations, net	98	110	70	(4)	(41)		233			233
	(998)	**(806)**	**(94)**	**(90)**	**1,173**		**(815)**	**(21)**		**(836)**
Profit (loss) before income tax and social contribution	**2,998**	**(1,448)**	**(980)**	**242**	**2,391**	**(1,000)**	**2,203**	**525**	**(408)**	**2,320**
Income tax and social contribution	**(380)**	**1**	**170**	**(119)**	**(40)**		**(368)**	**(117)**		**(485)**
Current	(419)	(374)	(21)	(135)	(196)		(1,145)	(117)		(1,262)
Deferred	39	375	191	16	156		777			777
Profit (loss) from continuing operations	2,618	(1,447)	(810)	123	2,351	(1,000)	1,835	408	(408)	1,835
Profit (loss) attributable to shareholders	**2,618**	**(1,447)**	**(810)**	**123**	**2,351**	**(1,000)**	**1,835**	**408**	**(408)**	**1,835**
Profit (loss) attributable to the owners of the Company	2,434	(1,260)	(908)	77	2,341	(341)	2,343	408	(408)	2,343
Profit (loss) attributable to non-controlling interests	184	(187)	98	46	10	(659)	(508)			(508)
Profit (loss) for the year	**2,618**	**(1,447)**	**(810)**	**123**	**2,351**	**(1,000)**	**1,835**	**408**	**(408)**	**1,835**

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											2022
	Votorantim Cimentos	Nexa Resources	CBA	Acerbrag	Votorantim Energia (i)	Holding and other	Eliminations	Total industrial segments	Votorantim Finanças	Eliminations	Total Consolidated
Continuing operations											
Net revenue from products sold and services rendered	25,797	15,695	8,825	2,352	246	132	(152)	52,895			52,895
Cost of products sold and services rendered	(20,983)	(12,435)	(7,176)	(1,519)	(235)	(58)	152	(42,254)			(42,254)
Gross profit	**4,814**	**3,260**	**1,649**	**833**	**11**	**74**		**10,641**			**10,641**
Operating income (expenses)											
Selling	(826)	(206)	(49)	(23)		(6)		(1,110)			(1,110)
General and administrative	(1,246)	(593)	(405)	(230)	(7)	(386)		(2,867)	(9)		(2,876)
Other operating results	181	(657)	(48)	15	(11)	1,499		979			979
	(1,891)	**(1,456)**	**(502)**	**(238)**	**(18)**	**1,107**		**(2,998)**	**(9)**		**(3,007)**
Operating profit (loss) before equity in the results of investees and finance results	**2,923**	**1,804**	**1,147**	**595**	**(7)**	**1,181**		**7,643**	**(9)**		**7,634**
Equity in the results of investees											
Equity in the results of investees	52	19	(13)		7	3,157	(1,846)	1,376	509	(414)	1,471
Finance results, net											
Finance income	1,048	129	465	35		916		2,593	18		2,611
Finance costs	(2,456)	(881)	(512)	(155)	(3)	(83)		(4,090)	(24)		(4,114)
Foreign exchange gains (losses) and effects of hyperinflationary economies, net	113	74	45	(159)		(59)		14			14
	(1,295)	**(678)**	**(2)**	**(279)**	**(3)**	**774**		**(1,483)**	**(6)**		**(1,489)**
Profit (loss) before income tax and social contribution	**1,680**	**1,145**	**1,132**	**316**	**(3)**	**5,112**	**(1,846)**	**7,536**	**494**	**(414)**	**7,616**
Income tax and social contribution	**(534)**	**(771)**	**(189)**	**(177)**	**3**	**(421)**		**(2,089)**	**(80)**		**(2,169)**
Current	(450)	(748)	(199)	(192)	(1)	153		(1,437)	(80)		(1,517)
Deferred	(84)	(23)	10	15	4	(574)		(652)			(652)
Profit (loss) from continuing operations	**1,146**	**374**	**943**	**139**		**4,691**	**(1,846)**	**5,447**	**414**	**(414)**	**5,447**
Discontinued operations											
Profit from discontinued operations			**16**					**16**			**16**
Profit (loss) from continuing operations	1,146	374	959	139		4,691	(1,846)	5,463	414	(414)	5,463
Profit (loss) attributable to shareholders											
Profit (loss) attributable to the owners of the Company	1,000	350	872	85		4,691	(2,236)	4,762	414	(414)	4,762
Profit attributable to non-controlling interests	146	24	87	54			390	701			701
Profit (loss) for the year	**1,146**	**374**	**959**	**139**		**4,691**	**(1,846)**	**5,463**	**414**	**(414)**	**5,463**

(i) Refers to the operations of Auren Comercializadora de Energia S.A. for FY 2022.

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(d) Adjusted EBITDA - business segments

