



Consolidated Financial Statements

December 31, 2024



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Management's Report on Internal Control over Financial Reporting

The management of Vale S.A (Vale) is responsible for establishing and maintaining adequate internal control over financial reporting.

Vale's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. The company's internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of the effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, and that the degree of compliance with the policies or procedures may deteriorate.

Vale's management has assessed the effectiveness of the company's internal control over financial reporting as of December 31, 2024, based on the criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on such assessment and criteria, Vale's management has concluded that the company's internal control over financial reporting is effective as of December 31, 2024.

The effectiveness of the company's internal control over financial reporting as of December 31, 2024, has been audited by PricewaterhouseCoopers Auditores Independentes Ltda., an independent registered public accounting firm, as stated in their unqualified report which appears herein.

February 19th, 2025.

Gustavo Duarte Pimenta

Chief Executive Officer

Marcelo Feriozzi Bacci

Chief Financial Officer and Investors Relations



Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders
Vale S.A.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated statement of financial position of Vale S.A. and its subsidiaries (the “Company”) as of December 31, 2024 and 2023, and the related consolidated income statement, statement of comprehensive income, statement of changes in equity and statement of cash flows for each of the three years in the period ended December 31, 2024, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2024 in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2024, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal



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control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (i) relate to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Provisions for de-characterization of dam structures

As described in Note 28(a) to the consolidated financial statements, the Company's provision for de-characterization of all its tailings dams built under the upstream method located in Brazil amounted to US\$ 2,213 million as of December 31, 2024. Management applies significant judgment in developing the estimates for de-characterization of the dams structures including (i) volume of the waste to be removed based on historical data available and interpretation of the enacted laws and regulations; (ii) location availability for the tailings disposal; (iii) engineering methods and solutions; (iv) security levels; (v) productivity of the equipment used; (vi) advances in geological studies and new hydrological information; and (vii) discount rate update. In addition, as management has further disclosed, given the nature and



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uncertainties inherent in this type of provision, the amounts recognized and disclosed will be reassessed by the Company at each reporting period and may be adjusted significantly in future periods, as new facts and circumstances become known.

The principal considerations for our determination that performing procedures relating to the provisions for de-characterization of the dam structures is a critical audit matter are (i) the significant judgment by management, including the use of specialists, when developing the estimates of the total expected costs to carry out all de-characterization projects related to the dams, which in turn led to (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions related to volume of the waste to be removed and engineering methods and solutions, and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's estimates of the provision for de-characterization of the dams structures. The work of management's specialists was used in performing the procedures to evaluate the reasonableness of the engineering solutions and significant assumptions used by management related to volume of the waste to be removed and engineering methods to execute this removal. As a basis for using this work, the specialists' qualifications were understood and the Company's relationship with these specialists was assessed. The procedures performed also included evaluation of the methods and assumptions used by specialists and procedures to assess whether these were consistent with internal and external references, as well as evidence available or obtained in other areas of the audit. Additionally, these procedures included evaluating whether the assumptions related to volume of the waste to be removed, and engineering methods and solutions were reasonable considering the information available according to the engineering phase of each project and the historic information gathered from the ongoing de-characterization projects of the Company.

Tax litigation and uncertain tax positions

As described in Note 29 to the consolidated financial statements, the Company has recognized provisions for tax litigations (other than income taxes) in the amount of US\$ 201 million as of December 31, 2024, and disclosed contingent liabilities related to tax litigation in the amount of US\$ 5,995 million. The Company recognizes a provision for tax litigation (other than income taxes) in the consolidated financial statements for the resolution of pending litigation when the Company has a present obligation as a result of a past event and management determines that a loss is probable, and the amount of the loss can be reasonably estimated, with the support of Company's specialists. No provision for tax litigation is recognized in the consolidated financial statements for unfavorable outcomes when, after assessing the information available, (i) management concludes that it is not probable that a loss has been incurred in any of the pending litigation; or (ii) management is unable to estimate the loss or range of loss for any of the pending matters. The Company discloses information on contingent liabilities when management concludes that the risk of loss is possible or it cannot reasonably estimate the amounts involved, but it is reasonably possible that a loss may be incurred.

Also, as described in Note 9(e) the Company disclosed the amount of US\$ 6,535 million related to uncertain income tax position which tax treatments acceptability will depend on taxation authorities' decision in the future. In the case of uncertain income tax positions, management determines whether it is probable or not



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that taxation authorities will accept the uncertain tax treatment. If management concludes it is not probable that taxation authorities will accept the uncertain income tax treatment, a provision for income tax is recognized. The provision recognized for uncertain income tax positions amounted to US\$ 154 million as of December 31, 2024.

The principal considerations for our determination that performing procedures relating to tax litigation and uncertain income tax position are a critical audit matter are (i) the significant judgments by management when assessing the likelihood of a loss, when determining whether a reasonable estimate of the loss or range of loss and possible outcomes for each tax litigation claim can be made and when assessing whether it is probable that a taxation authority will accept an uncertain income tax treatment, which in turn led to a high degree of auditor judgment, subjectivity and effort in evaluating management's assessment of the loss contingencies associated with litigation claims and acceptability of uncertain income tax positions; and (ii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's evaluation of tax litigation claims and uncertain income tax positions, including controls over determining whether a loss is probable and whether the amount of loss can be reasonably estimated, or whether it is probable the taxation authority will accept the uncertain income tax position, as well as financial statement disclosures. These procedures also included, among others, obtaining and evaluating the letters of audit inquiry with internal and external legal counsel, evaluating the reasonableness of management's assessment regarding whether unfavorable outcomes is reasonably possible or probable and reasonably estimable and evaluating the sufficiency of the Company's tax litigation contingencies and uncertain income tax positions disclosures. The work of Company's specialists was used in performing the procedures to evaluate the reasonableness of the estimates related to the tax litigation claims and uncertain income tax positions. As a basis for using this work, the specialists' qualifications and objectivity were evaluated, as well as the methods and assumptions used by them. The procedures also included an evaluation of the specialists' findings. In addition, professionals with specialized skills and knowledge were used to assist in the evaluation of the reasonableness of the estimate or range of loss and possible outcomes of the main tax litigation and uncertain tax positions.

Liabilities related to associates and joint ventures

As described in Note 27 to the consolidated financial statements, the Company has recognized a provision related to the Samarco Mineração S.A. ("Samarco") dam failure in the amount of US\$ 3,663 million as of December 31, 2024, including additions to the provision for the year ended December 31, 2024, in the amount of US\$ 956 million. The Fundão tailings dam (the "Fundão Dam") is owned by Samarco, a joint venture between Vale S.A. and BHP Billiton Brasil Ltda. ("BHPB"), where the failure was experienced in November 2015. The Company and BHPB have assumed responsibility in a proportion of fifty percent each for the obligations generated that cannot be financially fulfilled by Samarco itself, the primary responsible party. In October 2024, Vale, Samarco, and BHPB, together with the Federal Government of Brazil, the State Governments of Minas Gerais and Espírito Santo, the Federal and State Public Prosecutors' and Public Defenders' Offices and other Brazilian public entities, signed a definitive agreement regarding claims related to the failure of the Fundão Dam ("Definitive Agreement"). On December 31, 2024, the Company revised the estimates used to measure and recognize the provision related to the Fundão Dam failure, considering the



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updated terms of the Definitive Agreement. As a result, the updated amount of the provision recognized is based on the net present value of estimated cash outflows to be incurred and it requires the use of assumptions that can significantly change its value due to: (i) the scope and costs to complete the commitments assumed in the context of the Definitive Agreement; (ii) the extent to which Samarco will be able to directly fulfill the agreed future obligations; (iii) the resolution of existing and potential future legal claims; and (iv) the updates to the discount rates. In addition, as management has further disclosed, given the nature and uncertainties inherent in this type of provision, future expenditures may differ from the amounts currently provided for and changes to key assumptions could result in a material impact to the amount of the provision in future reporting periods.

The principal considerations for our determination that performing procedures relating to the provisions related to the Samarco Fundão Dam failure is a critical audit matter are (i) the significant judgment by management, including the use of legal advisors, when developing the estimates of the total expected cash outflows, which in turn led to (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's significant assumptions, and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's estimates of the provision related to the Samarco Fundão Dam failure. The procedures also included, among others, the assessment of the information contained in the Definitive Agreement, which resulted in the additional amount of provision recognized in the year ended December 31, 2024. In addition, the procedures included evaluating the reasonableness of the models, the data, the application of discount rate and other assumptions used to form the provision estimate, with the involvement of our internal experts with specialized skills and knowledge, which also included sensitivity analysis of the main assumptions used and the impacts of their possible changes on the calculated provision. The procedures also included evaluating the accounting treatment adopted by the Company to recognize the provision and its movements in the year ended December 31, 2024, as well as financial statements disclosures.

Impairment of goodwill and other long lived non-financial assets

As described in Note 20 to the consolidated financial statements, the Company's goodwill balance totaled US\$ 3,038 million as of December 31, 2024. Management tests impairment of goodwill at least on an annual basis, or more frequently if events or circumstances indicate that the carrying value of goodwill may be impaired. Management also evaluates impairment indicators for the other long-lived non-financial assets, such as intangible and property plant and equipment. An impairment loss is recognized when the recoverable amount of an asset or cash generating unit (CGU), determined at its fair value less costs to disposal (FVLCD), is above its carrying amount. Fair value is generally estimated by management using discounted cash flow models. Management's cash flow projections used to estimate the recoverable amount of assets or CGUs included significant judgments and assumptions relating to (i) long-term future metal prices; and (ii) discount rates. During the year ended December 31, 2024, the Company recognized impairment losses of US\$ 2,210 million, mainly related to nickel operations in Thompson and Newfoundland and Labrador, located in Canada.



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The principal considerations for our determination that performing procedures relating to impairment tests for goodwill and other long lived non-financial assets is a critical audit matter are due to the significant judgments applied by management when developing the fair value measurement of assets and CGUs. This led to a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating management's cash flow projections and significant assumptions, related to long-term future metal prices and discount rates. In addition, the audit effort involved the use of professionals with specialized skills and knowledge.

Addressing the matter, involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of the controls related to management's impairment assessment of goodwill and other long lived non-financial assets, including controls over the valuation of assets and CGUs. These procedures also considered, among others (i) testing management's process for developing the fair value estimates; (ii) evaluating the appropriateness of the discounted cash flow models; (iii) testing the completeness and accuracy of the underlying data used in the models; and (iv) evaluating the reasonableness of the significant assumptions used by management related to the long-term future metal prices and discount rates. Assessing these management's significant assumptions involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of assets and CGUs; (ii) the consistency with external market and industry data; and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skills and knowledge were used to assist in the evaluation of the Company's discounted cash flow models, and the long-term future metal prices and the discount rate assumptions.

A large, stylized handwritten signature in black ink that reads 'PricewaterhouseCoopers'.

PricewaterhouseCoopers
Auditores Independentes Ltda.
Rio de Janeiro, Brazil
February 19, 2025

We have served as the Company's auditor since 2019.

Consolidated Income Statement

In millions of United States dollars, except earnings per share

	Notes	Year ended December 31,		
		2024	2023	2022
Continuing operations				
Net operating revenue	5(b)	38,056	41,784	43,839
Cost of goods sold and services rendered	6(a)	(24,265)	(24,089)	(24,028)
Gross profit		13,791	17,695	19,811
Operating expenses				
Selling and administrative	6(b)	(622)	(553)	(515)
Research and development		(790)	(723)	(660)
Pre-operating and operational stoppage	28	(403)	(450)	(479)
(Impairment), reversal of impairment and gains (losses) on disposal of non-current assets, net	18, 19 and 20	301	(266)	773
Other operating revenues (expenses), net	6(c)	(1,489)	(1,498)	(1,722)
Operating income		10,788	14,205	17,208
Financial income	7	422	432	520
Financial expenses	7	(1,473)	(1,459)	(1,179)
Other financial items, net	7	(2,772)	(919)	2,927
Equity results and other results in associates and joint ventures	16 and 27	(269)	(1,108)	305
Income before income taxes		6,696	11,151	19,781
Income taxes	9(a)	(721)	(3,046)	(2,971)
Net income from continuing operations		5,975	8,105	16,810
(Loss) net income from continuing operations attributable to noncontrolling interests		(191)	122	82
Net income from continuing operations attributable to Vale S.A.'s shareholders		6,166	7,983	16,728
Discontinued operations				
Net income from discontinued operations attributable to Vale S.A.'s shareholders	17(l)	-	-	2,060
Net income		5,975	8,105	18,870
(Loss) net income attributable to noncontrolling interests		(191)	122	82
Net income attributable to Vale S.A.'s shareholders		6,166	7,983	18,788
Basic and diluted earnings per share from continuing operations				
Common share (US\$)	10	1.44	1.83	3.61
Basic and diluted earnings per share attributable to Vale's shareholders				
Common share (US\$)	10	1.44	1.83	4.05

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

Consolidated Statement of Comprehensive Income

In millions of United States dollars

	Notes	Year ended December 31,		
		2024	2023	2022
Net income		5,975	8,105	18,870
Other comprehensive income (loss):				
Items that will not be reclassified to income statement				
Translation adjustments of the Parent Company		(9,172)	2,966	2,259
Retirement benefit obligations		102	(68)	269
Adjustments to fair value in equity interests measured at fair value through other comprehensive income		-	13	-
		(9,070)	2,911	2,528
Items that may be reclassified to income statement				
Translation adjustments of foreign operations		2,237	(522)	(1,306)
Net investment hedge	21(a.iv)	(500)	139	81
Cash flow hedge	21(a.iv)	-	(19)	19
Reclassification of cumulative translation adjustment to income statement (i)	17(b) and 17(d)	(1,115)	-	(4,830)
		622	(402)	(6,036)
Comprehensive income (loss)		(2,473)	10,614	15,362
Comprehensive income (loss) attributable to noncontrolling interests		(284)	125	80
Comprehensive income attributable to Vale S.A.'s shareholders		(2,189)	10,489	15,282

(i) For the year ended December 31, 2024, mainly related to the effect of the reclassification of cumulative translation adjustments to the consolidated income statement, as a consequence of the divestiture and loss of control over of Vale Oman Distribution Center and PT Vale Indonesia Tbk in the amounts of US\$112 and US\$1,063, respectively (notes 17b and 17d).

Items above are stated net of tax, when applicable, and the related taxes effects are disclosed in note 9.

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

Consolidated Statement of Cash Flows

In millions of United States dollars

	Notes	Year ended December 31,		
		2024	2023	2022
Cash flow from operations	11(a)	13,767	17,252	18,762
Interest on loans and borrowings paid	11(c)	(868)	(743)	(785)
Cash received (paid) on settlement of derivatives, net	21	11	567	(83)
Payments related to Brumadinho event	26	(909)	(1,330)	(1,093)
Payments related to de-characterization of dams	28	(533)	(458)	(349)
Interest on participative shareholders' debentures paid	23	(243)	(233)	(371)
Income taxes (including settlement programs) paid		(1,859)	(1,890)	(4,637)
Net cash generated by operating activities from continuing operations		9,366	13,165	11,444
Net cash generated by operating activities from discontinued operations	17(l)	-	-	41
Net cash generated by operating activities		9,366	13,165	11,485
Cash flow from investing activities:				
Acquisition of property, plant and equipment and intangible assets		(6,447)	(5,920)	(5,446)
Payments related to the Samarco dam failure	27	(808)	(553)	(338)
Advanced payment related to renegotiation of railway concession contracts	15	(656)	-	-
Cash received (paid) from disposal and acquisition of investments, net	11(b)	2,687	(139)	577
Dividends received from associates and joint ventures		81	204	219
Short-term investment		(85)	127	260
Other investing activities, net		(140)	(38)	145
Net cash used in investing activities from continuing operations		(5,368)	(6,319)	(4,583)
Net cash used in investing activities from discontinued operations	17(l)	-	-	(103)
Net cash used in investing activities		(5,368)	(6,319)	(4,686)
Cash flow from financing activities:				
Loans and borrowings from third parties	11(c)	4,855	1,950	1,275
Payments of loans and borrowings to third parties	11(c)	(2,605)	(658)	(2,300)
Payments of leasing	25	(202)	(233)	(224)
Dividends and interest on capital paid to Vale's shareholders	31(e)	(3,914)	(5,513)	(6,603)
Dividends and interest on capital paid to noncontrolling interest		-	(41)	(12)
Shares buyback program	31(c)	(409)	(2,714)	(6,036)
Acquisition of additional stake in VOPC	17(g)	-	(130)	-
Net cash used in financing activities from continuing operations		(2,275)	(7,339)	(13,900)
Net cash used in financing activities from discontinued operations	17(l)	-	-	(11)
Net cash used in financing activities		(2,275)	(7,339)	(13,911)
Net increase (decrease) in cash and cash equivalents		1,723	(493)	(7,112)
Cash and cash equivalents in the beginning of the year		3,609	4,736	11,721
Effect of exchange rate changes on cash and cash equivalents		(454)	69	138
Effect of transfer PTVI to non-current assets held for sale	17(d)	-	(703)	-
Cash and cash equivalents from subsidiaries acquired and sold, net		75	-	(11)
Cash and cash equivalents at end of the year		4,953	3,609	4,736

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

Consolidated Statement of Financial Position

In millions of United States dollars

	Notes	December 31, 2024	December 31, 2023
Assets			
Current assets			
Cash and cash equivalents	22	4,953	3,609
Short-term investments	22	53	51
Accounts receivable	12	2,358	4,197
Other financial assets	15	53	271
Inventories	13	4,605	4,684
Recoverable taxes	9(f)	1,100	900
Judicial deposits	29(c)	-	611
Other		359	444
		13,481	14,767
Non-current assets held for sale	17(d)	-	3,933
		13,481	18,700
Non-current assets			
Judicial deposits	29(c)	537	798
Other financial assets	15	82	593
Recoverable taxes	9(f)	1,297	1,374
Deferred income taxes	9(b)	8,244	9,565
Other		1,466	1,257
		11,626	13,587
Investments in associates and joint ventures	16	4,547	1,872
Intangibles	18	10,514	11,631
Property, plant, and equipment	19	39,984	48,396
		66,671	75,486
Total assets		80,152	94,186
Liabilities			
Current liabilities			
Suppliers and contractors	14	4,234	5,272
Loans and borrowings	24	1,020	824
Leases	25	147	197
Other financial liabilities	15	1,543	1,676
Taxes payable	9(f)	574	1,314
Settlement programs ("REFIS")	9(d)	353	428
Liabilities related to Brumadinho	26	714	1,057
Liabilities related to associates and joint ventures	27	1,844	837
De-characterization of dams and asset retirement obligations	28	833	1,035
Provisions for litigation	29	119	114
Employee benefits	30	1,012	964
Dividends payable		330	-
Other		367	376
		13,090	14,094
Liabilities associated with non-current assets held for sale	17(d)	-	561
		13,090	14,655
Non-current liabilities			
Loans and borrowings	24	13,772	11,647
Leases	25	566	1,255
Participative shareholders' debentures	23	2,217	2,874
Other financial liabilities	15	2,347	3,373
Settlement programs ("REFIS")	9(d)	1,007	1,723
Deferred income taxes	9(b)	445	870
Liabilities related to Brumadinho	26	1,256	2,003
Liabilities related to associates and joint ventures	27	1,819	3,590
De-characterization of dams and asset retirement obligations	28	4,930	6,694
Provisions for litigation	29	894	885
Employee benefits	30	1,118	1,381
Streaming transactions	8	1,882	1,962
Other		281	293
		32,534	38,550
Total liabilities		45,624	53,205
Equity			
	31		
Equity attributable to Vale S.A.'s shareholders		33,406	39,461
Equity attributable to noncontrolling interests		1,122	1,520
Total equity		34,528	40,981
Total liabilities and equity		80,152	94,186

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

Consolidated Statement of Changes in Equity

In millions of United States dollars

	Notes	Share capital	Capital reserve	Profit reserves	Treasury shares	Other reserves	Cumulative translation adjustments	Retained earnings	Equity attributable to Vale S.A.'s shareholders	Equity attributable to noncontrolling interests	Consolidated equity
Balance as of December 31, 2021		61,614	1,139	15,702	(5,579)	(1,960)	(36,444)	-	34,472	834	35,306
Net income		-	-	-	-	-	-	18,788	18,788	82	18,870
Other comprehensive income		-	-	756	-	269	(4,531)	-	(3,506)	(2)	(3,508)
Dividends and interest on capital of Vale S.A.'s shareholders	31(d)	-	-	(3,500)	-	-	-	(4,386)	(7,886)	-	(7,886)
Dividends of noncontrolling interest		-	-	-	-	-	-	-	-	(7)	(7)
Transaction with noncontrolling interests	17 (l)	-	-	-	-	-	-	-	-	584	584
Appropriation to undistributed retained earnings		-	-	14,402	-	-	-	(14,402)	-	-	-
Shares buyback program	31(c)	-	-	-	(6,036)	-	-	-	(6,036)	-	(6,036)
Share-based payment program	30(b)	-	-	-	-	16	-	-	16	-	16
Treasury shares used and canceled	31(b)	-	-	(6,616)	6,635	-	-	-	19	-	19
Balance as of December 31, 2022		61,614	1,139	20,744	(4,980)	(1,675)	(40,975)	-	35,867	1,491	37,358
Net income		-	-	-	-	-	-	7,983	7,983	122	8,105
Other comprehensive income		-	-	1,495	-	(73)	1,084	-	2,506	3	2,509
Dividends and interest on capital of Vale S.A.'s shareholders	31(d)	-	-	(437)	-	-	-	(3,744)	(4,181)	-	(4,181)
Dividends of noncontrolling interest		-	-	-	-	-	-	-	-	(37)	(37)
Transaction with noncontrolling interests	17(g)	-	-	-	-	3	-	-	3	(59)	(56)
Appropriation to undistributed retained earnings		-	-	4,239	-	-	-	(4,239)	-	-	-
Shares buyback program	31(c)	-	-	-	(2,714)	-	-	-	(2,714)	-	(2,714)
Share-based payment program	30(b)	-	-	-	26	(29)	-	-	(3)	-	(3)
Treasury shares used and canceled	31(b)	-	-	(4,164)	4,164	-	-	-	-	-	-
Balance as of December 31, 2023		61,614	1,139	21,877	(3,504)	(1,774)	(39,891)	-	39,461	1,520	40,981
Net income		-	-	-	-	-	-	6,166	6,166	(191)	5,975
Other comprehensive income		-	-	(5,007)	-	144	(3,492)	-	(8,355)	(93)	(8,448)
Dividends and interest on capital of Vale S.A.'s shareholders	31(d)	-	-	(2,364)	-	-	-	(1,996)	(4,360)	-	(4,360)
Transaction with noncontrolling interests (i)	17(d) and 17(e)	-	-	-	-	895	-	-	895	(114)	781
Appropriation to undistributed retained earnings		-	-	4,170	-	-	-	(4,170)	-	-	-
Shares buyback program	31(c)	-	-	-	(409)	-	-	-	(409)	-	(409)
Share-based payment programs	30(b)	-	-	-	2	6	-	-	8	-	8
Balance as of December 31, 2024		61,614	1,139	18,676	(3,911)	(729)	(43,383)	-	33,406	1,122	34,528

(i) The effect on equity attributable to noncontrolling interests includes the derecognition of noncontrolling shareholders of PT Vale Indonesia Tbk in the amount of US\$1,628 (note 17d) and the recognition of noncontrolling shareholders of Vale Base Metals Limited in the amount of US\$1,514 (note 17e).

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

Notes to the Consolidated Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

1. Corporate information

Vale S.A. (the "Parent Company") is a public company headquartered in the city of Rio de Janeiro, Brazil. Vale's share capital consists of common shares, traded on the stock exchange.

In Brazil, Vale's common shares are listed on B3 under the code VALE3. The Company also has American Depositary Receipts (ADRs), with each representing one common share, traded on the New York Stock Exchange (NYSE) under the code VALE. Additionally, the shares are traded on LATIBEX under the code XVALO, which is an unregulated electronic market established by the Madrid Stock Exchange for the trading of Latin American securities. The Company's shareholding structure is disclosed in note 31.

Vale, together with its subsidiaries ("Vale" or the "Company"), is one of the world's largest producers of iron ore and nickel. The Company also produces iron ore pellets and copper. Nickel and copper concentrates contain by-products such as platinum group metals (PGM), gold, silver, and cobalt. Most of the Company's products are sold to international markets, through the Company's main trading Company, Vale International S.A. ("VISA"), a wholly owned subsidiary located in Switzerland.

The Company is engaged in greenfield mineral exploration in six countries, including Brazil, USA, Canada, Chile, Peru and Indonesia. It also operates extensive logistics systems in Brazil and other regions worldwide, including railways, maritime terminals, and ports integrated with mining operations. Additionally, the Company has distribution centers to support its iron ore shipments globally.

Vale also holds investments in energy businesses to meet energy consumption needs through renewable sources.

The Company's operations are organized into two operational segments: "Iron Solutions" and "Energy Transition Metals" (note 5).

Iron Solutions – Comprise iron ore extraction and iron ore pellets and briquettes production, as well as the North, South, and Southeast transportation corridors in Brazil, including railways, ports and terminals linked to mining operations.

- **Iron ore:** Currently, Vale operates three systems in Brazil for the production and distribution of iron ore. The Northern System (Carajás, State of Pará, Brazil) is fully integrated and comprises three mining complexes, a railway and a maritime terminal. The Southeast System (Quadrilátero Ferrífero, Minas Gerais, Brazil) is fully integrated, consisting of three mining complexes, a railway, a maritime terminal, and a port. The Southern System (Quadrilátero Ferrífero, Minas Gerais, Brazil) consists of two mining complexes and two maritime terminals.
- **Iron ore pellets and other ferrous products:** Currently, Vale has a diversified portfolio of agglomerates, which includes iron ore pellets and briquettes. Vale operates eight pelletizing plants in Brazil and two in Oman.

Energy Transition Metals – Includes the production of nickel, copper and its by-products.

- **Nickel:** The Company's primary nickel operations are conducted by Vale Canada Limited ("Vale Canada"), which owns mines and processing plants in Canada and Brazil and nickel refining facilities in the United Kingdom and Japan. Vale also holds investments in nickel operations in Indonesia.
- **Copper:** In Brazil, Vale produces copper concentrates at Sossego and Salobo in Carajás, State of Pará. In Canada, Vale produces copper concentrates and copper cathodes associated with its nickel mining operations in Sudbury (located in Ontario), Voisey's Bay (located in Newfoundland and Labrador), and Thompson (located in Manitoba).
- **Cobalt, PGM, and other precious metals:** The ore extracted by Vale Canada in Sudbury yields cobalt, PGMs (Platinum Group Metals), silver, and gold as by-products, which are processed at refining facilities in Port Colborne, Ontario. In Canada, Vale also produces refined cobalt at its Long Harbour facilities in Newfoundland and Labrador. The copper operations in Sossego and Salobo in Brazil also yield silver and gold as by-products.

Notes to the Consolidated Financial Statements

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2. Basis of preparation and presentation of the consolidated financial statements

The consolidated financial statements of the Company (“financial statements”) have been prepared and are presented in accordance with the International Financial Reporting Standards as issued by the International Accounting Standards Board (“IFRS Accounting Standards”). All material information for the preparation of these financial statements, and only this information, are presented and correspond to those used by the Company's Management.

The financial statements have been prepared on a historical cost basis and adjusted to reflect: (i) the fair value of certain financial assets and liabilities (including derivative instruments), as well as pension plans assets and (ii) assets impairment, when applicable.

These financial statements were authorized for issue by the Board of Directors on February 19, 2025.

a) New and amended standards

Amendments to IAS 7 – Statement of Cash Flows and IFRS 7 – Financial Instruments: Disclosures

In May 2023, the International Accounting Standards Board (“IASB”) amended the standards IAS 7– Statement of Cash Flows and IFRS 7 – Financial Instruments: Disclosures, to establish new disclosure requirements on supplier finance arrangements. The amendments are effective for annual periods beginning on or after January 1, 2024, and, therefore, the Company started to apply these amendments from these financial statements, as shown in note 14.

Amendments to IAS 1 – Non-current liabilities with covenants

In October 2022, the IASB amended the standard IAS 1 – Presentation of Financial Statements, to improve the disclosure requirements related to long-term debt subject to compliance with covenants. The amendments are effective for January 1, 2024, and, therefore, the Company started to apply these amendments from these financial statements, as shown in note 24(c).

IFRIC Agenda decision on IFRS 8 Operating Segments

In July 2024, the IASB published a agenda decision on IFRS 8– Information by segment, clarifying the requirements on the disclosure of specific items of income and expenses by operating segment. As a result of this agenda decision, the Company added the disclosure of the cost of goods sold and services provided by operating segment in note 5 of these financial statements, including the disclosure of the comparative information.

IFRS 18 – Presentation and Disclosure in Financial Statements

In April 2024, the IASB issued IFRS 18 – Presentation and Disclosure in Financial Statements, which replaces IAS 1 – Presentation of Financial Statements. IFRS 18 introduces new requirements on presentation within the statement of income statement, requires disclosure of ‘management-defined performance measures’ and includes new requirements for aggregation and disaggregation of financial information of the primary financial statements and the notes. IFRS 18 will be effective for annual reporting periods beginning on or after January 1, 2027, and the Company is currently assessing the potential impacts arising from the standard.

Amendments to IFRS 9 – Financial Instruments and IFRS 7 – Financial Instruments: Disclosure

In December 2024, the IASB amended IFRS 9 – Financial Instruments and IFRS 7 – Financial Instruments: Disclosure to clarify and provide additional guidance, including new disclosures requirements, related to certain power purchase agreements. These amendments will be effective for annual reporting periods beginning on or after January 1, 2026, and the Company does not expect material impacts on financial statements.

Other recently issued or amended accounting standards

Certain other new accounting standards, amendments and interpretations have been published recently, however, have not materially impacted these financial statements. The Company did not early adopt any standards and does not expect that other standards already issued and not yet mandatory will have a material impact in future reporting periods.

Notes to the Consolidated Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

b) Principles of consolidation

The Company's financial statements reflect the assets, liabilities and transactions of the Parent Company and its direct and indirect subsidiaries ("subsidiaries"). Intercompany balances and transactions, which include unrealized profits, are eliminated. A list of the most relevant companies, including associates and joint ventures, and the financial policies applied in preparing the consolidated financial projections are described in note 16.

c) Functional currency and presentation currency

The financial statements of the Company and its subsidiaries, associates and joint ventures are measured using the currency of the primary economic environment in which each entity operates ("functional currency"), in the case of the Parent Company it is the Brazilian real ("R\$"). For presentation purposes, these financial statements are presented in United States dollars ("US\$") as the Company believes that this is how international investors analyze the financial statements.

The income statement and cash flows statements of the Parent Company and its investees which have a functional currency other than US\$ are translated into US\$ at the average monthly exchange rate, the assets and liabilities are translated at the final rate and the other equity items are translated at the historical rate. All monetary exchange differences are recognized in comprehensive income as "Translation adjustments".

When a foreign operation is totally or partially disposed, the monetary exchange differences that were recorded in the equity are recognized in the income statement for the year, see accounting policy in note 16 of these financial statements.

The main exchange rates used by the Company to translate its foreign operations are as follows:

	Closing rate			Average rate		
	2024	2023	2022	2024	2023	2022
US Dollar ("US\$")	6.1923	4.8413	5.2177	5.3920	4.9954	5.1655
Canadian dollar ("CAD")	4.3047	3.6522	3.8550	3.9342	3.7026	3.9705
Euro ("EUR")	6.4363	5.3516	5.5694	5.8340	5.4023	5.4420

d) Critical accounting estimates and judgments

The preparation of financial statements requires the use of critical accounting estimates and Management also needs to exercise judgement in applying the Company's accounting policies.

The Company makes estimates about the future based on assumptions. Accounting estimates and judgments are continually evaluated and are based on management's experience and knowledge, information available at the date of the financial statements and other factors, including expectations of future events that are considered reasonable under the circumstances. Accounting estimates, by definition, will seldom equal the actual results.

The areas involving significant estimates or judgements or complexity, and of items which are more likely to be materially adjusted due to estimates and assumptions are presented in the following notes:

Note	Significant estimates and judgments
9	Deferred income taxes and uncertain tax positions
15	Liabilities related to the concession grant
16	Consolidation
19	Mineral reserves and mines useful life
20	Impairment of non-current assets
21	Fair values estimate
26	Liabilities related to Brumadinho
27	Liabilities related to associates and joint ventures
28	Provision for de-characterization of dam structures and asset retirement obligations
29	Litigation
30	Employee post-retirement obligation

e) Material accounting policies

The material accounting policies applied in the preparation of these financial statements have been included in the respective notes and are consistent in all years presented.

Notes to the Consolidated Financial Statements

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3. Significant events and transactions related to 2024 financial statements

- **Remuneration to shareholders** – During 2024, the Company approved dividends and interest on capital to its shareholders in the amount of US\$4,360 (R\$22,884 million). On February 19, 2025 (subsequent event), the Board of Directors approved remuneration to shareholders in the total amount of US\$1,596 (R\$9,143 million). Further details are presented in note 31(e) of these financial statements.
- **Impairment on assets related to nickel** – The Company identified impairment triggers related to its nickel operations in Thompson and Newfoundland and Labrador, both located in Canada. Therefore, Vale carried out an impairment test on these assets and recognized impairment losses of US\$1,945 in the income statement for the year ended December 31, 2024, as “(Impairment), reversal of impairment and gains (losses) on disposal of non-current assets, net”. Further details are presented in note 20(a) of these financial statements.
- **Renegotiation of railway concession contracts** – In December 2024, the general basis for the renegotiation of the concession contracts for the Carajás Railway and the Vitória a Minas railway were agreed between Vale, the Brazilian National Land Transportation Agency and the Brazilian Federal Government. The renegotiation will be performed under the terms of the concession contracts, which remain in force, aiming to promote their modernization and updating. As a result, Vale recorded an addition of US\$256 (R\$1,559 million) in the liability associated with the railway concessions and paid US\$656 (R\$4 billion) in advance. Further details are presented in note 15(a) of these financial statements.
- **Purchase of a minority stake in Anglo American Minério de Ferro Brasil S.A. (“Anglo American”)** – In December 2024, the Company completed the purchase of a 15% stake in Anglo American, of which the acquisition cost is substantially composed by the contribution of Serra da Serpentina assets to Anglo American, whose value was estimated at US\$750, in addition to a disbursement of US\$30. As a result, Anglo American became an associate and Vale recognized a gain of US\$626 in the income statement as “(Impairment), reversal of impairment and gains (losses) on disposal of non-current assets, net”. Further details are presented in note 17(a) of these financial statements.
- **Definitive Settlement related to the Samarco Mineração S.A. (“Samarco”) dam failure** – In October 2024, Vale, Samarco and BHP Billiton Brasil Ltda., together with the Brazilian Federal Government, the State Governments of Minas Gerais and Espírito Santo, the Federal and State Public Prosecutors’ and Public Defenders’ Offices and other Brazilian public entities, signed a definitive agreement on claims related to the collapse of the Samarco dam, which was ratified in November 2024. As a result, Vale recognized an additional provision of US\$956, recorded in the income statement as “Equity results and other results in associates and joint ventures”. Further details are presented in note 27 of these financial statements.
- **Debentures public offering** – In October 2024, the Company issued debentures of US\$1 billion (R\$6 billion) with maturities in 10, 12, and 15 years. Further details are presented in note 11(d) of these financial statements.
- **Divestment in Vale Oman Distribution Center (“VODC”)** – In September 2024, the Company completed the sale of 50% equity interest in VODC to AP Oryx Holdings LLC, for US\$600. As a result, VODC became a joint venture, and Vale recognized a gain of US\$1,222 in the income statement as “(Impairment), reversal of impairment and gains (losses) on disposal of non-current assets, net”. Further details are presented in note 17(b) of these financial statements.
- **Acquisition of Aliança Geração de Energia S.A. (“Aliança Energia”)** – In August 2024, the Company completed the acquisition of the entire stake held by Cemig Geração e Transmissão S.A. in Aliança Energia, for US\$493 (R\$2,737 million). As a result, Vale holds 100% of the shareholding and consolidates Aliança Energia. Further details are presented in note 17(c) of these financial statements.
- **Bond issuance and repurchase** – In June 2024, Vale issued bonds of US\$1 billion, maturing in 2054 with a coupon of 6.40% per year. In July 2024, this amount was substantially used to redeem bonds maturing in 2026, 2036, and 2039, in the total amount of US\$970. As a result of the repurchase, the Company paid a premium of US\$50, which was recorded in the income statement as “Financial expenses”. Further details are presented in note 11(c) of these financial statements.

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- **Divestment in PT Vale Indonesia (PTVI)** – In June 2024, the Company, together with Sumitomo Metal Mining Co. Ltd. and PT Mineral Industri Indonesia (“MIND ID”), completed the divestment transaction of PTVI. As a result, Vale received US\$155 and lost control over PTVI, which resulted in a gain of US\$1,059 recorded in the income statement as “(Impairment), reversal of impairment and gains (losses) on disposal of non-current assets, net”. Further details are presented in note 17(d) of these financial statements.
- **Strategic partnership in the Energy Transition Metals business** – In April 2024, the Company completed the transaction in which Manara Minerals acquired a 10% stake in Vale Base Metals Limited, which is the holding company for the Energy Transition Metals business, for US\$2,455. As a result, Vale recognized a gain of US\$895 in equity as “Transactions with noncontrolling shareholders”. Further details are presented in note 17(e) of these financial statements.

4. Climate-related financial information

Climate strategy

The Company has been integrating climate strategy into its business through a comprehensive approach, based on systematic planning and execution, prioritizing risk management and leveraging opportunities, as well as based on purpose to establish a social, economic and environmental legacy.

The announced investments and the Company's strategy with climate-related changes, initiatives were evaluated in the context of critical accounting estimates and judgments. Future changes in this strategy or in the global scenario may affect the Company's main estimates and may result in material impacts on the Company's results and balances of assets and liabilities in subsequent fiscal years.

Sphere of influence	Decarbonization targets	Description	Potential Impacts on Financial Statements
Operations	<ul style="list-style-type: none"> • Reduce absolute Scope 1 and 2 emissions by 33% by 2030. • Achieve net-zero Scope 1 and 2 emissions by 2050. 	Investment in solutions that increase the energy efficiency of processes and solutions that replace fossil energy raw materials with renewable sources or those with lower greenhouse gas (“GHG”) emission intensity of Scope 1.	<ul style="list-style-type: none"> • Investments in affiliates and joint ventures • Value chain operational costs and expenses to support decarbonization • Impairment and asset useful lives • Property, plant and equipments • Intangibles
		Investment in solutions for the consumption of electricity from renewable sources, aiming to reduce Scope 2 GHG emissions.	<ul style="list-style-type: none"> • Commitments related to electricity from renewable sources supply contracts • Property, plant and equipments • Value chain operational costs and expenses to support decarbonization • Lease of properties linked to the generation of electricity from renewable sources • Financial Instruments
Value Chain	<ul style="list-style-type: none"> • Reduce net Scope 3 emissions by 15% by 2035. • Contribute to the International Maritime Organization's (“IMO”) 2023 strategy to achieve net-zero greenhouse gas emissions by or around 2050. 	Limited use of high-integrity carbon credits for eventual offsetting of Scope 3 GHG emissions.	<ul style="list-style-type: none"> • Intangible • Retirement expense from the credit of carbon • Investments in subsidiaries, affiliates and joint ventures • Provisions
		Investment in solutions and technologies to reduce greenhouse gas emissions from international shipping.	<ul style="list-style-type: none"> • Research and development expenses for navigation solution • Value chain operational costs and expenses to support decarbonization

The Company evaluated its decarbonization targets by analyzing the criteria for recognition of provision according to IAS 37 – Provisions, Contingent Liabilities and Contingent Assets. There is no provision as of December 31, 2024 because the target does not represent a present obligation for the Company.

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Impact of transition risks related to climate change on the Company's assets

In the development of the strategic plan, the Company qualitatively evaluates scenarios related to climate change and defines the base case to guide the positioning of its business, as well as test resilience against other exploratory scenarios. The Company's approach to climate change is shaped by an analysis of global megatrends through a scenario-building tool. These scenarios offer insights associated to global temperatures increasing into the future of mining, that influence commodity price forecasts, capital allocation, portfolio decisions, and business strategies.

In this context, the Company observes the persistence of the characteristic cycles of the mining industry over the coming decades, driven by an energy transition that occurs asynchronously and unevenly between different sectors and regions. Vale carried out an analysis of the resilience of its portfolio in the face of climate change scenarios, based on the scenarios of the International Energy Agency.

The potential financial impacts of climate change and the transition to a low-carbon economy were considered in the evaluation of the Company's critical accounting estimates, including impairment indicators, such as possible reductions in demand for commodities due to changes in policies, regulatory environment (including carbon pricing mechanisms), legal, technological, market or reputational changes.

The Company did not identify any impairment of assets due to this topic. However, given the complexity of modeling, identifying additional risks and planning and executing actions in response to the identified risks, transition risks may result in material impacts on the Company's income and balance of assets and liabilities in subsequent fiscal years.

Impacts of physical risks related to climate change on the book values of assets

The Company's operations are also exposed to events resulting from climate change. Therefore, the Company is currently assessing the potential impacts of physical risks related to climate change in the models used in the asset impairment test, such as potential operational disruptions caused by increased frequency and/or severity of extreme and chronic weather events resulting from long-term changes in weather patterns.

The Company did not identify any impairment of assets in the financial statements of 2024 due to the physical risks considered in the valuation. However, due to the complexity of physical risk modeling, the continuous evolution of the ongoing nature of the Company's physical risk assessment process, the identification of additional risks may result in material impacts on the Company's income and balance of assets and liabilities in subsequent fiscal years.

Carbon pricing in Strategic Planning

Carbon pricing is one of the main strategic tools used by the Company for decision-making, allowing it to assess the global and geographically dispersed distribution of operating and customer markets. Incorporated into the cycle of scenario analysis and strategic planning, carbon pricing makes it possible to assess the financial impacts on business value over time. In the 2024 cycle, three main effects were analyzed: (i) the direct costs avoided through decarbonization, (ii) the net capital expenditures and operational expenses impacts associated with the Scope 1 and 2 reduction targets for 2030, and (iii) the potential increase in demand for agglomerated iron ore products, such as pellets and briquettes, driven by emission limit regulations and the search for lower-emission raw materials in the steel industry.