									2023
	Votorantim Cimentos	Nexa Resources	CBA	Acerbrag	Holding and other	Eliminations	Total industrial segments	Votorantim Finanças	Total Consolidated
Net revenue from products sold and services rendered	26,682	12,863	7,348	1,479	192	(34)	48,530		48,530
Cost of products sold and services rendered	(20,800)	(11,375)	(7,272)	(1,077)	(56)	34	(40,546)		(40,546)
Gross profit	**5,882**	**1,488**	**76**	**402**	**136**		**7,984**		**7,984**
Operating income (expenses)									
Selling	(948)	(205)	(47)	(15)	(11)		(1,226)		(1,226)
General and administrative	(1,353)	(456)	(390)	(55)	(466)		(2,720)	(11)	(2,731)
Other operating results	360	(1,586)	(592)		207		(1,611)		(1,611)
	(1,941)	**(2,247)**	**(1,029)**	**(70)**	**(270)**		**(5,557)**	**(11)**	**(5,568)**
Operating profit (loss) before equity in the results of investees and finance results	**3,941**	**(759)**	**(953)**	**332**	**(134)**		**2,427**	**(11)**	**2,416**
Plus									
Depreciation, amortization and depletion - continuing operations	1,869	1,486	570	56	28		4,009		4,009
EBITDA	**5,810**	**727**	**(383)**	**388**	**(106)**		**6,436**	**(11)**	**6,425**
Plus									
Dividends received	90	109	123		1,188		1,510	248	1,758
Extraordinary items									
Losses on sales of investments					15		15		15
Constitution of provisions for impairment of fixed and intangible assets	(54)	567	(30)				483		483
Mark-to-market of energy futures contracts (financial instruments)	(42)	78	588				624		624
Offtake agreements		(8)					(8)		(8)
Tax provision - ICMS (Note 1.1.4 (d))		425					425		425
Other	7	435	9		92		143		143
Adjusted EBITDA	**5,811**	**1,933**	**307**	**388**	**1,189**		**9,628**	**237**	**9,865**

At December 31, 2023 | All amounts in millions of Brazilian Real unless otherwise stated

										2022
	Votorantim Cimentos	Nexa Resources	CBA	Acerbrag	Votorantim Energia (i)	Holding and other	Eliminations	Total industrial segments	Votorantim Finanças	Total Consolidated
Net revenue from products sold and services rendered	25,797	15,695	8,825	2,352	246	132	(152)	52,895		52,895
Cost of products sold and services rendered	(20,983)	(12,435)	(7,176)	(1,519)	(235)	(58)	152	(42,254)		(42,254)
Gross profit	**4,814**	**3,260**	**1,649**	**833**	**11**	**74**		**10,641**		**10,641**
Operating income (expenses)										
Selling	(826)	(206)	(49)	(23)		(6)		(1,110)		(1,110)
General and administrative	(1,246)	(593)	(405)	(230)	(7)	(386)		(2,867)	(9)	(2,876)
Other operating results	181	(657)	(48)	15	(11)	1,499		979		979
	(1,891)	(1,456)	(502)	(238)	(18)	1,107		(2,998)	(9)	(3,007)
Operating profit (loss) before equity in the results of investees and finance results	2,923	1,804	1,147	595	(7)	1,181		7,643	(9)	7,634
Plus										
Depreciation, amortization and depletion - continuing operations	1,847	1,489	541	73		33		3,983		3,983
EBITDA	**4,770**	**3,293**	**1,688**	**668**	**(7)**	**1,214**		**11,626**	**(9)**	**11,617**
Plus										
Dividends received	71					99		170		170
Extraordinary items										
Constitutio,n (reversal) of impairment of fixed and tangible assets and investments	4	220	(213)			(827)		(816)		(816)
Recognition at fair value of assets held-for-sale			48					48		48
Losses on sales of investments	15		18			743		776		776
Gains on fair value remeasurement upon deconsolidation of investees						(1,361)		(1,361)		(1,361)
Mark-to-market of energy futures contracts (financial instruments)	57		86					143		143
Offtake agreement		(124)						(124)		(124)
Other	3					(5)		(2)		(2)
Adjusted EBITDA	**4,920**	**3,389**	**1,627**	**668**	**(7)**	**(137)**		**10,460**	**(9)**	**10,451**

(i) Refers to the operations of Auren Comercializadora de Energia S.A. for FY 2022.

34. Subsequent events

(a) Approval of capital increase and issue of shares - CBA

On January 18, 2024, the Board of Directors of the subsidiary CBA approved the capital increase started on November 8, 2023, due to the subscription and payment of 55,239,364 common shares, at the issue price of R$ 3.73 reais per share, totaling R$ 206.

With the approval, the share capital of CBA increased from R$ 4,749, comprising 595,833,333 shares, to R$ 4,955 comprising 651,072,697 shares.

(b) Repurchase of Voto 27 bonds by Votorantim Cimentos International - VCI

In January 2024, the subsidiary VCI repurchased on the secondary market the principal balance of R$ 99 relating to the bonds of the subsidiary St Mary's maturing in 2027. On January 31, 2024, the remaining principal balance of the bonds due in 2027 was approximately R$ 2,271.

(c) Long-term energy supply contract with Atlas Brasil Energia Holding 4 S.A. ("Atlas") - VCSA

On December 29, 2023, the subsidiary VCSA signed an energy supply agreement with nine special purpose companies (SPEs) for a period of 15 years. The SPEs hold authorizations to operate solar parks to generate electricity ("Solar Parks"). The Solar Parks, located in the State of Minas Gerais, with a total installed capacity of 100 MW, are expected to begin supplying energy in March 2026. This strengthens the subsidiary's investments in diversifying its renewable energy mix.

To implement this operation, the subsidiary completed the acquisition of the interest in Atlas, at a percentage of 10% of the total share capital and 99% of the company's voting capital, for consideration of R$ 65, which will be paid in March 2026, with the balance receivable for the futures purchase option to be received in a single installment. The future purchase option for of the ownership interest held by the subsidiary can be exercised unilaterally by Atlas at the end of the energy supply contract. Furthermore, in accordance with the terms and conditions established in the Shareholders' Agreement and the future purchase option held by Atlas, the subsidiary concluded that it does not have significant influence over Atlas' business.

As at December 31, 2023, this operation was subject to approval by the General Superintendence of CADE, which was duly granted on January 22, 2024 and published in the Federal Official Gazette.

(d) Law 14789/2023 – Subsidy for investments

On December 29, 2023, Law 14789/2023 was published, effective from 2024, which changed the tax treatment of ICMS tax benefits for IRPJ/CSLL and PIS/COFINS purposes, introducing a new mechanism for taking advantage of credits. The Company is assessing the procedures and impacts for the next year.