Carbon prices are integrated into the Marginal Abatement Cost Curve (MACC) as a shadow price, used for prioritization of investments and analysis of the net present value of projects. This approach ensures that the costs and risks associated with climate change are incorporated into the capital allocation and decarbonization strategy.

Decarbonization initiatives

The Company, in line with its strategy to decarbonization in its value chain, allocates resources to projects to reduce greenhouse gas emissions and meet climate goals. These efforts include technological upgrades, modification of production processes, as well as strategic partnerships.

Below are the main projects related to Vale's strategy to promote economic development in line with environmental preservation and sustainability, followed by financial effects.

Production of Iron Ore Briquette: In 2023, the first briquette plant was inaugurated at the Tubarão Complex, in Vitória, Espírito Santo. Iron ore briquette is one of the strategies implemented by the Company to increase the exploration of high-quality ores and offer new products in line with the demands for decarbonization of the steel industry. Currently, Vale has two iron ore briquette plants in the Tubarão Complex. The two briquette plants come from the conversion of pelletizing plants. As of December 31, 2024, the Company had a balance of US\$257 (2023: US\$259) in property, plant and equipment associated with the briquette plants.

Gelado Project: In March 2023, the Company started operations of the Gelado Project in Carajás (PA), which will produce *pellet feed* (iron ore for pelletizing) from the reuse of iron ore tailings, which have been deposited at the site for approximately

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four decades. In addition to destinate sustainably disposing of the tailings, the project will use 100% electric dredges to extract the material, avoiding greenhouse gas emissions. The final product is sent to the pelletizing plant in São Luiz (MA) due to the high quality of the pellets manufactured on site, steel customers are able to reduce their carbon emissions – compared to using lower quality products. As of December 31, 2024, the Company had a balance of US\$308 (2023: US\$390) in fixed assets related to the Gelado Project.

Sustainable sand: In October 2022, the Company created the company Co-log logística de coprodutos S.A ("Agera") to develop and expand its Sustainable Sand business. Agera receives the sand produced from the treatment of tailings generated by Vale's iron ore operations and promotes its commercialization and distribution. The new company also invests in research and development of new solutions for the product. In the year ended December 31, 2024, the Company recognized US\$1 (2023: US\$1 and 2022: US\$0) in income statement as research and development expenses.

Purchase of electricity from renewable sources: The Company also has *Power Purchase Agreements* ("PPAs") with suppliers of electricity based on renewable sources, which enables the reduction of scope 2 emissions. These contracts have been entered into and continue to be held for their own use purposes and are therefore outside the scope of IFRS 9 – *Financial Instruments*. PPAs are treated as executory contracts, and expenditures are recorded as incurred.

Vale Ventures: The Company announced the creation of a Corporate Venture Capital operation ("Vale Ventures"), whose objective is to invest in sustainable mining initiatives. The Company's objective is to acquire minority stakes in startups focused on initiatives for decarbonization in the mining chain, zero-waste mining, energy transition metals and other technologies.

As of December 31, 2024, the Company has investments totaling US\$52 (2023: US\$43). These investments include minority stakes in transformational biology startup Allonnia LLC, Boston Electrometallurgical Company Electrified Thermal Solutions and Mantel Capture, Inc, as well as investments in venture capital funds Evok Fund II Limited Partnership and Cathay Innovation Global Fund III ("Cathay Innovation").

Acquisition of carbon credits

One of the pillars to achieve the Vale decarbonization goals is the limited use of high-integrity carbon credits, following principles such as additionality, permanence, transparency, and contribution to sustainable development. The use of carbon credits will be a maximum of 20% of the absolute reduction in scope 3 emissions by 2035, equivalent to 17 MtCO₂e.

Vale and Algar Group Agreement: To encourage the voluntary carbon credit market, Vale and the Algar Group signed an agreement to purchase high-integrity forest carbon credits by 2030, equivalent to the protection of approximately 85 thousand hectares of forest. Each unit of carbon credit corresponds to one ton of carbon dioxide equivalent (CO₂) that is no longer emitted into the atmosphere in the case of this forest protection project.

Casa dos Ventos Partnership: Vale and Casa dos Ventos developed a carbon project called Folha Larga Sul de Energia Renováveis. The project consists of the implementation and operation of wind farms in the state of Bahia that will reduce greenhouse gas emissions, avoiding the generation of electricity from fossil fuel sources.

For each carbon credit transaction, Vale identifies its business model for subsequent classification, recognition and measurement of its asset. Carbon credits are recorded in intangible assets and measured at cost according to IAS 38 – *Intangible Assets*. Carbon credits intended for resale are recorded in the inventory and measured at fair value less the costs of sale according to IAS 2 – *Inventories*. The Company also evaluates whether there are derivatives embedded in the contracts for the purchase and sale of carbon credits in accordance with IFRS 9 – *Financial Instruments*.

Carbon pricing mechanism

The Company has operations from Energy Transition Metals segment in Canada, which are exposed to greenhouse gas emissions regulations. In the year ended December 31, 2024, the Company recorded carbon tax expenses in the amount of US\$11 (2023: US\$2 and 2022: US\$1).

Climate-related executive compensation

Executives' long-term remuneration targets are made up of performance conditions based on climate-related indicators, with 10% of the targets linked to the reduction of greenhouse gas emissions and 5% linked to Vale's performance in the Corporate Sustainability Assessment ("CSA"), used to select companies for the Dow Jones Sustainability Index ("DJSI"), note (30).

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5. Information by business segment and geographic area

In 2024, consistently with the reports analyzed by the executive committee and Board of Directors, the Company changed its adjusted EBITDA definition to include the “EBITDA from associates and joint ventures”, which is a measure of their “equity results” (note 15) excluding (i) net finance costs; (ii) depreciation, depletion, and amortization; (iii) taxation and (iv) (impairment), reversal of impairment and gains (losses) on disposal of non-current assets, net.

Therefore, the Company’s adjusted EBITDA is defined as operating income or loss, including the EBITDA from interests in associates and joint ventures; and excluding (i) depreciation, depletion, and amortization; and (ii) (impairment), reversal of impairment and gains (losses) on disposal of non-current assets, net and other. The comparative information in these financial statements was revised to reflect this change in the adjusted EBITDA definition.

Additionally, as a result of the reorganization of assets and the governance established for the Energy Transition Metals segment, due to the sale of noncontrolling interest in this segment (note 17e), the “Other” segment was reorganized for a better allocation of direct effects on the Iron Ore Solutions and Energy Transition Metals businesses. These effects were allocated to each segment starting from the year ended December 31, 2024.

Segment	Main activities
Iron Solutions	Comprise the extraction and production of iron ore, iron ore pellets, briquettes, other ferrous products, and its logistic related services.
Energy Transition Metals	Includes the extraction and production of nickel and its by-products (gold, silver, cobalt, precious metals and others), and copper, as well as its by-products (gold and silver).
Coal – discontinued operation (note 17l)	Comprise the extraction and production of metallurgical and thermal coal and its logistic related services.
Other	Includes corporate expenses not allocated to the operating segment, research and development of greenfield exploration projects, as well as expenses related to the Brumadinho event and decharacterization of dams and asset retirement obligations.

a) Adjusted EBITDA

	Notes	Year ended December 31,		
		2024	2023 (revised)	2022 (revised)
Iron ore		11,598	15,205	15,929
Iron ore pellets		3,166	3,136	3,758
Other ferrous products and services		321	473	410
Iron Solutions		15,085	18,814	20,097
Nickel		114	851	1,924
Copper		1,521	1,100	569
Other energy transition metals		(182)	12	-
Energy Transition Metals		1,453	1,963	2,493
Other (i)		(1,698)	(2,176)	(2,210)
Adjusted EBITDA from continuing operations		14,840	18,601	20,380
Depreciation, depletion and amortization		(3,057)	(3,070)	(3,171)
(Impairment), reversal of impairment and gains (losses) on disposal of non-current assets, net and other (ii)	17 and 20	(55)	(482)	773
EBITDA from associates and joint ventures		(940)	(844)	(774)
Operating income		10,788	14,205	17,208
Equity results and other results in associates and joint ventures	16	(269)	(1,108)	305
Financial results, net	7	(3,823)	(1,946)	2,268
Income before income taxes from continuing operations		6,696	11,151	19,781

(i) Includes US\$145 related to expenses of Vale Base Metals Limited that were not allocated to the operating segment for the year ended December 31, 2024.

(ii) Includes an adjustment of US\$356 for the year ended December 31, 2024 (2023: US\$216), to reflect the performance of streaming transactions at market prices.

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	Notes	Year ended December 31,		
		2024	2023	2022
Adjusted EBITDA from discontinued operations (coal)		-	-	171
(Impairment), reversal of impairment and gains (losses) on disposal of non-current assets, net		-	-	(589)
Operating loss	17(l)	-	-	(418)
Financial results, net		-	-	3,065
Derecognition of noncontrolling interest		-	-	(585)
Net income from discontinued operations (coal)	17(l)	-	-	2,062

b) Net operating revenue by shipment destination

	Year ended December 31, 2024								
	Iron Solutions				Energy Transition Metals				
	Iron ore	Iron ore pellets	Other ferrous products and services	Total Iron Solutions	Nickel and other products	Copper	Other energy transition metals	Total Energy Transition Metals	Net operating revenue
China (i)	18,157	-	-	18,157	432	717	69	1,218	19,375
Japan	2,380	278	2	2,660	360	-	30	390	3,050
Asia, except Japan and China	2,040	378	11	2,429	381	77	-	458	2,887
Brazil	1,085	1,706	704	3,495	50	-	20	70	3,565
United States of America	26	172	-	198	855	-	22	877	1,075
Americas, except United States and Brazil	-	443	1	444	429	97	-	526	970
Germany	316	188	-	504	401	562	-	963	1,467
Europe, except Germany	794	146	-	940	727	1,352	-	2,079	3,019
Middle East, Africa, and Oceania	7	2,610	-	2,617	31	-	-	31	2,648
Net operating revenue	24,805	5,921	718	31,444	3,666	2,805	141	6,612	38,056

	Year ended December 31, 2023								
	Iron Solutions				Energy Transition Metals				
	Iron ore	Iron ore pellets	Other ferrous products and services	Total	Nickel and other products	Copper	Total	Other	Net operating revenue
China (i)	21,061	2	-	21,063	693	454	1,147	-	22,210
Japan	2,356	279	1	2,636	583	-	583	-	3,219
Asia, except Japan and China	1,691	407	10	2,108	462	105	567	-	2,675
Brazil	1,370	1,684	502	3,556	63	-	63	136	3,755
United States of America	-	262	-	262	1,361	-	1,361	-	1,623
Americas, except United States and Brazil	1	398	1	400	456	41	497	-	897
Germany	244	55	2	301	458	592	1,050	-	1,351
Europe, except Germany	1,037	374	-	1,411	1,082	1,184	2,266	-	3,677
Middle East, Africa, and Oceania	-	2,342	-	2,342	35	-	35	-	2,377
Net operating revenue	27,760	5,803	516	34,079	5,193	2,376	7,569	136	41,784

	Year ended December 31, 2022								
	Iron Solutions				Energy Transition Metals				
	Iron ore	Iron ore pellets	Other ferrous products and services	Total	Nickel and other products	Copper	Total	Other	Net operating revenue
China (i)	21,021	41	7	21,069	1,627	128	1,755	-	22,824
Japan	2,557	208	-	2,765	765	5	770	-	3,535
Asia, except Japan and China	1,552	393	13	1,958	395	98	493	47	2,498
Brazil	1,305	1,997	447	3,749	60	-	60	328	4,137
United States of America	-	218	-	218	1,425	-	1,425	-	1,643
Americas, except United States and Brazil	-	472	5	477	597	-	597	125	1,199
Germany	357	16	-	373	597	551	1,148	-	1,521
Europe, except Germany	1,396	317	-	1,713	1,126	997	2,123	-	3,836
Middle East, Africa, and Oceania	-	2,594	-	2,594	27	-	27	25	2,646
Net operating revenue	28,188	6,256	472	34,916	6,619	1,779	8,398	525	43,839

(i) Includes operating revenue of China Mainland in the amount of US\$18,556 (2023: US\$21,577 and 2022: US\$22,203) and Taiwan in the amount of US\$819 (2023: US\$633 and 2022: US\$621).

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In 2024 and 2022, no customer individually represented 10% or more of the Company's revenue. In 2023, the revenue from a single customer from the Iron Solutions segment totaled US\$4,239, individually representing 10% of the Company's total revenue.

c) Cost of goods sold and services rendered

	Year ended December 31,		
	2024	2023	2022
Iron ore	12,846	12,357	11,929
Iron ore pellets	2,920	2,759	2,682
Other ferrous products and services	556	335	335
Iron Solutions	16,322	15,451	14,946
Nickel	3,414	4,169	4,541
Copper	1,472	1,357	1,049
Other energy transition metals	154	-	-
Energy Transition Metals	5,040	5,526	5,590
Other (i)	-	196	443
	21,362	21,173	20,979
Depreciation, depletion and amortization	2,903	2,916	3,049
Cost of goods sold and services rendered	24,265	24,089	24,028

(i) It includes costs of the Midwestern system (note 17i) and the discontinued operation of coal (note 17l).

d) Assets by geographic area

	December 31, 2024				December 31, 2023			
	Investments in associates and joint ventures	Intangible	Property, plant and equipment	Total	Investments in associates and joint ventures	Intangible	Property, plant and equipment	Total
Brazil	2,046	8,847	28,706	39,599	1,872	9,822	33,769	45,463
Canada	-	1,666	9,452	11,118	-	1,808	11,890	13,698
Americas, except Brazil and Canada	-	-	3	3	-	-	4	4
Indonesia	1,885	-	61	1,946	-	-	59	59
China	-	1	4	5	-	1	14	15
Asia, except Indonesia and China	-	-	654	654	-	-	731	731
Europe	-	-	589	589	-	-	678	678
Oman	616	-	515	1,131	-	-	1,251	1,251
Total	4,547	10,514	39,984	55,045	1,872	11,631	48,396	61,899

Accounting policy

Revenue from sales – Revenue from sales is recognized when control of a good or service is transferred to a customer. Given the diverse shipping terms associated with Vale's sales, revenue may be recognized at various stages: (i) when the product is available at the loading port, (ii) upon loading onto the ship, (iii) at the port of discharge, or (iv) at the customer's warehouse.

A substantial portion of Vale's sales operates under Cost and Freight ("CFR") and Cost, Insurance, and Freight ("CIF") Incoterms. In these instances, where the Company provides shipping services after the transfer of control, such services are treated as a distinct performance obligation. A portion of the transaction price is allocated and recognized over time as the shipping services are rendered.

Typically, contract payment terms involve upfront payments or the utilization of letters of credit. These terms generally do not have a significant financing component. Occasionally, sale prices are provisionally set at the sale date, with subsequent adjustments based on market fluctuations or contractual terms until the final pricing date.

Revenue recognition is based on the estimated fair value of the total consideration receivable. The provisional pricing mechanism embedded in these sales arrangements is deemed to have the characteristics of a derivative. Consequently, the fair value of the final sale price adjustment is continuously reassessed, and any changes are recognized as operational revenue in the income statement.

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6. Costs and expenses by nature

a) Cost of goods sold, and services rendered

	Year ended December 31,		
	2024	2023	2022
Freight	4,749	4,251	4,738
Services	4,509	4,131	3,614
Depreciation, depletion and amortization	2,903	2,916	3,049
Materials	2,758	2,731	2,256
Personnel	2,689	2,931	2,684
Acquisition of products	1,980	2,254	2,566
Fuel oil and gas	1,399	1,626	1,630
Royalties	1,282	1,286	1,268
Energy	653	781	719
Others	1,343	1,182	1,504
Total	24,265	24,089	24,028

b) Selling and administrative expenses

	Year ended December 31,		
	2024	2023	2022
Personnel	266	243	230
Services	161	154	142
Depreciation and amortization	56	47	41
Advertisement	21	26	22
Other	118	83	80
Total	622	553	515

c) Other operating revenues (expenses), net

	Notes	Year ended December 31,		
		2024	2023	2022
Expenses related to Brumadinho event	26	(483)	(930)	(1,079)
Reversal (increase) in provisions related to de-characterization of dam and asset decommissioning obligation	28	172	(229)	(128)
Provision for litigations	29	(303)	(229)	(153)
Profit sharing program		(189)	(147)	(131)
Expenses related with socio-environmental commitments		(360)	(181)	(180)
Other		(326)	218	(51)
Total		(1,489)	(1,498)	(1,722)

Notes to the Consolidated Financial Statements

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7. Financial results

	Notes	Year ended December 31,		
		2024	2023	2022
Financial income				
Short-term investments		328	309	440
Other		94	123	80
		422	432	520
Financial expenses				
Loans and borrowings interest	11(c)	(791)	(725)	(565)
Bond premium repurchase	11(c)	(50)	(22)	(113)
Interest on supplier finance arrangements	14	(162)	(203)	(51)
Interest on REFIS		(91)	(148)	(152)
Interest on lease liabilities	25	(49)	(62)	(64)
Other		(330)	(299)	(234)
		(1,473)	(1,459)	(1,179)
Other financial items, net				
Foreign exchange and indexation gains (losses), net		(1,388)	(1,643)	(975)
Participative shareholders' debentures	23	(175)	(179)	659
Financial guarantees	33(b)	-	-	481
Derivative financial instruments, net	21	(1,209)	903	1,154
Reclassification of cumulative translation adjustments to the income statement	16(a) and 17	-	-	1,608
		(2,772)	(919)	2,927
Total		(3,823)	(1,946)	2,268

Accounting policy

Transactions in foreign currencies are translated into the functional currency using the exchange rate effective on the date of the transaction. The foreign exchange gains and losses resulting from the translation at the exchange rates prevailing at the end of the year are recognized in the income statement as "financial income or expense". The exceptions are transactions related to qualifying net investment hedges, cash flow hedge or items that are attributable to the net investment in a foreign operation, for which gains, and losses are recognized as a component of other comprehensive income.

The accounting policies related to the other items of the financial result are shown in the notes, "16. Investments in subsidiaries, associates, and joint ventures", "23. Participative shareholders' debentures", "24. Loans, borrowing, cash and cash equivalents and short-term investments" and "25. Leases".

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8. Streaming transactions

a) Statement of Financial Position

	December 31, 2024			December 31, 2023		
	Current liabilities	Non-current liabilities	Total	Current liabilities	Non-current liabilities	Total
Gold streaming	136	1,442	1,578	68	1,521	1,589
Cobalt streaming	22	439	461	22	441	463
Total contract liabilities	158	1,881	2,039	90	1,962	2,052

b) Effects on the income statement

	Year ended December 31,		
	2024	2023	2022
Cobalt streaming	19	14	49
Gold streaming	122	134	37
Fixed revenue - Contract liabilities realized	141	148	86
Cobalt streaming	4	3	11
Gold streaming	102	93	74
Variable revenue - Additional payments received	106	96	85

Gold streaming

Vale have sold to Wheaton Precious Metals Corp. ("Wheaton") an aggregate of (i) 75% of the by-product gold contained in concentrate from our Salobo copper mine, in Brazil, for the life of mine, and (ii) 70% of the by-product gold from our Sudbury nickel mines, in Canada, for 20 years. Regarding these streaming transactions:

Vale received upfront payments of (i) US\$1.9 billion in 2013, (ii) US\$900 in 2015 and (iii) US\$800 in 2016. Vale also receives ongoing payments of the lesser of 400 United States dollars per ounce and the prevailing market price, for each ounce of gold that the Company deliver under the agreement.

As per the Salobo gold by-product stream purchase agreement, Vale was entitled to receive an additional cash payment if the Company expanded its capacity to process Salobo copper ores to certain level before 2036. In March 2023, Vale agreed with Wheaton to amend this agreement to adjust the additional cash payment terms. These conditions are linked to the "Salobo III" project, which is the brownfield expansion of Salobo through the increase in copper processing capacity.

In November 2023, the first phase of the Salobo III expansion project was completed and Vale received US\$370, which was recorded in the streaming liabilities. Additionally, Wheaton will be required to make annual payments between US\$5.1 and US\$8.5 from 2024 to 2034, as long as the Salobo complex continues to produce within certain copper grades.

Cobalt streaming

In June 2018, Vale sold to Wheaton and Cobalt 27 Capital Corp. ("Cobalt 27") a combined 75% of the cobalt produced as a by-product at its Voisey's Bay mine from January 1, 2021, with the amount of US\$690. Vale also receives additional payments of 20%, in average, of cobalt prices upon delivery. In February 2021, the stream originally sold to Cobalt 27 was assigned to Anglo Pacific Group.

Accounting policy

The Company bifurcates both streaming transactions in two identifiable components: (i) the sale of the mineral rights and (ii) extraction services.

Sale of mineral rights - The amount allocated to this component is recognized as revenue in the income statement when the Company transfers ownership of the mineral rights to the counterparty. The cost related to the component sold is recognized in the income statement at the same moment.

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Extraction services – The Company recognizes contract liabilities in the event it receives payments from customers before a sale meets criteria for revenue recognition. Proceeds received under the terms of the streaming transaction allocated to this component are accounted for as “streaming transactions” and included within liabilities.

Contract liability is initially recognized at fair value, net of transaction costs incurred, and is subsequently carried at amortized cost and updated using the effective interest rate method. Contract liability is released to the income statement based on the units of production, that is, revenue is calculated based on volume produced compared to the total proved and probable reserves of gold or cobalt, which are reviewed and remeasured annually.

9. Taxes

In December 2021, the Organization for Economic Co-operation and Development (“OECD”) released the Pillar Two model rules to reform international corporate taxation. Multinational economic groups within the scope of these rules are required to calculate their effective tax rate in each country where they operate, the “GloBE effective tax rate”.

When the effective GloBE rate of any entity in the economic group, aggregated by jurisdiction where the group operates, is lower than the minimum rate defined at 15%, the multinational group must pay a supplementary amount of tax on profit, referring to the difference between its rate effective GloBE and the minimum tax rate.

From 2024, the Company is already subject to OECD Pillar Two model rules in the Netherlands, Switzerland, Australia, United Kingdom, Japan, Luxembourg and Canada. In Brazil, Law No. 15,079/24 and Normative Instruction RFB No. 2,245/24 were published in December 2024 to align Brazilian tax legislation with the OECD’s GloBE rules with effects from January 1, 2025.

However, the Company does not expect material impacts on the calculation of income tax or on the financial statements for the current and future periods, mainly due to the application of the simplifying rules (“Safe Harbor”) in the GloBE computation.

The Company applied the relief from the requirement to recognize and disclose deferred taxes arising from enacted or substantively enacted tax law that implements the Pillar Two model rule, according to IAS 12 – Income taxes.

a) Income tax reconciliation

The reconciliation of the taxes calculated according to the nominal tax rates and the amount of taxes recorded is shown below:

		Year ended December 31,		
	Notes	2024	2023	2022
Income before income taxes		6,696	11,151	19,781
Income taxes at statutory rate (34%)		(2,277)	(3,791)	(6,726)
Adjustments that affect the taxes basis:				
Tax incentives		1,428	1,860	1,803
Provision related to Samarco	27(c)	(361)	(404)	-
Gain on divestment in VODC	17(b)	189	-	-
Gain on acquisition of Aliança Energia	17(c)	104	-	-
Gain on divestment in PTVI	17(d)	358	-	-
Equity results	16	103	88	84
Addition of tax loss carryforward		617	409	899
Unrecognized tax losses of the year		(127)	(115)	(197)
Reclassification of cumulative adjustments to the income statement		24	-	547
Effects on tax computation of foreign operations		(406)	(102)	(37)
Reversal of deferred income tax related to Renova Foundation	27(e)	-	(1,078)	-
Other		(373)	87	656
Income taxes		(721)	(3,046)	(2,971)
Current tax		(2,008)	(1,375)	(2,020)
Deferred tax		1,287	(1,671)	(951)
Income taxes		(721)	(3,046)	(2,971)

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b) Deferred income tax assets and liabilities

Tax loss carryforward does not expire in the Brazilian jurisdiction and their compensation is limited to 30% of the taxable income for the year. The local profits of foreign subsidiaries are also taxed in Brazil and there is no restriction on their offset against tax losses generated previously by the foreign entity.

	Deferred tax assets		Deferred tax liabilities	
	Year ended December 31,			
	2024	2023	2024	2023
Taxes losses carryforward	5,516	5,704	-	-
Temporary differences:				
Asset retirement obligations and other liabilities	2,829	4,165	(509)	(807)
Fair value of financial instruments	932	735	-	-
Employee post-retirement obligation	368	478	-	-
Provision for litigation	327	306	-	-
Fair value of property, plant and equipment and intangibles in business combination	-	-	(1,695)	(2,034)
Goodwill amortization	-	-	(462)	(575)
Other	494	723	-	-
	10,466	12,111	(2,666)	(3,416)
Financial position				
Assets	8,244	9,565	-	-
Liabilities	-	-	(445)	(870)

The following table shows the changes in deferred tax assets and liability:

	Assets	Liabilities	Deferred taxes, net
Balance as of December 31, 2022	10,770	1,413	9,357
Taxes losses carryforward	(609)	-	(609)
Provision for asset retirement obligations and other liabilities	(1,123)	86	(1,209)
Fair value of financial instruments	(168)	-	(168)
Fair value of intangibles and property, plant and equipment in business combination	-	(64)	64
Other	251	-	251
Effect in income statement	(1,649)	22	(1,671)
Employee post-retirement obligation	34	-	34
Fair value of financial instruments	32	-	32
Other comprehensive income	66	-	66
Transfer between assets and liabilities	(371)	(371)	-
Translation adjustment	749	19	730
Transfer to asset to held for sale	-	(213)	213
Balance as of December 31, 2023	9,565	870	8,695
Taxes losses carryforward	937	-	937
Provision for asset retirement obligations and other liabilities	(361)	18	(379)
Fair value of financial instruments	393	-	393
Fair value of intangibles and property, plant and equipment in business combination	-	(397)	397
Other	(61)	-	(61)
Effect in income statement	908	(379)	1,287
Employee post-retirement obligation	(20)	26	(46)
Fair value of financial instruments	(1)	-	(1)
Other comprehensive income	(21)	26	(47)
Transfer between assets and liabilities	(250)	(250)	-
Translation adjustment	(1,953)	(130)	(1,823)
Incorporations, acquisitions and divestments (i)	(5)	308	(313)
Balance as of December 31, 2024	8,244	445	7,799

(i) Includes mainly the amount of US\$312 related with the deferred income tax liability assumed due to the acquisition of Aliança Geração de Energia S.A. (note 17c).

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c) Tax incentives

In Brazil, the Company has tax incentives to partially reduce the income tax generated by the operations conducted in the North region that includes iron ore and copper. The incentive is calculated based on the taxable income of the incentive activity (tax operating income) and considers the allocation of tax operating income into different incentives applicable to different tranches of production during specified periods for each product, usually 10 years. In addition to these incentives, the income tax payable can be reduced by investing in the acquisition of new machinery and equipment, subject to subsequent approval by the Superintendence for the Development of the Amazon ("SUDAM").

As determined by the Brazilian law, the tax savings obtained due to these incentives must be recorded in the retained earnings reserve in equity and cannot be distributed as dividends to shareholders.

The Company's tax incentives are expected to expire substantially in 2033. The effects on the income statement are presented as "tax incentives" in item (a) of this note.

d) Income taxes – Settlement programs ("REFIS")

	December 31, 2024	December 31, 2023
Current liabilities	353	428
Non-current liabilities	1,007	1,723
REFIS liabilities	1,360	2,151
SELIC rate	12.25%	11.75%

The balance mainly relates to the settlement program of claims regarding the collection of income tax and social contribution on equity gains of foreign subsidiaries and affiliates from 2003 to 2012. This amount bears SELIC interest rate (Special System for Settlement and Custody) and will be paid in monthly installments until October 2028 and the impact of the SELIC over the liability is recorded under the Company's financial results (note 7).

e) Uncertain tax positions ("UTP")

The Company is engaged in administrative and judicial discussions with tax authorities in Brazil in relation to certain tax positions adopted by the Company for calculating income tax and social contribution on net income. The final determination is uncertain and depends on factors not controlled by the Company, such as changes in case law and changes in tax laws and regulations. The tax positions adopted by Vale are supported by legal advisors and the Company is subject to the assessment of income tax by local tax authorities in a range up to 10 years depending on jurisdiction where the Company operates.

The amount under discussion with the tax authorities is US\$6,535 as of December 31, 2024 (2023: US\$5,408), which includes the reduction of tax losses in the amount of US\$596 as of December 31, 2024 (2023: US\$754), if the tax authority does not accept the tax treatment adopted by the Company in relation to these matters.

	December 31, 2024			December 31, 2023		
	Assessed (i)	Not in dispute (ii)	Total	Assessed (i)	Not in dispute (ii)	Total
UTPs not recorded on statement of financial position (iii)						
Transfer pricing over the exportation of ores to a foreign subsidiary	3,387	1,608	4,995	2,144	3,010	5,154
Expenses of interest on capital	1,262	-	1,262	1,511	-	1,511
Proceeding related to income tax paid abroad	427	-	427	512	-	512
Goodwill amortization	743	62	805	606	190	796
Payments to Renova Foundation	301	351	652	167	536	703
Other	415	-	415	468	-	468
	6,535	2,021	8,556	5,408	3,736	9,144
UTPs recorded as part of the taxes payable liability on statement of financial position						
Deduction of CSLL in Brazil	154	-	154	183	-	183
	154	-	154	183	-	183

(i) Includes the assessments received, related to the tax effects arising from the reduction of the tax losses and negative basis of the CSLL presented below, without fines and interest, whether or not materialized.

(ii) Includes the principal, without fines and interest.

(iii) Based on the assessment of its internal and external legal advisors, the Company believes that the tax treatment adopted for these matters will be accepted in decisions of the higher courts on last instance.

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Transfer pricing calculation over the exportation of ores to a foreign subsidiary – The Company was assessed for the IRPJ and CSLL, for the years of 2015 and 2020 as the tax agent has disregarded the intermediation costs and other adjustments used in the calculation of the transfer pricing over the exportation of iron ore, pellets, manganese, and copper to its foreign controlled company. The Company is challenging these assessments at the administrative level and a decision is pending.

The Company maintains the method of calculating the transfer pricing, as it considers it to be the most appropriate tax treatment for interpreting the rules in force and applicable to the subject and is discussing the charges at the administrative level.

The total amount in dispute is US\$2,979 as of December 31, 2024 (2023: US\$1,630), excluding the corresponding tax impact without fines and interests of US\$408 as of December 31, 2024 (2023: US\$514), totaling US\$3,387 (2023: US\$2,144). The amount involved for the period, which are not in dispute, is US\$1,608 as of December 31, 2024 (2023: US\$3,010).

Expenses of interest on equity capital (“JCP”) – Vale received assessments for the collection of IRPJ, CSLL and fines, on the grounds that the deduction of JCP was improper, referring to the base years of 2017 and 2018, due to failure to comply with the accrual basis and absence of individualized accounting credit per shareholder. The amount under discussion is US\$1,149 as of December 31, 2024 (2023: US\$1,367), excluding the corresponding tax impact without fines and interests of US\$113 as of December 31, 2024 (2023: US\$144), totaling US\$1,262 (2023: US\$1,511). The Company presented administrative defenses for these assessments and is awaiting a decision.

Offset of the income tax paid abroad – Vale received a tax assessment for the collection of US\$427 (2023: US\$512) due to the disregard of taxes paid abroad that were offset by the IRPJ debt in 2016. Tax authorities allege the Company has failed to comply with the applicable rules relating to the offset, in Brazil, of income taxes paid abroad. The Company had filed an administrative appeal, and a decision is pending.

Goodwill amortization – The Company received tax assessments for the collection of IRPJ and CSLL for the periods between 2013 and 2019, due to the disregard of the deduction of goodwill amortization expenses recorded in the acquisition of controlled companies, after its merger by the Company.

The Company is discussing the charges at the administrative level and the amount under discussion is US\$692 as of December 31, 2024 (2023: US\$540), excluding the corresponding tax impact without fines and interests of US\$51 as of December 31, 2024 (2023: US\$66), totaling US\$743 (2023: US\$606). The amount involved for the period, which are not in dispute, is US\$62 (2023: US\$190).

Payments to Renova Foundation – The Company deducted payments made to Renova Foundation arising from the obligation entered into the Transaction and Conduct Adjustment Agreement (“TTAC”). Vale understands that the deduction of such expenses is adequate, since its liability is objective, arising from the obligation arising from the TTAC and its status as a shareholder of Samarco and as a sponsor of Renova Foundation.

The mentioned payments were deducted until April 2023 when Vale entered into a binding agreement jointly with BHPB, Samarco, and certain creditors of Samarco, establishing the parameters for the restructuring of Samarco's debt. This restructuring was implemented through a consensual reorganization plan, which was approved by the Judicial Recovery Court in September 2023. According to the agreement, contributions made by Vale to the Renova Foundation from May 2023 onward will be converted into capital contributions to Samarco and, therefore, will no longer be deductible. Further details on Samarco's judicial recovery are provided in note 27 of these financial statements.

The Company received tax assessment notices for the periods 2016, 2018 and 2019, for the collection of IRPJ and CSLL on the grounds that expenses incurred with Renova Foundation were unduly deducted for allegedly not being considered necessary. The total amount assessed is US\$280 for the year ended December 31, 2024 (2023: US\$140), excluding the corresponding tax impact without fines and interests of US\$21 as of December 31, 2024 (2023: US\$27), totaling US\$301 (2023: US\$167). The amount involved for the period, which are not in dispute, is US\$351 (2023: US\$536).

Deduction of CSLL from the taxable income – In 2004, a definitive decision of the Superior Court of Justice (“STJ”) granted to the Company the right to deduct the Social Contribution on Net Income (“CSLL”) from the taxable base of the corporate income tax (“IRPJ”). The Federal Government filed a rescission action (“ação rescisória”) in 2006, seeking to reverse the 2004 decision. In 2019, the Federal Court of Appeals (“TRF”) upheld the rescission action and, although the decision was not final, the Company decided not to deduct the CSLL from the taxable income since then.

Meanwhile, the Federal Supreme Court (“STF”) is judging two extraordinary appeals with impact to all taxpayers. These appeals are discussing how long a court decision related to a tax matter would remain valid if the STF had subsequently issued a contrary decision. Due to the developments of this matter in the STF and based on the updated assessment of its

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legal advisors, the Company concluded that the tax treatment previously adopted will probably not be accepted by the tax authority and, therefore, it recognized a liability as "Tax payable" of US\$154 for the year ended December 31, 2024 (2023: US\$183).

f) Recoverable and payable taxes

	December 31, 2024			December 31, 2023		
	Current assets	Non-current assets	Current liabilities	Current assets	Non-current assets	Current liabilities
Value-added tax ("ICMS")	260	3	34	232	5	25
Brazilian federal contributions ("PIS" and "COFINS")	266	975	12	355	1,010	615
Income taxes	564	319	317	302	358	429
Financial compensation for the exploration of mineral resources ("CFEM")	-	-	63	-	-	93
Other	10	-	148	11	1	152
Total	1,100	1,297	574	900	1,374	1,314

Accounting policy

For the Vale S.A.'s subsidiaries that operate in jurisdictions where the tax rate is lower than the tax rate applicable in Brazil, the Brazilian corporate tax law requires Vale S.A. to pay in Brazil the income tax related with the referred rate differential. Therefore, the income tax charge is computed in the consolidated financial statements using the tax rate enacted at the end of the reporting period in Brazil.

Management regularly assesses positions taken in tax returns concerning situations where applicable tax regulations are subject to interpretation. Provisions are established, as needed, based on expected amounts payable to tax authorities. Liabilities related to uncertain tax positions are recorded only when it is deemed, with a more-likely-than-not probability, that these positions will withstand challenges, if any, from taxing authorities, based on input from internal and external legal advisors.

Deferred income taxes are recognized for temporary differences between the carrying amount and the tax basis of assets and liabilities, as well as tax losses carryforwards. However, deferred tax liabilities arising from the initial recognition of goodwill are not recognized. Additionally, deferred income tax is not accounted for if it arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither accounting profit nor taxable profit (tax loss) and does not give rise to equal taxable and deductible temporary differences. Offset of deferred tax assets and liabilities occurs when there is a legally enforceable right to offset current tax assets and liabilities, and when the deferred tax balances pertain to the same taxation authority.

Deferred tax assets resulting from tax losses and temporary differences are not recognized when it is not probable that future taxable profit will be available against which these differences and/or tax losses can be utilized. The Company evaluates annually the recoverability of these deferred tax assets through the revision of the future taxable profit estimates.

Current and deferred tax is recognized in profit or loss unless it relates to items recognized in other comprehensive income or directly in equity. In such cases, the tax is also recognized in other comprehensive income or directly in equity, respectively.

Critical accounting estimates and judgments

Deferred income tax - Significant judgements, estimates and assumptions are required to determine the amount of deferred tax assets that are recognized based on the likely timing and future taxable profits. Deferred tax assets arising from tax losses carryforward and temporary differences are recognized considering assumptions and projected cash flows. Deferred tax assets may be affected by factors including, but not limited to: (i) internal assumptions on the projected taxable income, which are based on production and sales planning, commodity prices, operational costs and planned capital costs; (ii) macroeconomic environment; and (iii) trade and tax scenarios.

Uncertain tax positions - The Company applies significant judgement to assess the probability that the adopted treatment will be accepted by the taxation authorities, which could impact the consolidated financial statements. The Company operates in multiple jurisdictions where uncertainties arise in the application of complex tax regulations. The Company and its subsidiaries are subject to reviews of income tax filings and other tax payments, and disputes can arise with the taxing authorities over the interpretation of the applicable laws and regulations.

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10. Basic and diluted earnings per share

The basic and diluted earnings per share are presented below:

	Year ended December 31,		
	2024	2023	2022
Net income attributable to Vale S.A.'s shareholders			
Net income from continuing operations	6,166	7,983	16,728
Net income from discontinued operations	-	-	2,060
Net income	6,166	7,983	18,788
Thousands of shares			
Weighted average number of common shares outstanding	4,274,854	4,366,130	4,637,794
Weighted average number of common shares outstanding and potential ordinary shares	4,279,867	4,369,961	4,642,432
Basic and diluted earnings per share from continuing operations			
Common share (US\$)	1.44	1.83	3.61
Basic and diluted earnings per share from discontinued operations			
Common share (US\$)	-	-	0.44
Basic and diluted earnings per share attributable to Vale S.A.'s shareholders			
Common share (US\$)	1.44	1.83	4.05

11. Cash flows reconciliation

a) Cash flow from operating activities

	Notes	Year ended December 31,		
		2024	2023	2022
Cash flow from operating activities:				
Income before income taxes		6,696	11,151	19,781
Adjusted for:				
Equity results and other results in associates and joint ventures	16	269	1,108	(305)
(Impairment), reversal of impairment and gains (losses) on disposal of non-current assets, net	20	(301)	266	(773)
Provisions related to Brumadinho	26	116	461	400
Provision for de-characterization of dams	28	(206)	153	72
Depreciation, depletion and amortization		3,057	3,070	3,171
Financial results, net	7	3,823	1,946	(2,268)
Changes in assets and liabilities:				
Accounts receivable	12	1,668	197	(325)
Inventories	13	(549)	(214)	45
Suppliers and contractors	14	(360)	637	495
Other assets and liabilities, net		(446)	(1,523)	(1,531)
Cash flow from operations		13,767	17,252	18,762

b) Cash flow from investing activities

	Notes	Year ended December 31,		
		2024	2023	2022
Cash paid for the purchase of Anglo American Brasil shares	17(a)	(30)	-	-
Proceeds from partial disposal of VODC shares	17(b)	600	-	-
Cash paid for the acquisition of Aliança Energia shares	17(c)	(493)	-	-
Proceeds from the partial disposal of PTVI shares	17(d)	155	-	-
Proceeds from the partial disposal of VBML shares	17(e)	2,455	-	-
Disbursement related to MRN sale	17(f)	-	(72)	-
Proceeds from the divestment of Companhia Siderúrgica do Pecém	17(h)	-	1,082	-
Cash contribution to Companhia Siderúrgica do Pecém	17(h)	-	(1,149)	-
Proceeds from the sale of Midwestern System	17(i)	-	-	140
Proceeds from the sale of California Steel Industries	17(j)	-	-	437
Cash received (paid) from disposal and acquisition of investments, net		2,687	(139)	577

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c) Reconciliation of debt to cash flows arising from financing activities

	Quoted in the secondary market	Debt contracts in Brazil	Debt contracts on the international market	Total
December 31, 2022	6,497	280	4,404	11,181
Additions	1,500	-	450	1,950
Payments (i)	(542)	(50)	(66)	(658)
Interest paid (ii)	(454)	(24)	(265)	(743)
Cash flow from financing activities	504	(74)	119	549
Effect of exchange rate	19	20	(64)	(25)
Interest accretion	454	24	288	766
Non-cash changes	473	44	224	741
December 31, 2023	7,474	250	4,747	12,471
Additions	2,033	-	2,822	4,855
Payments (i)	(1,037)	(46)	(1,522)	(2,605)
Interest paid (ii)	(527)	(20)	(321)	(868)
Cash flow from financing activities	469	(66)	979	1,382
Acquisition of Aliança Energia	214	32	-	246
Effect of exchange rate	(121)	101	(164)	(184)
Interest accretion	503	20	354	877
Non-cash changes	596	153	190	939
December 31, 2024	8,539	337	5,916	14,792

(i) Includes bond premium repurchase.

(ii) Classified as operating activities in the statement of cash flows.

Funding

- In January 2025 (subsequent event), the Company contracted a loan of US\$270 with commercial banks indexed to Secured Overnight Financing Rate ("SOFR") plus spread adjustments and maturing in 2029.
- In December 2024, the Company contracted a loan of US\$50 with DBS Bank indexed to SOFR plus spread adjustments and maturing in 2026.
- In December 2024, the Company contracted a loan of US\$250 with The Hongkong and Shanghai Banking Corporation indexed to SOFR plus spread adjustments and maturing in 2028.
- In November 2024, the Company contracted a loan of US\$300 with BBM Bank indexed to SOFR plus spread adjustments and maturing in 2029.
- In October 2024, the Company issued debentures of US\$1 billion (R\$6 billion) indexed to IPCA plus 6.38% to 6.43% per year, paid semi-annually, and maturing in 2034, 2036 and 2039. The proceeds were received in November 2024 and will be used in infrastructure projects related with the railway concessions.
- In October 2024, the Company contracted a loan of US\$300 with Bank of Nova Scotia indexed to SOFR plus spread adjustments and maturing in 2027.
- In September 2024, the Company contracted a loan of US\$187 with China Construction Bank indexed to SOFR plus spread adjustments and maturing in 2029.
- In September 2024, the Company contracted a loan of US\$300 with Bank of China indexed to SOFR plus spread adjustments and maturing in 2029.
- In July 2024, the Company contracted a loan of US\$475 with The Bank of Nova Scotia indexed to SOFR plus spread adjustments and maturing in 2027.
- In June 2024, the Company issued bonds of US\$1 billion with a coupon of 6.40% per year, payable semi-annually, and maturing in 2054.
- In April 2024, the Company contracted a loan of US\$90 with the Canadian Imperial Bank of Commerce ("CIBC") indexed to SOFR plus spread adjustments and maturing in 2024.
- In March 2024, the Company contracted a loan of US\$360 with the Japan Bank of International Cooperation ("JBIC") indexed to SOFR plus spread adjustments and maturing in 2035.

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- In March 2024, the Company contracted a loan of US\$60 with the CIBC indexed to SOFR plus spread adjustments and maturing in 2024.
- In February 2024, the Company contracted a loan of US\$166 with Banco Santander indexed to SOFR plus spread adjustments and maturing in 2025.
- In February 2024, the Company contracted a loan of US\$34 with Credit Agricole Bank indexed to SOFR plus spread adjustments and maturing in 2025.
- From January to February 2024, the Company contracted a loan of US\$250 with Banco Bradesco with a fixed rate maturing in 2025.
- In September 2023, the Company contracted a loan of US\$150 with Citibank, indexed to SOFR with spread adjustments and maturing in 2028.
- In June 2023, Vale issued notes of US\$1,500 with a coupon of 6.125% per year, payable semi-annually, and maturing in 2033.
- In March 2023, the Company contracted a loan of US\$300 with the Industrial and Commercial Bank of China Limited, Panama Branch ("ICBC") indexed to SOFR with spread adjustments and maturing in 2028.

Payments

- In November 2024, the Company settled the loan contracted with HSBC Bank, in the amount of US\$250.
- In August 2024, the Company settled the loan contracted with Credit Agricole Bank, in the amount of US\$34.
- In July 2024, Vale redeemed notes with maturity date in 2026, and repurchased notes with maturity date in 2036 and 2039, in the total amount of US\$970 and paid a premium of US\$50, recorded as "Bond premium repurchase" in the financial results for the year ended December 31, 2024.
- In July 2024, the Company settled the loan contracted with CIBC, in the amount of US\$90.
- In July 2024, the Company settled the loan contracted with The Bank of Nova Scotia, in the amount of US\$475.
- In January 2024, the Company paid principal and interest of debentures, in the amount of US\$46.
- In June 2023, Vale repurchased notes with maturity date in 2026, 2036 and 2039, in the total amount of US\$500 and paid a premium of US\$22, recorded as "financial expenses" in the income statement for the year period ended December 31, 2023.
- In January 2023, the Company paid principal and interest of debentures, in the amount of US\$24.

d) Non-cash transactions

	Year ended December 31,		
	2024	2023	2022
Non-cash transactions:			
Additions to PP&E with capitalized loans and borrowing costs	36	19	47

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12. Accounts receivable

	Notes	December 31, 2024	December 31, 2023
Receivables from contracts with customers			
Third parties			
Iron Solutions		1,540	3,406
Energy Transition Metals		788	743
Other		19	3
Related parties	32	63	89
Accounts receivable		2,410	4,241
Expected credit loss		(52)	(44)
Accounts receivable, net		2,358	4,197

Provisionally priced commodities sales – The Company is mainly exposed to iron ore and copper price risk. The Company's primary exposure lies in iron ore and copper price risk. The determination of the final sales price for these commodities is based on the pricing period outlined in the sales contracts, typically occurring after the revenue recognition date. Consequently, the Company initially recognizes revenue using a provisional invoice. Subsequently, the receivables associated with provisionally priced products are measured at fair value through profit or loss (note 22). Any fluctuations in the value of these receivables are reflected in the Company's net operating revenue.

The sensitivity of the Company's risk related to the final settlement of provisionally priced accounts receivables is detailed below:

	Thousand metric tons	Provisional price (US\$/ton)	Variation	December 31, 2024 Effect on Revenue (US\$ million)
Iron ore	19,621	101	+/- 10%	+/- 198
Copper	69	8,479	+/- 10%	+/- 58

Accounting policy

Accounts receivable represent the aggregate amount receivable from the sale of products and services by the Company. Initially recognized at fair value, they are subsequently measured at amortized cost using the effective interest method, except for the component of provisionally priced commodities sales that are subsequently measured at fair value through profit or loss.

The Company applies the IFRS 9 – Financial Instruments simplified approach for measuring expected credit losses. This approach utilizes a lifetime expected loss allowance for the accounts receivable measured at amortized cost. A provision matrix, established by the Company, forms the basis for this measurement. The matrix incorporates historical credit loss experience, adjusted for forward-looking factors specific to the economic environment, and considers any financial guarantees associated with these accounts receivables.

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13. Inventories

	December 31, 2024	December 31, 2023
Finished products		
Iron Solutions	2,493	2,457
Energy Transition Metals	571	640
	3,064	3,097
Work in progress	691	567
Consumable inventory	988	1,159
Net realizable value provision (i)	(138)	(139)
Total of inventories	4,605	4,684

(i) In 2024, the effect of provision for net realizable value was US\$35 (2023: US\$54 and 2022: US\$44).

The cost of goods sold is presented in note 6(a).

Accounting policy

Inventories are stated at the lower of cost and net realizable value. Inventory production cost comprises variable and fixed costs, direct and indirect costs of production and are assigned to individual items of inventory based on weighted average costs method. At the end of the reporting period, net realizable value of inventories are assessed and a provision for losses on obsolete or slow-moving inventory may be recognized. The write-downs and reversals are recognized as "Cost of goods sold, and services rendered".

14. Suppliers and contractors

	Notes	December 31, 2024	December 31, 2023
Third parties		4,004	5,114
Related parties	32(b)	230	158
Total		4,234	5,272

The financial liabilities presented as Suppliers and contractors in the Company's statement of financial position represent the outstanding balance of invoices with suppliers for purchases of goods and services, being the average due date usually approximately 60 days. The Company's liquidity risk management process is described in note 21.

The Company enters into supplier finance arrangements ("Arrangements") as part of the working capital strategy used in the Company's usual operating cycle, being the payment term extension limited to a short-term period. The Company is also party in agreements structured so that certain suppliers can advance their receivables with Vale due to purchases of materials and services, without any type of change in value or payment terms for the Company. These supplier finance arrangements continue to be presented as suppliers in the Company's statement of financial position, as the terms and conditions of the original liabilities were not substantially modified.

	December 31, 2024
Carrying amount of accounts payable included in the Arrangements of which suppliers have already received payment	1,343
Carrying amount of accounts payable included in the Arrangements of which suppliers have not yet received payment	6
Total carrying amount relating to Arrangements with suppliers and contractors	1,349

Financial charges related to the increase in payment terms are recognized in the financial results as interest on supplier finance arrangements (note 7). The financial charges and foreign exchange gains/losses recognized in the income statement for the year ended December 31, 2024 due to the Arrangements totaled, respectively, US\$162 and US\$6. There were no other non-cash movements for the year end.

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Accounting policy

The Company classifies financial liabilities arising from supplier finance arrangements within Supplier and contractors in the statement of financial position if they have nature and function similar to the commercial accounts payable.

This is the case when the supplier finance arrangement is part of the working capital used in the usual operational cycle of the Company and the terms of the liabilities included in the supplier finance arrangements are not substantially different from the terms of the commercial accounts payable not included in the supplier finance arrangements, i.e., the original financial liability is not substantially modified.

The cash flows associated with liabilities included in supplier finance arrangements that are classified as Suppliers and contractors in the statement of financial position are presented as operating activities in the statement of cash flows.

15. Other financial assets and liabilities

	Notes	Current		Non-Current	
		December 31, 2024	December 31, 2023	December 31, 2024	December 31, 2023
Other financial assets					
Restricted cash		-	-	13	4
Derivative financial instruments	21	53	271	15	544
Investments in equity securities		-	-	54	45
		53	271	82	593
Other financial liabilities					
Derivative financial instruments	21	197	36	428	95
Other financial liabilities - Related parties	32(b)	291	290	-	-
Liabilities related to the concession grant	15(a)	467	591	1,887	3,278
Other financial liabilities		588	759	32	-
		1,543	1,676	2,347	3,373

a) Liabilities related to the concession grant

In December 2020, the Company entered into an agreement with the Federal Government to continue operating its concessions of the Estrada de Ferro Carajás ("EFC") and Estrada de Ferro Vitória a Minas ("EFVM") for thirty years more, extending the maturity date from 2027 to 2057.

Vale, the Brazilian National Land Transportation Agency ("ANTT") and the Brazilian Federal Government, through the Ministry of Transportation (together: "Parties"), had been discussing the general conditions for concession contracts and on December 30, 2024, the general basis for the renegotiation were agreed among the Parties and will comply with usual formalities and will be submitted for the authorities' evaluation and approval.

The renegotiation will be performed under the terms of the concession contracts, which remain in force, aiming to promote their modernization and updating. Under the renegotiation's general basis, Vale has committed to a maximum global contribution of approximately US\$1.809 (R\$11,031 million), for the EFC and EFVM's asset base review, the optimization of contractual obligations and investments replanning. Additionally, Vale paid US\$656 (R\$4 billion) in advance on December 30, 2024.

Changes in Liabilities related to the concession grant

	Consolidated					Discount rate			Remaining term of obligations
	December 31, 2023	Renegotiation of concession contracts (a.i)	Revision to estimates and new provisions (a.ii) (a.iii)	Monetary and present value adjustments	Disbursements (a.i)	December 31, 2024	December 31, 2024	December 31, 2023	
Payment obligation	1,130	827	25	(152)	(712)	1,118	7.32% - 11.04%	11.04%	33 years
Infrastructure investment	2,739	(571)	(113)	(428)	(391)	1,236	7.43% - 8.12%	5.17% - 5.54%	7 years
	3,869	256	(88)	(580)	(1,103)	2,354			
Current liabilities	591					467			
Non-current liabilities	3,278					1,887			
Liabilities	3,869					2,354			

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(a.i) Renegotiation of concession contracts

As a result of the agreed conditions, the Company recognized an addition of US\$256 (R\$1,559 million) in provision, which reflects the revised estimates regarding the amount of future disbursements required to fulfill the contractual obligations of the railway concessions. Additionally, the liability was reduced by US\$656 (R\$4 billion) due to the advanced payment made by Vale.

(a.ii) Payment obligation

The Company will make payments for the concession grants in quarterly installments through the concession period. This obligation is updated annually by the readjustment index for monetary exchange (IRT), which was 4.76% for the year 2024 (2023: 4.82%), resulting in an addition to the provision of US\$25 for the year ended December 31, 2024.

The concession contract renewal requires the review and physical inspection of the railway assets by the ANTT. In addition, the ANTT may require, at their discretion, further investments on the concession network. Furthermore, there is a requirement for the Company to complete a minimum percentage of certain investments by 2027. In these circumstances, discussions on the economic and financial rebalancing of the contracts will be required and depending on the result of the physical inventory review and if new investments are demanded, the carrying amount of grant payable may have a material impact in the future.

(a.iii) Infrastructure investment

Midwestern Integration Railroad ("FICO") – Construction of 363 km of FICO, between the municipalities of Mara Rosa, in Goiás, and Água Boa, in Mato Grosso. As of December 31, 2024, the Company has a provision in the amount of US\$656 (2023: US\$1,584).

Infrastructure program – Comprises over 450 separate projects designed to improve safety and reduce trespass where the railways pass through urban areas, as well as technological and cultural development projects. The program will benefit 25 and 33 municipalities intercepted by EFC and EFVM, respectively. As of December 31, 2024, the Company has a provision in the amount of US\$580 (2023: US\$1,154).

Accounting policy

Concessions – Railway concessions liabilities consist of the future payments discounted at present value associated with the fixed payments for the concession and the obligations related with investments in infrastructure.

Grant payments are discounted using the regulatory weighted average cost of capital ("WACC"), which is the interest rate explicit in the concession agreement as determined by the ANTT, and payments related to other investment obligations are discounted at an incremental rate to reflect the time value of money, that is, a risk-free interest rate applicable to the economic environment in which the Company operates and with terms and conditions equivalent to the obligations assumed.

The amounts payable in relation to the concession granted accounted for as intangible in accordance with the accounting policy, disclosed in note 18.

Critical accounting estimates and judgments

The liabilities related to the concession grant may be affected by factors including, but not limited to: (i) amounts expected to be disbursed for constructing railways and infrastructure; (ii) cost of acquiring equipment to be made available for the granting authority; (iii) other miscellaneous obligations that complement the early extension of the railway concessions agreement; and (iv) updates in the discount rate.

Thus, the amounts actually incurred by the Company may differ from the amounts currently provisioned, due to the confirmation of the assumptions used and which depend on several factors, some of which are not under the Company's control. These changes could result in a material impact on the amount of the provision in future periods. At each presentation date of its financial statements, the Company will reassess the main assumptions used in the preparation of projected cash flows and will adjust the provision, when applicable.

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16. Investments in associates and joint ventures

Associates and joint ventures	% ownership	December 31, 2023	Additions and capitalizations	Equity results in income statement	Dividends declared	Translation adjustment (i)	Fair value remeasurement (i)	Other	December 31, 2024
Iron Solutions									
Anglo American Minério de Ferro Brasil S.A. (iv)	15.00	-	670	3	-	(11)	-	1	663
Baovale Mineração S.A.	50.00	28	-	2	(3)	(6)	-	(1)	20
Companhia Coreano-Brasileira de Pelotização	50.00	73	-	27	(6)	(19)	-	-	75
Companhia Hispano-Brasileira de Pelotização	50.89	49	-	14	(10)	(11)	-	-	42
Companhia Ítalo-Brasileira de Pelotização	50.90	63	-	16	(7)	(17)	-	6	61
Companhia Nipo-Brasileira de Pelotização	51.00	150	-	41	(26)	(36)	-	-	129
MRS Logística S.A.	49.01	640	-	135	(27)	(157)	-	-	591
VLI S.A.	29.60	346	-	81	-	(86)	-	-	341
Samarco Mineração S.A. (note 27)	50.00	-	-	-	-	-	-	-	-
Vale Oman Distribution Center	50.00	-	-	16	-	-	600	-	616
		1,349	670	335	(79)	(343)	600	6	2,538
Energy Transition Metals									
PT Vale Indonesia Tbk	33.88	-	-	(29)	-	-	1,910	4	1,885
		-	-	(29)	-	-	1,910	4	1,885
Others									
Aliança Geração de Energia S.A. (ii)	-	356	-	4	-	(62)	-	(298)	-
Aliança Norte Energia Participações S.A.	51.00	106	-	(10)	-	(22)	-	-	74
Other		61	-	2	(1)	(13)	-	1	50
		523	-	(4)	(1)	(97)	-	(297)	124
Equity results in associates and joint ventures		1,872	670	302	(80)	(440)	2,510	(287)	4,547
Other results in associates and joint ventures (iii)		-	-	(571)	-	-	-	-	-
Equity results and other results in associates and joint ventures		-	-	(269)	-	-	-	-	-

(i) It refers to the remeasurement at fair value of the remaining stake held by Vale on PT Vale Indonesia Tbk and Vale Oman Distribution Center, after the closing of the divestment transactions (notes 17b and 17d).

(ii) The effect presented in "Other" column refers to derecognition of the investment due to the acquisition of control over Aliança Geração de Energia S.A., that became a subsidiary. Further details are disclosed in note 17(c) of these financial statements.

(iii) It refers mainly to the expense with the additional provision for Samarco in the amount of US\$956 (note 27), net of the gain of US\$305 due to the acquisition of Aliança Geração de Energia S.A. (note 17c).

(iv) The effect presented in "additions and capitalizations" column refers to the purchase of 15% stake in Anglo American Minério de Ferro Brasil S.A. (note 17a).

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Capital reduction in a foreign subsidiary – In August 2022, the Company approved a capital reduction in the amount of US\$1,500 of Vale International SA (“VISA”), a wholly-owned foreign subsidiary, leading to a reduction in the absolute value of the investment held by the Parent Company, which resulted in a gain of US\$1,543 due to the reclassification of the cumulative translation adjustments following our accounting policy for such nature of transaction, presented as “Other financial items, net” (note 7). The remaining balance of cumulative translation adjustments of VISA represents US\$4,990 as of December 31, 2024 (2023: US\$4,906).

a) Summarized financial information

The summarized financial information about relevant associates and joint ventures for the Company are as follow. The stand-alone financial statements of those entities may differ from the financial information reported herein, which is prepared considering Vale’s accounting policies and using the most recent financial information available adjusted for the effects of significant transactions or events that occur between the date of the financial information and the date of the Company’s financial statements. The summarized financial information about Samarco is presented in note 27.

	Year ended December 31, 2024						
	Aliança Norte Energia Participações	Anglo American Minério de Ferro do Brasil S.A.	Pelletizing plants (i)	MRS Logística	PT Vale Indonesia Tbk	Vale Oman Distribution Center	VLI S.A.
Current assets	-	683	369	868	1,183	88	786
Non-current assets	146	8,375	374	2,461	4,792	1,779	2,757
Total assets	146	9,058	743	3,329	5,975	1,867	3,543
Current liabilities	-	1,033	138	547	264	40	799
Non-current liabilities	1	2,081	-	1,576	147	596	1,592
Total liabilities	1	3,114	138	2,123	411	636	2,391
Equity	145	5,944	605	1,206	5,564	1,231	1,152
Net revenue	-	2,085	307	1,303	472	67	1,705
Net income (loss)	(20)	401	194	263	(85)	31	275

	Year ended December 31, 2023				
	Aliança Geração de Energia	Aliança Norte Energia Participações	Pelletizing plants (i)	MRS Logística	VLI S.A.
Current assets	120	-	374	954	935
Non-current assets	1,064	210	420	2,779	3,309
Total assets	1,184	210	794	3,733	4,244
Current liabilities	171	-	133	704	933
Non-current liabilities	365	2	1	1,709	2,143
Total liabilities	536	2	134	2,413	3,076
Equity	648	208	660	1,320	1,168
Net revenue	230	-	194	1,291	1,682
Net income (loss)	88	(15)	172	243	(366)

(i) Aggregated entities: Companhia Coreano-Brasileira de Pelotização, Companhia Hispano-Brasileira de Pelotização, Companhia Ítalo-Brasileira de Pelotização, and Companhia Nipo-Brasileira de Pelotização.

Notes to the Consolidated Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

b) Subsidiaries

The significant consolidated entities in each business segment are as follows:

	Location	Main activity/Business	% Ownership	% Voting capital	% Noncontrolling interest
Direct and indirect subsidiaries					
Aliança Geração de Energia S.A.	Brazil	Energy	100,0%	100,0%	0,0%
Companhia Portuária da Baía de Sepetiba	Brazil	Iron ore	100,0%	100,0%	0,0%
Minerações Brasileiras Reunidas S.A. ("MBR")	Brazil	Iron ore	100,0%	100,0%	0,0%
Salobo Metais S.A.	Brazil	Copper	90,0%	90,0%	10,0%
Vale Base Metals Limited	United Kindgdom	Holding	90,0%	90,0%	10,0%
Vale Holdings B.V.	Netherlands	Holding and research	100,0%	100,0%	0,0%
Vale Canada Limited	Canada	Nickel	90,0%	90,0%	10,0%
Vale International S.A.	Switzerland	Trading and holding	100,0%	100,0%	0,0%
Vale Malaysia Minerals Sdn. Bhd.	Malaysia	Iron ore	100,0%	100,0%	0,0%
Vale Oman Pelletizing Company LLC	Oman	Pelletizing plant	100,0%	100,0%	0,0%

c) Noncontrolling interest

Summarized financial information

The summarized financial information, prior to the eliminations of the intercompany balances and transactions, about subsidiaries with material noncontrolling interest are as follow. The stand-alone financial statements of those entities may differ from the financial information reported herein, which is prepared considering Vale's accounting policies.

	December 31, 2024		
	Vale Base Metals Limited	Other	Total
Current assets	18	-	-
Non-current assets	13,141	-	-
Related parties – Shareholders	249	-	-
Total assets	13,408	-	-
Current liabilities	-	-	-
Non-current liabilities	-	-	-
Related parties – Shareholders	1,159	-	-
Total liabilities	1,159	-	-
Equity	12,249	-	-
Equity (negative reserves) attributable to noncontrolling interests	1,225	(103)	1,122
Net income	(692)	-	-
Net income (loss) attributable to noncontrolling interests	(195)	4	(191)
Dividends paid to noncontrolling interests	-	-	-

	December 31, 2023		
	PTVI	Other	Total
Current assets	885	-	-
Non-current assets	2,977	-	-
Related parties – Shareholders	83	-	-
Total assets	3,945	-	-
Current liabilities	221	-	-
Non-current liabilities	239	-	-
Total liabilities	460	-	-
Equity	3,484	-	-
Equity (negative reserves) attributable to noncontrolling interests	1,599	(79)	1,520
Net income	207	-	-
Net income (loss) attributable to noncontrolling interests	144	(22)	122
Dividends paid to noncontrolling interests	33	8	41

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	December 31, 2022			
	PTVI	Vale Oman Pelletizing	Other	Total
Current assets	853	84	-	-
Non-current assets	2,147	581	-	-
Related parties – Shareholders	113	81	-	-
Total assets	3,113	746	-	-
Current liabilities	183	96	-	-
Non-current liabilities	249	149	-	-
Related parties – Shareholders	-	297	-	-
Total liabilities	432	542	-	-
Equity (negative reserves)	2,681	204	-	-
Equity (negative reserves) attributable to noncontrolling interests	1,492	61	(62)	1,491
Net income	181	29	-	-
Net income (loss) attributable to noncontrolling interests	101	9	(28)	82
Dividends paid to noncontrolling interests	-	12	-	12

Accounting policy

Subsidiaries – The Company consolidates all entities over which it exercises control, defined as having both (i) exposure or rights to variable returns from its involvement and (ii) the ability to direct significant activities of the investee. Subsidiaries are fully consolidated from the acquisition date until the Company ceases to have control.

Transactions with noncontrolling interests – Investments held by other investors in Vale's subsidiaries are treated as noncontrolling interests ("NCI"). Transactions with NCI are treated as transactions with the Company's shareholders. For purchases or disposals of NCI, the difference between the consideration paid and the book value of the acquired portion of the subsidiary's net assets is directly recorded in equity under "Acquisitions and disposals of non-controlling interests."

Loss of control – When the Company ceases to have control, any interest retained in the entity is remeasured at its fair value, with the change in the carrying amount recognized in profit or loss. Amounts previously recognized in other comprehensive income are reclassified to the income statement.

Investments in associates and joint arrangements – Associates are entities over which the Company holds significant influence (typically 20% to 50% equity interest). If the equity interest in an associate decrease while retaining significant influence, a proportionate portion of the amounts previously recognized in other comprehensive income is reclassified to profit or loss as appropriate. Dilution gains and losses on associates are recognized in the income statement.

Joint arrangements are all entities over which the Company shares control with one or more parties. The classification of joint arrangement investments as joint operations or joint ventures depends on the contractual rights and obligations of each investor.

Joint operations are recorded in the financial statements to represent the Company's contractual rights and obligations. Accordingly, assets, liabilities, income and expenses related to the joint operation are individually recorded in the financial statements.

Interests in joint ventures are accounted for using the equity method, recognized initially at cost. The Company's investment in joint ventures includes identified goodwill from the acquisition, net of any impairment loss. The Company's interest in joint venture profits or losses is recognized in the income statement, and participation in changes in reserves is reflected in the Company's reserves. If the Company's interest in the losses of an associate or joint venture equals or exceeds the carrying amount of the investment, including any other receivables, additional losses are not recognized unless obligations or payments have been made on behalf of the joint venture.

In addition, the financial information used for associates and joint ventures to account for their impact in these financial statements may diverge from the stand-alone financial statements of those entities due to adjustments to Vale's accounting policy and variations in reporting periods.

Notes to the Consolidated Financial Statements

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Cumulative translation adjustments – According to IAS 21, exchange differences arising from transactions and balances of foreign operations are recognized in other comprehensive income and accumulated in equity until the full or partial disposal of the operation. A "partial disposal" of an investment can be construed as (i) a reduction in the percentage of equity interest or (ii) a decrease in the absolute value of the investment through the reduction of the investee's capital, even if the investor's ownership percentage remains unchanged. Consequently, there exists an accounting policy choice concerning the definition of a partial disposal.

In alignment with its accounting policy, the Company has chosen to treat a capital reduction in an investment in a foreign operation under the absolute value approach as described in (ii) above. Consequently, the exchange differences initially recorded in equity are reclassified to the income statement in the same proportion as the reduction in the net investment held in the foreign operation.

Critical accounting estimates and judgments

In certain scenarios, judgment is necessary to determine whether, after considering all relevant factors, the Company exercises control, joint control, or significant influence over an entity. Significant influence includes situations involving collective control.

The Company holds the majority of the voting capital in four joint arrangements (Aliança Norte Energia Participações S.A., Companhia Hispano-Brasileira de Pelotização, Companhia Ítalo-Brasileira de Pelotização, and Companhia Nipo-Brasileira de Pelotização). However, due to shareholders' agreements, management has concluded that the Company lacks a sufficiently dominant voting interest to direct the activities of these entities. Consequently, these entities are accounted for using the equity method due to shareholder agreements where relevant decisions are shared with other parties.

17. Acquisitions and divestitures

Effects on the income statement

	Reference	Year ended December 31,		
		2024	2023	2022
Anglo American Minério de Ferro Brasil S.A.	17(a)	626	-	-
Vale Oman Distribution Center	17(b)	1,222	-	-
Aliança Geração Energia S.A.	17(c)	305	-	-
PT Vale Indonesia Tbk	17(d)	1,059	-	-
Mineração Rio do Norte	17(f)	-	(87)	-
Companhia Siderúrgica do Pecém (i)	17(h)	-	31	(135)
Midwestern System	17(i)	-	-	1,158
California Steel Industries	17(j)	-	-	292
Manganese	17(k)	-	-	(10)
Other		-	-	19
		3,212	(56)	1,324
Discontinued operations (Coal)	17(l)	-	-	2,483
		3,212	(56)	3,807

(i) Includes impairment of the investment in the amount of US\$111 and a provision for accounts receivable with CSP in the amount of US\$24.

a) Purchase of equity interest in Anglo American Minério de Ferro Brasil S.A. ("Anglo American Brasil") – In February 2024, the Company entered into a binding agreement with Anglo American plc for the purchase of 15% interest in Anglo American Brasil, the company that currently owns the Minas-Rio complex ("Minas-Rio"), in Brazil. The transaction was concluded in December 2024, and under the terms agreed, Vale contributed with Serra da Serpentina iron ore resources in the amount of US\$750 and paid US\$30 in cash. Additionally, depending on future iron ore prices over the next four years, there may be an adjustment to the transaction price and the fair value adjustments of this mechanism will be recognized in the Company's income statement, if any.

Notes to the Consolidated Financial Statements

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As a result of the transaction, Vale recognized a gain of US\$626 in the income statement as “(Impairment), reversal of impairment and gains (losses) on disposal of non-current assets, net” due to the difference between the fair value and the carrying amount of the iron ore resources of Serra da Serpentina, which were contributed to Anglo American Brasil as part of the consideration transferred for the equity interest acquired.

The Company will also receive its pro-rata share of Minas-Rio's production, in addition to holding an option to purchase an additional 15% shareholding in Anglo American Brasil. The exercise price of the option will be the fair value, calculated at the time of exercise.

Upon completion of the transaction, Anglo American Brasil has become an associate of Vale, and the investment is accounted for equity method due to the significant influence exercised by Vale in the investee.

b) Divestment on Vale Oman Distribution Center (“VODC”) – VODC operates a maritime terminal with access to the Port of Sohar in Oman, featuring a deep-water jetty and an integrated iron ore blending and distribution center with a nominal capacity of 40 Mtpy.

In August 2024, the Company established a joint venture with AP Oryx Holdings LLC (“Apollo”) through a binding agreement to sell 50% equity interest in VODC for US\$600 million. The transaction was completed in September 2024, reducing Vale’s stake in VODC from 100% to 50% and changing its status from a subsidiary to a joint venture.

With this transaction, Vale shared control over VODC with Apollo and, from then on, will no longer consolidate VODC, which will be accounted for as a joint venture using the equity method.

As a result of the transaction, the Company recognized a gain of US\$1,222 in the income statement as “(Impairment), reversal of impairment and gains (losses) on disposal of non-current assets, net”. This gain is due to (i) the result of the sale of the equity interest in the amount of US\$555, (ii) the result of the remeasurement to fair value of the remaining interest in the amount of US\$555, and (iii) the reclassification to income statement of the cumulative translation adjustments in the amount of US\$112. The effects of this transaction are summarized below:

	September 26th, 2024
Sale of the 50% equity interest	
Cash received	600
Derecognition of VODC's net assets	(45)
Gain on sale of equity interest	555
Remeasurement of the 50% interest retained	
Fair value of 50% interest retained	600
Derecognition of VODC's net assets	(45)
Gain on remeasurement of equity interest	555
Other effects of the deconsolidation	
Gain on the reclassification of cumulative translation adjustments	112
Gain on the transaction recorded in the income statement	1,222

c) Acquisition of Aliança Geração de Energia S.A. (“Aliança Energia”) – Aliança Energia operates power generation assets in Brazil, with a portfolio of seven hydroelectric plants in the state of Minas Gerais and three operational wind farms in the states of Rio Grande do Norte and Ceará. The company was established in 2015 by Vale and Cemig Geração e Transmissão S.A. (“Cemig GT”) as a jointly controlled entity.

On March 2024, the Company entered into an agreement with Cemig GT to acquire its 45% stake in Aliança Energia. The decision was taken in the context of the divestment plan announced to the market by Cemig GT in 2020, and Vale chose to exercise its preferential right of acquisition.

On August 2024, the transaction was completed for the amount of US\$493 (R\$2,737 million), and Vale became the sole owner of Aliança Energia. As a result, the Company recorded a gain of US\$305 in the income statement as “Results from investments and other results in associates and joint ventures,” due to the remeasurement to fair value of the previously held equity interest and began to consolidate Aliança Energia in its financial statements.

Notes to the Consolidated Financial Statements

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The fair value of the identifiable assets acquired and liabilities assumed as a result of the acquisition are presented below:

	Notes	Aliança Energia August 13th, 2024
Identifiable assets acquired		
Cash and cash equivalents		95
Intangible	18	828
Property, plant and equipment	19	573
Other		40
		1,536
Liabilities assumed		
Loans and borrowings	11(c)	245
Deferred taxes on profit	9(b)	312
Other		140
		697
Net assets acquired		839

As disclosed below, the deferred tax liability recognized on the difference between the fair value and the book value of the net assets acquired results in goodwill, which is not deductible for tax purposes.

	Note	August 13, 2024
Consideration transferred for acquisition of the 45% equity interest held by Cemig GT		493
Fair value of the 55% stake previously held by Vale		603
Total [A]		1,096
Fair value of net assets acquired		1,096
(-) Deferred tax liability on the difference between the fair value and the book value of net assets		(257)
Total net assets [B]		839
Goodwill [A-B]	18	257

d) Divestment on PT Vale Indonesia Tbk ("PTVI") – PTVI has a contract of work with the government of Indonesia to operate its mining licenses ("Contract of Work"), expiring in December 2025. To extend the period of the mining licenses beyond 2025, PTVI must meet certain requirements under the Contract of Work, including the commitment to meet a threshold of Indonesian participants in its shareholding structure.

In November 2023, the Company signed a Heads of Agreement with PT Mineral Industri Indonesia ("MIND ID") and Sumitomo Metal Mining Co., Ltd. ("SMM") regarding the divestment obligation in PTVI. Therefore, since the year ended December 31, 2023, PTVI assets and liabilities were classified as held for sale.

In June 2024, the transaction was concluded, and the Company reduced its interests in PTVI in approximately 10.5%. This divestment was carried out through (i) the issuance of PTVI's new shares, thereby diluting Vale in 2.1%, and (ii) by the direct sale of 8.4% of Vale's shares to MIND ID. As a result of the transaction, MIND ID became PTVI's largest shareholder, holding approximately 34.0% of the issued shares, with the Company and SMM holding approximately 33.9% and 11.5%, respectively. The completion of the transaction fulfills the divestment obligations of the Contract of Work and satisfies a key condition for PTVI to extend its mining license until 2035, with potential extension beyond this period subject to certain requirements.

With the transaction, Vale received US\$155 for its shares and lost control over PTVI and so, the Company will no longer consolidate PTVI, which will be accounted for as an associate under the equity method due to the significant influence it will retain over PTVI.

As result, the Company recognized a gain of US\$1,059 in the income statement year ended December 31, 2024, as "(Impairment), reversal of impairment and gains (losses) on disposal of non-current assets, net ". This gain is due to the reclassification of cumulative translation adjustments of US\$1,063 and the gain on remeasurement of the interest retained at fair value of the US\$657, net of the loss on the reduction in PTVI stake in the amount of US\$661. The effects of this transaction are summarized below:

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	August 13th, 2024
Cash consideration received	155
Fair value of 33.9% interest retained (i)	1,910
Effects of the deconsolidation:	
Derecognition of net assets of PTVI	(3,697)
Gain on derecognition of noncontrolling shareholders	1,628
Gain on the reclassification of cumulative translation adjustments	1,063
Gain on the transaction recorded in the income statement	1,059

(i) The fair value of the 33.9% retained interest was estimated based on a third-party valuation report. The valuation considered the discounted cash flow method. The key assumptions considered were (i) discount rate of 7.75% with incremental risk premium of around 1.00% on certain assets, (ii) asset life through to 2065, and (iii) range of expected nickel prices from US\$/t 17,501 to US\$/t 21,000.

Balance sheet of PTVI classified as held for sale

	December 31, 2023
Assets	
Cash and cash equivalents	703
Accounts receivable	20
Inventories	80
Taxes	117
Investments	13
Property, plant and equipment	2,792
Intangible	69
Other assets	139
	3,933
Liabilities	
Suppliers and contractors	172
Deferred income taxes	213
Other liabilities	176
	561
Net assets held for sale	3,372

e) Strategic partnership in the Energy Transition Metals business – In July 2023, the Company signed a binding agreement with Manara Minerals, a joint venture between Ma'aden and Saudi Arabia's Public Investment Fund, under which Manara Minerals would make an equity investment in Vale Base Metals Limited ("VBM"), the holding entity for Vale's Energy Transition Metals Business that was a wholly owned subsidiary. At the same time, Vale and Engine No. 1 entered into another binding agreement for an equity investment in VBM.

In April 2024, the Company concluded the transaction with Manara Minerals to sell 10% of the business for US\$2,455, which was fully contributed to VBM thereby diluting Vale to a 90% equity interest, retaining control over VBM. As a result, Vale recognized a gain from the sale in the amount of US\$895, of which US\$1,514 was attributable to noncontrolling interests recorded in the equity as "Transactions with noncontrolling interests".

Additionally, in April 2024, Vale and Engine No. 1 agreed to not proceed with the transaction, which was discontinued, without any penalties to both parties.

f) Mineração Rio do Norte S.A. ("MRN") – In November 2023, Vale concluded the sale of its 40% interest in MRN, which has been impaired in full since 2021, to Ananke Alumina S.A. ("Ananke"), an associate of Norsk Hydro ASA. At closing of the transaction, Vale paid US\$72 to the buyer, resulting in a loss of US\$87 recorded in the income statement for the year ended December 31, 2023, as "Equity results and other results in associates and joint ventures".

g) Vale Oman Pelletizing Company LLC ("VOPC") – In February 2023, OQ Group exercised their option to sell its 30% noncontrolling interest held in VOPC, a subsidiary consolidated by the Company. As a result, in April 2023, the Company completed the transaction and acquired the minority interest previously held by the OQ Group for US\$130, resulting in a gain of US\$3, recorded in equity as "Transactions with of noncontrolling interests", since it resulted from a transaction between shareholders. Upon closing, Vale owns 100% of VOPC's share capital.

h) Companhia Siderúrgica do Pecém ("CSP") – In July 2022, the Company and the other shareholders of CSP signed a binding agreement with ArcelorMittal Brasil S.A. ("ArcelorMittal") for the sale of CSP. Following the terms of the agreement, the Company has impaired its investment in full, with an impact of US\$111 and recorded a provision for accounts receivable with CSP in the amount of US\$24, both recorded in the income statement for the year ended December 31, 2022.

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In March 2023, the Company completed the sale of its interest in CSP to ArcelorMittal, for US\$1,082, which was fully used to prepay most of the outstanding net debt of US\$1,149. The remaining balance was settled by the shareholders and so Vale disbursed US\$67 upon completion of the transaction. The Company also derecognized its financial liability related to the guarantee granted to CSP, leading to a gain of US\$31 recorded as "Equity results and other results in associates and joint ventures" for the year ended December 31, 2023.

i) Midwestern System – In April 2022, the Company entered into an agreement with J&F Mineração ("J&F") for the sale of Vale's iron ore, manganese and logistics assets in the Centro-Oeste System, through equity interests in Mineração Corumbaense Reunida S.A., Mineração Mato Grosso S.A., International Iron Company, Inc. and Transbarge Navegación S.A.

The carrying amount of those assets were fully impaired in past years and the Company had a liability related to take-or-pay logistics contracts that were deemed onerous contracts under the Company's business model for the Midwestern System.

However, these offers received during the sale process of the assets represented an objective evidence of impairment reversal and the remeasurement of the existing provision, which led to a gain of US\$1,121 recorded as "(Impairment), reversal of impairment and gains (losses) on disposals of non-current assets, net", of which US\$214 relates to the property, plant and equipment and US\$916 is due to the onerous contract liability, partially offset by losses in working capital adjustments at the closing of the transaction in the amount of US\$9.

In July 2022, the Company completed the transaction and received US\$140. Following the disposal, the Company recorded a gain of US\$37 related to the reclassification of the cumulative translation adjustments from the equity to the income statement, recorded in "Other financial items, net".

j) California Steel Industries ("CSI") – In December 2021, the Company entered into a binding agreement with Nucor Corporation ("Nucor") for the sale of its 50% interest in CSI for US\$437. In February 2022, the Company concluded the sale and recorded a gain of US\$292 for the year ended December 31, 2022, as "Equity results and other results in associates and joint ventures", of which US\$142 relates to a gain from the sale and US\$150 is due the reclassification of the cumulative translation adjustments from the shareholders' equity to the income statement.

k) Manganese

Operations in Minas Gerais – In January 2022, the Company completed the sale of its ferroalloy operations in Barbacena and Ouro Preto and its manganese mining operations at Morro da Mina, in the state of Minas Gerais, to VDL Group ("VDL") for a total consideration of US\$40. As the Company had already adjusted the net assets to the fair value less cost of disposal, the closing did not result in an additional impact on the income statement for 2022.

Operations in Bahia – In 2020, the Company decided to shut down the Simões Filho operation, located in the State of Bahia, the plant was part of Vale Manganês business and produced manganese ferroalloy. In 2022, the Company signed a binding agreement with Minas Ligas for a partial sale of the assets of this plant for US\$11, which resulted in an impairment loss of US\$10 for the year ended December 31, 2022.

l) Discontinued operations (Coal)

Binding agreement with Vulcan Resources ("Vulcan")

In December 2021, the Company entered into a binding agreement with Vulcan Resources (formerly Vulcan Minerals) for the sale of these assets. Under the sale agreement Vulcan has committed to pay the gross amount of US\$270, in addition of a 10-year royalty agreement subject to certain mine production and coal price conditions and so, due to the nature and uncertainties related to the measurement of these royalties, gains will be recognized as incurred. In April 2022, the transaction was completed, and the Company recorded a net income from discontinued operations of US\$2,060 for the year ended December 31, 2022, which is mainly driven by the reclassification of the cumulative translation adjustments of US\$3,072, from the equity to the income statement, which was partially offset by the derecognition of noncontrolling interest of US\$585 due to the deconsolidation of the coal assets. Additionally, until the closing of the transaction, the Company recorded losses of US\$589 due to the impairment of assets acquired in the period and working capital adjustments.

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Net income and cash flows from discontinued operations

	<u>Year ended December 31, 2022</u>
Net income from discontinued operations	
Net operating revenue	448
Cost of goods sold and services rendered	(264)
Operating expenses	(13)
Impairment and results on disposals of non-current assets, net	(589)
Operating loss	(418)
Cumulative translation adjustments	3,072
Derecognition of noncontrolling interest	(585)
Financial results, net	(7)
Net income before income taxes	2,062
Income taxes	(2)
Net income from discontinued operations	2,060
Net income attributable to Vale's shareholders	2,060

	<u>Year ended December 31, 2022</u>
Cash flow from discontinued operations	
Operating activities	
Net income before income taxes	2,062
Adjustments:	
Impairment and results on disposals of non-current assets, net	589
Derecognition of noncontrolling interest	585
Financial results, net	(3,065)
Decrease in assets and liabilities	(130)
Net cash generated by operating activities	41
Investing activities	
Additions to property, plant and equipment	(38)
Disposal of coal, net of cash	(65)
Net cash used in investing activities	(103)
Financing activities	
Payments	(11)
Net cash used in financing activities	(11)
Net cash used in discontinued operations	(73)

Accounting policy

Business combinations - The acquisition method of accounting is used to account for all business combinations, irrespective of whether equity instruments or other assets are acquired. The consideration transferred for acquiring a subsidiary comprises (i) the fair values of the assets transferred; (ii) assumed liabilities of the acquired business; (iii) equity interests issued to the Company; (iv) the fair value of any asset or liability resulting from a contingent consideration arrangement; and (v) the fair value of any pre-existing equity interest in the subsidiary.

Identifiable assets acquired, and liabilities and contingent liabilities assumed in a business combination are, with limited exceptions, initially measured at their fair values on the acquisition date. The Company recognizes any noncontrolling interest in the acquired entity on an acquisition-by-acquisition basis, either at fair value or at the noncontrolling interest's proportionate share of the acquired entity's net identifiable assets.

Discontinued operations - The designation as a discontinued operation occurs either upon disposal or when the operation meets the criteria for classification as held for sale if this condition is met earlier. A discontinued operation refers to a component of a Company's business that encompasses cash flows and operations distinguishable from the remainder of the Company, representing a significant separate line of business or geographical area of operations.

The results of discontinued operations are presented in a single amount in the income statement, including the post-tax results of these operations, net of any impairment loss. Cash flows related to operating, investing, and financing activities of discontinued operations are disclosed in a separate note.

Upon classifying an operation as discontinued, the income statements for prior periods are restated as if the operation had been discontinued since the beginning of the comparative period.

Any noncontrolling interest associated with a group disposal held for sale is presented in equity and is not reclassified in the statement of financial position.

Notes to the Consolidated Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

18. Intangibles

	Notes	Goodwill	Concessions	Software	Research and development project	Total
Balance as of December 31, 2022		3,189	6,434	87	528	10,238
Additions		-	1,013	53	6	1,072
Disposals		-	(14)	-	-	(14)
Amortization		-	(251)	(41)	-	(292)
Transfers to held for sale (PTVI)		(68)	-	(1)	-	(69)
Translation adjustment		142	507	6	41	696
Balance as of December 31, 2023		3,263	7,689	104	575	11,631
Cost		3,263	9,394	634	575	13,866
Accumulated amortization		-	(1,705)	(530)	-	(2,235)
Balance as of December 31, 2023		3,263	7,689	104	575	11,631
Additions		-	465	54	-	519
Disposals		-	(10)	-	(5)	(15)
Amortization		-	(270)	(54)	-	(324)
Acquisition of Aliança Energia	17(c)	257	824	-	4	1,085
Translation adjustment		(482)	(1,756)	(20)	(124)	(2,382)
Balance as of December 31, 2024		3,038	6,942	84	450	10,514
Cost		3,038	8,528	579	450	12,595
Accumulated amortization		-	(1,586)	(495)	-	(2,081)
Balance as of December 31, 2024		3,038	6,942	84	450	10,514

a) Concessions – Includes the operating concession contracts of EFC and EFVM (note 15a) and the energy concession contracts for the hydroelectric plants and wind farms of Aliança Geração de Energia S.A. (note 17c).

b) Goodwill – Includes the goodwill derived from acquisition of iron ore and nickel businesses and the goodwill from the incorporation of Valepar into Vale in 2017 which was recognized on the acquisition of Vale controlling interest by Valepar, based on the expected future returns of the ferrous segment. The Company has not recognized the deferred taxes over the goodwill, since there are no differences between the tax basis and accounting basis. Annually, the Company assesses the impairment of this asset, or more frequently when an indication of impairment is identified (note 20).

c) Research and development project – Refers to in-process research and development projects and patents identified in the business combination of New Steel Global N.V. acquired in 2019. The intangible assets of research and development are not subject to amortization until the operational phase is reached. Thus, the Company annually assesses the impairment of this asset, or more frequently when an indication of impairment is identified (note 20).

Accounting policy

Intangibles are carried at acquisition cost, net of accumulated amortization and impairment charges.

The estimated useful lives are as follows:

	Useful life
Railway concessions	5 to 33 years
Research and development project	19 years
Software	5 years

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19. Property, plant, and equipment

	Notes	Building and land	Facilities	Equipment	Mineral properties	Railway equipment	Right of use assets	Other	Constructions in progress	Total
Balance as of December 31, 2022		8,913	8,042	4,984	7,112	2,475	1,455	2,632	9,325	44,938
Additions (i)		-	-	-	-	-	74	-	6,368	6,442
Disposals		(35)	(11)	(15)	(7)	(13)	-	(8)	(131)	(220)
Assets retirement obligation	28(b)	-	-	-	324	-	-	-	-	324
Depreciation, depletion and amortization		(462)	(517)	(736)	(446)	(168)	(190)	(323)	-	(2,842)
Transfer to asset held for sale - PTVI	17(d)	(670)	-	(759)	(791)	(41)	(8)	(2)	(521)	(2,792)
Translation adjustment		578	574	214	286	187	28	138	541	2,546
Transfers		1,795	1,151	762	447	172	-	47	(4,374)	-
Balance as of December 31, 2023		10,119	9,239	4,450	6,925	2,612	1,359	2,484	11,208	48,396
Cost		17,381	14,858	10,326	15,663	4,435	2,208	5,391	11,208	81,470
Accumulated depreciation		(7,262)	(5,619)	(5,876)	(8,738)	(1,823)	(849)	(2,907)	-	(33,074)
Balance as of December 31, 2023		10,119	9,239	4,450	6,925	2,612	1,359	2,484	11,208	48,396
Additions (i)		-	-	-	-	-	83	-	5,839	5,922
Disposals and impairments (ii)		(28)	(382)	(88)	(1,636)	(8)	-	(3)	(466)	(2,611)
Assets retirement obligation	28(b)	-	-	-	(12)	-	-	-	-	(12)
Depreciation, depletion and amortization		(438)	(547)	(691)	(474)	(153)	(187)	(323)	-	(2,813)
Acquisition of Aliança Energia		27	87	329	2	-	4	51	73	573
Deconsolidation of VODC		-	(9)	(98)	(9)	-	(525)	-	(16)	(657)
Translation adjustment		(1,991)	(1,945)	(736)	(964)	(565)	(74)	(409)	(2,130)	(8,814)
Transfers		966	1,642	872	715	202	-	392	(4,789)	-
Balance as of December 31, 2024		8,655	8,085	4,038	4,547	2,088	660	2,192	9,719	39,984
Cost		15,266	13,539	9,681	12,715	3,643	1,412	4,801	9,719	70,776
Accumulated depreciation		(6,611)	(5,454)	(5,643)	(8,168)	(1,555)	(752)	(2,609)	-	(30,792)
Balance as of December 31, 2024		8,655	8,085	4,038	4,547	2,088	660	2,192	9,719	39,984

(i) Includes capitalized interest.

(ii) Includes impairment losses recognized in nickel operations in Thompson and Newfoundland and Labrador in the amounts of US\$1,405 and US\$540, respectively (note 20a). In addition, there were other impairment losses in the amount of US\$265 and other disposals in the amount of US\$401.

For more details regarding right of use and lease liability see note 25.

Accounting policy

Property, plant, and equipment are recorded at the cost of acquisition or construction, net of accumulated depreciation and impairment charges.

Mineral properties developed internally are determined by (i) direct and indirect costs attributed to build the mining facilities, (ii) financial charges incurred during the construction period, (iii) depreciation of other fixed assets used during construction, (iv) estimated decommissioning and site restoration expenses, and (v) other capitalized expenditures during the development phase (phase when the project demonstrates its economic benefit to the Company, and the Company has ability and intention to complete the project).

The depletion of mineral properties is determined based on the ratio between production and total proven and probable mineral reserves.

Property, plant and equipment, other than mineral properties are depreciated using the straight-line method based on the estimated useful lives, from the date on which the assets become available for their intended use and are capitalized, except for land which is not depreciated.

The estimated useful lives are as follows:

	Useful life
Buildings	3 to 50 years
Facilities	3 to 50 years
Equipment	3 to 40 years
Wagons	30 to 45 years
Railway equipment	5 to 37 years
Vessels	20 to 25 years
Other	2 to 50 years

The residual values and useful lives of assets are reviewed at the end of each reporting period and adjusted if necessary.

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Expenditures and stripping costs

(i) Exploration and evaluation expenditures – Expenditures on mining research are accounted for as operating expenses until the effective proof of economic feasibility and commercial viability of a given field can be demonstrated. From then on, the expenditures incurred are capitalized as mineral properties.

(ii) Expenditures on feasibility studies, new technologies and others research – The Company also conducts feasibility studies for many businesses which it operates including researching new technologies to optimize the mining process. After these costs are proven to generate future benefits to the Company, the expenditures incurred are capitalized.

(iii) Maintenance costs – Significant industrial maintenance costs, including spare parts, assembly services, and others, are recorded in property, plant and equipment and depreciated through the next programmed maintenance overhaul.

(iv) Stripping Costs – After the effective proof of economic feasibility and commercial viability of the field, the cost associated with the removal of overburden and other waste materials (“stripping costs”) incurred during the development of mines, before production takes place, are capitalized as part of the depreciable cost of the mineral properties. These costs are subsequently amortized over the useful life of the mine.

Post-production stripping costs are included in the cost of inventory, except when a new project is developed to permit access to a significant ore deposit. In such cases, the cost is capitalized as a non-current asset and is amortized during the extraction of the ore deposits, over the useful life of the ore deposits.

Critical accounting estimates and judgments

Mineral reserves – The estimates of proven and probable reserves are regularly evaluated and updated. These reserves are determined using generally accepted geological estimates. The calculation of reserves requires the Company to make assumptions about expected future conditions that are uncertain, including future ore prices, exchange rates, inflation rates, mining technology, availability of permits and production costs. Changes in assumptions could have a significant impact on the proven and probable reserves of the Company.

The estimated volume of mineral reserves is used as basis for the calculation of depletion of the mineral properties, and also for the estimated useful life which is a major factor to quantify the provision for asset retirement obligation, environmental recovery of mines and impairment of long-lived asset. Any changes to the estimates of the volume of mine reserves and the useful lives of assets may have a significant impact on the depreciation, depletion and amortization charges and assessments of impairment.

20. (Impairment), reversal of impairment and gain (losses) on disposal of non-current assets

The Company tested for impairment the cash-generating units (“CGU”) for which a triggering event was identified and also for the goodwill. The recoverable amount of each CGU under the Company’s impairment test was assessed using the fair value less costs of disposal model (“FVLCD”), through discounted cash flow techniques, which is classified as “level 3” in the fair value hierarchy, taking into consideration offers and purchase agreements, when applicable.

The cash flows were projected in real terms and discounted using a post-tax discount rate expressed in real terms, representing an estimate of the rate a market participant would apply, considering the time value of money and the specific risk of the asset. The Company used the weighted average cost of capital (“WACC”) of the mining segment as a starting point for determining the discount rates, with appropriate adjustments for the risk profile of the countries in which the individual CGU operate.

Climate change

As described in note 4, the potential financial impacts of climate change and the transition to a low-carbon economy were considered in the assessment of the Company’s critical accounting estimates, including indicators of impairment, such as: (i) Decreases in the demand for the Company’s commodities, due to policy, regulatory (including carbon pricing mechanisms), legal, technological, market or societal responses to climate change; (ii) physical impacts related to risks resulting from increased frequency or severity of extreme weather events, and those related to chronic risks resulting from longer-term changes in climate patterns; and (iii) investments related to decarbonization.

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a) Impairment test on assets related to nickel operations

In the year ended December 31, 2024, the Company identified impairment triggers related to its nickel operations in Thompson and Newfoundland and Labrador, both located in Canada. For both impairment tests, the main assumptions are detailed below:

	2024
Measurement of recoverable value	FVLCD
Discount rate	5.0%–6.0%
Period of cash flow projections	2035–2049
Range of nickel forecasted prices	US\$/t 16,662 – 21,000

Nickel Operation in Thompson, Canada

Nickel concentrate is shipped from Thompson to be processed into finished and sealable material at another Vale Canada asset, and then sold and delivered to customers. Therefore, the assets associated with the Thompson operation are part of the CGU that processes the nickel concentrate from Thompson. In January 2025 (subsequent event), the Company has launched a strategic review to explore and evaluate a range of alternatives, including the potential sale, for its mining and exploration assets related with the nickel operation in Thompson.

Vale reviewed the business plan for this operation according to the new strategy and measured the recoverable amount, which resulted in an impairment loss of US\$1,405 recognized in the income statement for the year ended December “reversal (impairment) and gains (losses) on disposal of non-current assets, net”. The carrying amount of this CGU after the impairment loss is US\$4,196 as of December 31, 2024.

Nickel Operation in Newfoundland and Labrador, Canada

Since 2015, the Company has been developing the Voisey’s Bay mine expansion project in the Vale Newfoundland and Labrador operation, a subsidiary of the Company that is considered a CGU. This project represented a significant shift from open-pit-only to two underground mining operations at Voisey’s Bay site.

In December 2024, the expansion project was concluded, which was the beginning of its ramp-up phase. The Company identified operational challenges related to the production and processing ore extracted from the underground mines, resulting in the revision of production costs and sustaining investments for this CGU.

Due to the increase in operating and investment costs associated solely with this CGU, Vale considered it as a triggering event for impairment testing. The test resulted in an impairment loss of US\$540 recognized in the income statement as “reversal (impairment) and gains (losses) on disposal of non-current assets, net”. The carrying amount of this CGU after the impairment loss is US\$2,405 as of December 31, 2024.

b) Impairment testing for the goodwill and other intangibles

Goodwill allocated to nickel operations

	2024	2023
Carrying amount	1,655	1,789
Impairment testing results	The recoverable amount of the operating segments is higher than the carrying amount, and therefore, there is no impairment to be recognized.	The recoverable amount of the operating segments is higher than the carrying amount, and therefore, there is no impairment to be recognized.
Measurement of recoverable value	FVLCD	FVLCD
Discount rate	5.0%–6.0%	5.6% – 5.9%
Period of cash flow projections	2035–2049	2034–2048
Range of nickel forecasted prices	US\$/t 16,662 – 21,000	US\$/t 18,000 – 23,000
Sensitivity of key assumptions	A 19.2% reduction in the long-term prices of all commodities or a 5.7% reduction in volumes would, alone, result in an estimated recoverable amount equal to the carrying value.	A 14.2% reduction in the long-term prices of all commodities or a 4.3% reduction in volumes would, alone, result in an estimated recoverable amount equal to the carrying value.

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Goodwill allocated to iron ore and pellet operations

	2024	2023
Carrying amount	1,152	1,473
Impairment testing results	The recoverable amount of the operating segments is higher than the carrying amount, and therefore, there is no impairment to be recognized.	The recoverable amount of the operating segments is higher than the carrying amount, and therefore, there is no impairment to be recognized.
Measurement of recoverable value	FVLCD	FVLCD
Discount rate	7.2%	7.0%
Period of cash flow projections	2054	2053
Range of iron ore forecasted prices	US\$/t 78 – 95	US\$/t 75 – 98
Sensitivity of key assumptions	A 25% reduction in the long-term prices of all commodities or a 57% reduction in reserves would, alone, result in an estimated recoverable amount equal to the carrying value.	A 34% reduction in the long-term prices of all commodities or a 61% reduction in reserves would, alone, result in an estimated recoverable amount equal to the carrying value.

Other intangibles – Research and development project (note 18)

	2024	2023
Carrying amount	445	568
Impairment testing results	The recoverable amount of the CGU is higher than the carrying amount, and therefore, there is no impairment to be recognised.	The recoverable amount of the CGU is higher than the carrying amount, and therefore, there is no impairment to be recognised.
Measurement of recoverable value	FVLCD	FVLCD
Discount rate	7.2%	7.0%
Useful life	16 years of useful life	16 years of useful life
Range of iron ore forecast prices	US\$/t 78– 95	US\$/t 80 – 98
Sensitivity of key assumptions	A 12.3% reduction in the prices of all commodities or a 54.8% reduction in processing and beneficiating iron ore volumes would, alone, result in an estimated recoverable amount equal to the carrying value of this CGU.	A 7.5% reduction in the prices of all commodities or a 67% reduction in processing and beneficiating iron ore volumes would, alone, result in an estimated recoverable amount equal to the carrying value of this CGU.

c) Gains (losses) recorded on the purchase and sale of non-current assets

In the past few years, the Company has invested and divested on assets, as detailed in note 17 to these financial statements. These transactions resulted in material impacts on Vale's results, which were recorded under "Impairment reversal (impairment and disposals) of non-current assets, net", as summarized below:

- Purchase of equity interest in Anglo American Minério de Ferro Brasil S.A. (note 17a)** – In December 2024, the Company concluded the purchase of 15% interest in Anglo American Minério de Ferro Brasil S.A., the company that currently owns the Minas-Rio complex, in Brazil. As part of the consideration transferred for the equity interest acquired, Vale contributed with Serra da Serpentina iron ore resources in the amount of US\$750 and recognized a gain of US\$626 in the income statement for the year ended December 31, 2024 as "reversal (impairment) and gains (losses) on disposal of non-current assets, net" due to the difference between the fair value and the carrying amount of the iron ore resources of Serra da Serpentina. This gain was recognized to the extent of the other investor's interest in the investee.
- Divestment on Vale Oman Distribution Center (note 17b)** – In September 2024, the Company concluded the sale of 50% equity interest in Vale Oman Distribution Center for US\$600 million, reducing Vale's stake from 100% to 50% and changing its status from a subsidiary to a joint venture. As a result of the transaction, the Company recognized a gain of US\$1,222 in the income statement for the year ended December 31, 2024 as "Other operating

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expenses, net". This gain is due to (i) the result of the sale of the equity interest in the amount of US\$555, (ii) the result of the remeasurement to fair value of the remaining interest in the amount of US\$555, and (iii) the reclassification to income statement of the cumulative translation adjustments in the amount of US\$112.

- **Divestment on PT Vale Indonesia Tbk (note 17d)** – In June 2024, the Company reduced its interests in PTVI in approximately 10.5%, changing its status from a subsidiary to an associate. As result, the Company recognized a gain of US\$1,059 in the income statement for the year ended December 31, 2024, as " reversal (impairment) and gains (losses) on disposal of non-current assets, net". This gain is due to the reclassification of cumulative translation adjustments of US\$1,063 and the gain on remeasurement of the interest retained at fair value of the US\$657, net of the loss on the reduction in PTVI stake in the amount of US\$661.
- **Midwestern system (note 17i)** – As a result of the agreement for the sale of these assets to J&F, the Company recorded a gain in the amount of US\$1,121 in the income statement for the year ended December 31, 2022 due to the reversal of the impairment of property, plant and equipment, of which US\$214 relates to the property, plant and equipment, and US\$916 is due to the onerous contract, partially offset by losses of US\$9 due to working capital adjustments at the closing of the transaction.
- **Manganese (note 17k)** –The Company has entered into agreements to sell its manganese assets, resulting in an impairment loss of US\$10 recorded in the income statement for the year ended December 31, 2022.

Accounting policy

Impairment of non-financial assets – Non-financial assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount might not be recoverable. An impairment loss is recognized for the amount by which the asset's carrying value exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal ("FVLCD") and value in use ("VIU").

FVLCD is generally determined as the present value of the estimated future cash flows expected to arise from the continued use of the asset from a market participant's perspective, including any expansion prospects. The VIU model is determined as the present value of the estimated future cash flows expected to arise from the asset's continued use in its present form. Value in use is determined by applying assumptions specific to the Company's continued use and cannot take into account future development. These assumptions are different from those used in calculating fair value, and consequently, the VIU calculation is likely to give a different result to an FVLCD calculation.

Assets with an indefinite useful life and are not subject to amortization are tested annually for impairment.

To assess impairment, assets are grouped at the lowest levels for which there are separately identifiable CGU. Goodwill is allocated to CGU or CGU groups that are expected to benefit from the business combinations in which the goodwill arose and are identified in accordance with the operating segment.

Non-current assets (excluding goodwill) in which the Company recognized impairment in the past are reviewed whenever events or changes in circumstances indicate that the impairment may no longer be applicable. In such cases, an impairment reversal will be recognized.

Critical accounting estimates and judgments

Significant judgements, estimates and assumptions are required to determine whether an impairment trigger occurred and prepare the Company's cash flows. Management uses the budgets approved as a starting point, and key assumptions are, but are not limited to: (i) mineral reserves and mineral resources measured by internal experts; (ii) costs and investments based on the best estimate of projects as supported by past performance; (iii) sale prices consistent with projections available in reports published by industry considering the market price when appropriate; (iv) the useful life of each cash-generating unit (ratio between production and mineral reserves); and (v) discount rates that reflect specific risks relating to the relevant assets in each cash-generating unit.

These assumptions are susceptible to risks and uncertainties and may change the Company's projection and therefore, may affect the recoverable value of assets.

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21. Financial and capital risk management

The Company is exposed to several financial and capital risk factors that may impact its performance and equity position. The evaluation of the exposure to financial and capital risks is performed periodically to support decision making process regarding the risk management strategy.

The Company's policy aims at establishing a capital structure that will ensure the continuity of our business in the long term. Within this perspective, the Company has been able to maintain regular dividends payments and interest on capital ("JCP"), to maintain a debt profile suitable for its activities, with an amortization well distributed over the years, thus avoiding a concentration in one specific period.

The Board of Directors establishes and supervises the management of financial risks with the support of the Capital Allocation and Project Advisory Committee that ensures that Company's financial activities are governed by appropriate policies and procedures and that financial risks are identified, measured and managed in accordance with the Company's policies and objectives.

The Company has developed its strategy through an integrated view of the risks to which it is exposed, considering not only the risk, generated by variables traded in the financial market (market risk) and the liquidity risk, but also the risk arising from obligations assumed by third parties to the Company (credit risk), among others.

The Company uses derivative financial instruments to protect its exposure to these market risks arising from operating, financing, and investment activities, so that Vale does not engage in derivative operations that result in nominal amount exceeding its total exposure. The financial instruments portfolio is reassessed periodically, allowing the monitoring of financial results and their impact on cash flow. The Company applies hedge accounting to its net investment in foreign operation and nickel revenue program.

Risks	Origin of the exposure	Management
Market Risk - Exchange Rate	Financial instruments and other financial liabilities that are not denominated in US\$	Derivatives transactions, such as swap and forward operations
Market risk - Interest rate	Loans and financing indexed to different interest rates including, but not limited to, SOFR and CDI	Derivatives transactions, such as swap operations
Market risk - Product and input prices	Volatility of commodity and input prices	Derivatives transactions, such as forward operations and option contracts
Credit Risk	Receivables, derivative transactions, guarantees, advances to suppliers and financial investments	Portfolio diversification and policies for monitoring counterparty solvency and liquidity indicators
Liquidity risk	Contractual or assumed obligations	Availability of revolving credit lines

Method and techniques for valuation of derivatives

The derivative financial instruments were evaluated using the curves and market prices that impact each instrument on the valuation dates applying pricing techniques widely used by the market.

Swaps are priced by discounting their cash flows by the corresponding rates and currencies, while forward and futures contracts use the forward curves of their respective underlying assets. For options, the Company uses the Black & Scholes model and in the case of Asian options the Turnbull & Wakeman model. In all cases, we consider the credit risk of both the Company and the counterparty for the final calculation of fair value. When pricing information is not available from a listed market source, alternative market mechanisms or comparable recent transactions, fair value is estimated based on the Company's outlook.

Effects of derivatives on the statement of financial position

	December 31, 2024		December 31, 2023	
	Assets	Liabilities	Assets	Liabilities
Foreign exchange and interest rate risk	52	601	763	99
Commodities price risk	16	23	52	30
Embedded derivatives	-	1	-	2
Total	68	625	815	131

Net exposure

	Reference	December 31, 2024	December 31, 2023
Foreign exchange and interest rate risk	21(a.i)	(549)	664
Commodities price risk	21(a.ii)	(7)	22
Embedded derivatives	21(a.ii)	(1)	(2)
Total		(557)	684

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Effects of derivatives on the income statement

	Gain (loss) recognized in the income statement		
	Year ended December 31,		
	2024	2023	2022
Foreign exchange and interest rate risk	(1,187)	900	1,130
Commodities price risk	(23)	-	43
Embedded derivatives	1	3	(19)
Total	(1,209)	903	1,154

Effects of derivatives on the cash flows

	Financial settlement inflows (outflows)		
	Year ended December 31,		
	2024	2023	2022
Foreign exchange and interest rate risk	5	476	160
Commodities price risk	6	6	19
Derivatives designated as cash flow hedge accounting	-	85	(262)
Total	11	567	(83)

a) Market risk

a.i) Market risk – Foreign exchange and interest rates

The Company's cash flow is exposed to the volatility of several currencies against the U.S. dollar. While most of our product prices are indexed to U.S. dollars, most of our costs, expenses and investments are indexed to currencies other than the U.S. dollar, principally the Brazilian real and the Canadian dollar.

The Company can enter into derivative transactions to protect its cash flow against the market risks that arises from its debt obligations and other commitments – mainly currency volatility.

To reduce cash flow volatility, swap and forward operations were implemented to convert the cash flow of commitments, debts and financial obligations in Reais into US\$ with exchange rate locks and fixed and floating rate swaps indexed mainly to the interbank deposit certificate ("CDI"), the TJLP and the national consumer price index ("IPCA"). In these swap operations, the Company pays fixed rates in US\$ and receives remuneration in R\$ fixed or linked to the interest rates of the hedged liabilities.

The Company is also exposed to floating interest rate risks on certain loans and financing. U.S. dollar floating-rate debt consists primarily of loans, including export prepayments, loans with commercial banks, and multilateral organizations. To reduce cash flow volatility, swaps transactions were implemented to convert SOFR-indexed interest rates into fixed-rate loan and financing contracts. In these operations, the Company receives floating rates indexed to SOFR and pays remuneration linked to fixed rates in US\$.

Flow	December 31, 2024	Notional December 31, 2023	December 31, 2024	Fair value	Fair value by year		
				December 31, 2023	2025	2026	2027+
Foreign Exchange and Interest Rate Derivatives	US\$11,490	US\$6,574	(549)	664	(147)	(137)	(265)

The sensitivity analysis of these derivative financial instruments is presented as follows:

Instrument's main risk events	Fair value	Scenario I (Δ of 25%)	Scenario II (Δ of 50%)
R\$ depreciation	(549)	(2,799)	(5,049)
US\$ interest rate inside Brazil decrease	(549)	(758)	(999)
Brazilian interest rate increase	(549)	(930)	(1,242)
TJLP interest rate decrease	(549)	(552)	(554)
IPCA index decrease	(549)	(659)	(755)
SOFR interest rate decrease	(549)	(601)	(654)
US Treasury rate increase	(549)	(549)	(549)

Notes to the Consolidated Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

a.ii) Protection program for product prices and input costs

The Company is also exposed to market risks associated with the price volatility of commodities and inputs, especially freight and fuel costs. In line with its risk management policy, risk mitigation strategies involving commodities are used to reduce cash flow volatility. These mitigation strategies incorporate derivative instruments, predominantly forward, futures and options.

Flow	Notional		Fair value		Fair value by year		
	December 31, 2024	December 31, 2023	December 31, 2024	December 31, 2023	2025	2026	2027+
Brent crude oil (bbl)							
Options	24,050,625	19,907,250	11	23	11	-	-
Forward Freight Agreement (days)							
Freight forwards	3,240	1,210	(11)	7	(11)	-	-
Fixed price nickel sales protection (ton)							
Nickel forwards	4,978	3,322	(7)	(8)	(7)	-	-

The sensitivity analysis of these derivative financial instruments is presented as follows:

Instrument	Instrument's main risk events	Fair value	Scenario I (Δ of 25%)	Scenario II (Δ of 50%)
Brent crude oil (bbl)	Decrease in fuel oil price	11	(71)	(421)
Forward Freight Agreement (days)	Decrease in freight price	(10)	(25)	(40)
Hedge for fixed-price nickel sales (tons)	Decrease in nickel price	(7)	(26)	(45)

Brent Crude Oil - To reduce the impact of fluctuations in fuel oil prices on the hiring and availability of maritime freight and, consequently, to reduce the Company's cash flow volatility, hedging operations were implemented through buying call options and selling put options on Brent Crude Oil for different portions of the exposure. The derivative transactions were traded over-the-counter.

Freight derivative - To reduce the impact of maritime freight price volatility on the Company's cash flow, freight hedging transactions were implemented, through Forward Freight Agreements (FFAs). The FFAs are contracts traded over the counter and can be cleared through a Clearing House, in this case subject to margin requirements.

Fixed price sales protection - The Company started an operational program to protect nickel sales, converting fixed price commercial contracts with customers to floating price, therefore maintaining the Company's exposure to price fluctuations. The transactions usually carried out in this program are nickel purchases for future settlement.

Hedge program for products acquisition for resale - The Company started a hedge program with nickel forward transactions with the objective of reducing the risk of price mismatch between the period of purchase and sale of products to third parties. The transactions entered into in 2024 were fully settled within the fiscal year.

a.iii) Embedded derivatives in contracts

Flow	Notional		Fair value		Fair value by year		
	December 31, 2024	December 31, 2023	December 31, 2024	December 31, 2023	2025	2026	2027+
Embedded derivative (pellet price) in natural gas purchase (volume/month)							
Call options	746,667	746,667	(1)	(2)	(1)	-	-

Notes to the Consolidated Financial Statements

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The sensitivity analysis of these derivative financial instruments is presented as follows:

Instrument	Instrument's main risk events	Fair value	Scenario I (Δ of 25%)	Scenario II (Δ of 50%)
Embedded derivative (pellet price) in natural gas purchase agreement (volume/month)				
Embedded derivatives – Gas purchase	Pellet price increase	-	(2)	(5)

Embedded derivative (pellet price) in natural gas purchase agreement – The Company has a natural gas purchase agreement in which the amount charged to Vale changes based on the pricing level of the pellets sold by the Company to the market.

a.iv) Hedge accounting

	Gain (loss) recognized in the other comprehensive income		
	Year ended December 31,		
	2024	2023	2022
Net investments hedge	(500)	139	81
Cash flow hedge	-	(19)	19

Net investment hedge – The Company uses hedge accounting for foreign exchange risk arising from Vale S.A.'s net investments in Vale International S.A. and Vale Holding BV. With the hedge program, the Company's debt with third parties denominated in United States dollars and euros serves as a hedge instrument for investments in these subsidiaries. In March 2021, the Company redeemed all its euro bonds. As a result, the amount of debt designated as a hedge instrument for this investment is US\$2,711 as of December 2023. As a result of the hedge program, the impact of the exchange rate variation on the debt denominated in dollars and euros is now partially recorded in other comprehensive income, as "Translation adjustments".

Cash flow hedge (Nickel) – To reduce the cash flow volatility due to nickel price fluctuations, the Company implemented the Nickel Revenue Hedge Program. In this program, hedging operations were executed, through option contracts, to protect a portion of the projected volume of sales at floating, highly probable realization prices, guaranteeing prices above the average unit cost of nickel production for the protected volumes. In 2023, the program was settled, and no new operations were carried out in 2024. The contracts are traded on the London Metal Exchange or over-the-counter market.

b) Credit risk management

The Company is exposed to credit risk that arises from trade receivables, derivative transactions, guarantees, down payment for suppliers and cash investments. The credit risk management process provides a framework for assessing and managing counterparties' credit risk and for maintaining our portfolio risk at an acceptable level.

For the commercial credit exposure, which arises from sales to final customers, the risk management area, in accordance with the current delegation level, approves or requests the approval of credit risk limits for each counterparty.

Vale attributes an internal credit risk rating for each counterparty using its own quantitative methodology for credit risk analysis, which is based on market prices, external credit ratings and financial information of the counterparty, as well as qualitative information regarding the counterparty's strategic position and history of commercial relations.

Based on the counterparty's credit risk, risk mitigation strategies may be used to manage the Company's credit risk. The main credit risk mitigation strategies include non-recourse sale of receivables, insurance instruments, letters of credit, corporate and bank guarantees, mortgages, among others.

b.i) Accounts receivable portfolio

Vale has a diversified accounts receivable portfolio from a geographical standpoint, with Asia, Middle East, North Africa, Europe and Brazil as the regions with more significant exposures. According to each region, different guarantees can be used to enhance the credit quality of the receivables. Historically, the expected credit loss on the Company's accounts receivable portfolio is immaterial (note 12).

Notes to the Consolidated Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

b.ii) Financial instruments, except for accounts receivable

To manage the credit exposure arising from cash investments and derivative instruments, credit limits are approved to each counterparty with whom the Company has credit exposure. Furthermore, the Company controls the portfolio diversification and monitors different indicators of solvency and liquidity of the different counterparties that were approved for trading. The carrying amount of the financial assets that represent the exposure to credit risk is presented below:

	Notes	December 31, 2024	December 31, 2023
Cash and cash equivalents	24	4,953	3,609
Short-term investments	24	53	51
Restricted cash		13	4
Judicial deposits	29	-	611
Derivative financial instruments		68	815
Investments in equity securities	15	54	45
Total		5,141	5,135

b.iii) Financial counterparties' ratings

The transactions of derivative instruments, cash and cash equivalents, as well as short-term investments are held with financial institutions whose exposure limits are periodically reviewed and approved by the delegated authority. The financial institutions credit risk is performed through a methodology that considers, among other information, ratings provided by international rating agencies.

The table below presents the ratings in foreign currency as published by Moody's regarding the main financial institutions used by the Company to contract derivative instruments, cash and cash equivalents transaction.

	December 31, 2024		December 31, 2023	
	Cash and cash equivalents and investment	Derivatives	Cash and cash equivalents and investment	Derivatives
Aa2	391	1	338	-
Aa3	-	-	42	-
A1	1,874	28	2,022	50
A2	520	13	309	293
A3	709	2	186	22
Baa1	1	-	2	-
Baa2	4	-	16	-
Ba1 (i)	719	18	85	-
Ba2 (i)	788	6	287	314
Ba3 (i)	-	-	373	136
Total	5,006	68	3,660	815

(i) A substantial part of the balances is held with financial institutions in Brazil which are deemed investment grade in local currency.

c) Liquidity risk management

The liquidity risk arises from the possibility that Vale might not perform its obligations on due dates, as well as face difficulties to meet its cash requirements due to market liquidity constraints.

The available revolving credit facilities are intended to assist short term liquidity management and to enable more efficiency in cash management and were provided by a syndicate of several global commercial banks. The Company has two revolving credit facilities, in the amount of US\$5,000, for which US\$3,000 have maturity date in 2029 and US\$2,000 in 2026. As of December 31, 2024 and 2023, these lines were not drawn.

The Company also is part of supplier finance arrangements to manage its working capital and does not consider these arrangements gives rise to excessive concentrations of liquidity risk. For further details, see note 14 of these financial statements.

Notes to the Consolidated Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

Accounting policy

The Company uses financial instruments to hedge its exposure to certain market risks arising from operational, financing and investing activities. Derivatives are included within financial assets or liabilities at fair value through profit or loss unless they are designated as effective hedging instruments (hedge accounting).

At the beginning of the hedge operations, the Company documents the type of hedge, the relation between the hedging instrument and hedged items, its risk management objective and strategy for undertaking hedge operations. The Company also documents, both at hedge inception and on an ongoing basis that the hedge is expected to continue to be highly effective. The Company has elected to adopt the new general hedge accounting model in IFRS 9 and designates certain derivatives as either:

Cash flow hedge – The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in equity within "Unrealized fair value gain (losses)". The gain or loss relating to the ineffective portion is recognized immediately in the income statement. When a hedging instrument expires or is sold, or when a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in equity at that time remains in equity and is recognized in profit or loss when the transaction is recognized in the income statement.

Net investment hedge – Hedges of net investments in foreign operations are accounted for similarly to cash flow hedges. Any gain or loss on the hedging instrument relating to the effective portion of the hedge is recognized in equity within "Cumulative translation adjustments". The gain or loss relating to the ineffective portion is recognized immediately in the income statement. Gains and losses accumulated in equity are included in the statement of income when the foreign operation is partially or fully disposed of or sold.

Derivatives at fair value through profit or loss – Certain derivative instruments do not qualify for hedge accounting. Changes in the fair value of any of these derivative instruments are recognized immediately in the income statement.

Critical accounting estimates and judgments

The fair values of financial instruments that are not traded in active markets are determined using valuation techniques. Vale uses its own judgment to choose between the various methods. Assumptions are based on the market conditions, at the end of the year. An analysis of the impact if actual results are different from management's estimates is present under "Sensitivity analysis of derivative financial instruments".

Notes to the Consolidated Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

22. Financial assets and liabilities

a) Classification

The Company classifies its financial instruments in accordance with the purpose for which they were acquired, and determines the classification and initial recognition according to the following categories:

Financial assets	Notes	December 31, 2024				December 31, 2023			
		Amortized cost	At fair value through OCI	At fair value through profit or loss	Total	Amortized cost	At fair value through OCI	At fair value through profit or loss	Total
Current									
Cash and cash equivalents	24	4,953	-	-	4,953	3,609	-	-	3,609
Short-term investments	24	-	-	53	53	-	-	51	51
Derivative financial instruments	21	-	-	53	53	-	-	271	271
Accounts receivable	12	374	-	1,984	2,358	362	-	3,835	4,197
		5,327	-	2,090	7,417	3,971	-	4,157	8,128
Non-current									
Judicial deposits	29(c)	537	-	-	537	798	-	-	798
Restricted cash	15	13	-	-	13	4	-	-	4
Derivative financial instruments	21	-	-	15	15	-	-	544	544
Investments in equity securities	15	-	54	-	54	-	45	-	45
		550	54	15	619	802	45	544	1,391
Total of financial assets		5,877	54	2,105	8,036	4,773	45	4,701	9,519
Financial liabilities									
Current									
Suppliers and contractors	14	4,234	-	-	4,234	5,272	-	-	5,272
Derivative financial instruments	21	-	-	197	197	-	-	36	36
Loans and borrowings	24	1,020	-	-	1,020	824	-	-	824
Leases	25	147	-	-	147	197	-	-	197
Liabilities related to the concession grant	15(a)	467	-	-	467	591	-	-	591
Other financial liabilities - Related parties	32	291	-	-	291	290	-	-	290
Contract liability and financial liabilities	15	588	-	-	588	759	-	-	759
		6,747	-	197	6,944	7,933	-	36	7,969
Non-current									
Derivative financial instruments	21	-	-	428	428	-	-	95	95
Loans and borrowings	24	13,772	-	-	13,772	11,647	-	-	11,647
Leases	25	566	-	-	566	1,255	-	-	1,255
Participative shareholders' debentures	23	-	-	2,217	2,217	-	-	2,874	2,874
Liabilities related to the concession grant	15(a)	1,887	-	-	1,887	3,278	-	-	3,278
Other financial liabilities		32	-	-	32	-	-	-	-
		16,257	-	2,645	18,902	16,180	-	2,969	19,149
Total of financial liabilities		23,004	-	2,842	25,846	24,113	-	3,005	27,118

b) Hierarchy of fair value

Financial assets	Notes	December 31, 2024				December 31, 2023			
		Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Short-term investments	24	53	-	-	53	51	-	-	51
Derivative financial instruments	21	-	68	-	68	-	815	-	815
Accounts receivable	12	-	1,984	-	1,984	-	3,835	-	3,835
Investments in equity securities	15	-	54	-	54	-	45	-	45
		53	2,106	-	2,159	51	4,695	-	4,746
Financial liabilities									
Derivative financial instruments	21	-	625	-	625	-	131	-	131
Participative shareholders' debentures	23	-	2,217	-	2,217	-	2,874	-	2,874
		-	2,842	-	2,842	-	3,005	-	3,005

There were no transfers between levels 1, 2 and 3 of the fair value hierarchy during the period presented.

Notes to the Consolidated Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

c) Fair value of loans and borrowings

Loans and borrowings are recorded at their contractual values. To determine the market values of these financial instruments traded in public markets, the closing market quotations on the balance sheet dates were used. The Company considers that for the other financial liabilities measured at amortized cost, their book values are close to their fair values and therefore information on their fair values is not being presented.

	December 31, 2024		December 31, 2023	
	Carrying amount	Fair value	Carrying amount	Fair value
Quoted in the secondary market:				
Bonds	7,267	7,245	7,253	7,404
Debentures	1,272	1,275	221	213
Debt contracts in Brazil in:				
R\$, indexed to TJLP, TR, IPCA, IGP-M and CDI	185	185	250	250
Basket of currencies and bonds in US\$ indexed to SOFR	152	155	153	168
Debt contracts in the international market in:				
US\$, with variable and fixed interest	5,844	5,922	4,504	4,950
Other currencies, with variable interest	9	8	9	9
Other currencies, with fixed interest	63	64	81	85
	14,792	14,854	12,471	13,079

Accounting policy

Classification and measurement - The Company classifies financial instruments based on its business model for managing the assets and the contractual cash flow characteristics of those assets. The business model test determines the classification based on the business purpose for holding the asset and whether the contractual cash flows represent only payments of principal and interest.

Financial instruments are measured at fair value through profit or loss ("FVTPL") unless certain conditions are met that permit measurement at fair value through other comprehensive income ("FVOCI") or amortized cost. Gains and losses recorded in other comprehensive income for debt instruments are recognized in profit or loss only on disposal.

Investments in equity instruments are measured at FVTPL unless they are eligible to be measured at FVOCI, whose gains and losses are never recycled to profit or loss.

All financial liabilities are initially measured at fair value, net of transaction costs incurred and are subsequently carried at amortized cost and updated using the effective interest rate method. Excepts for Participative shareholders' debentures and Derivative financial instruments that are measured at FVTPL.

Fair value hierarchy - The Company classifies financial instruments within the fair value hierarchy as:

Level 1: The fair value of financial instruments traded in active markets (e.g. derivatives and publicly traded shares) is based on quoted market prices at the end of the financial statements period.

Level 2: The fair value of financial instruments that are not traded in an active market (e.g. over the counter derivatives) is determined using valuation techniques that maximize the use of observable market data. If all significant data required for the fair value of an instrument are observable, the instrument is included in level 2.

Level 3: If one or more of the significant data are not based on observable market data, the instrument is included in level 3. The fair value of derivatives classified as level 3 is estimated using discounted cash flows and option valuation models with unobservable inputs of discount rates, stock prices and commodity prices.

Notes to the Consolidated Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

23. Participative shareholders' debentures

At the time of its privatization in 1997, the Company issued a total of 388,559,056 debentures to then-existing shareholders, including the Brazilian Government. The debentures' terms were set to ensure that pre-privatization shareholders would participate in potential future benefits that might be obtained from exploration of mineral resources. This obligation related to the debentures will cease when all the relevant mineral resources are exhausted, sold or otherwise disposed of by the Company.

Holders of participative shareholders' debentures have the right to receive semi-annual payments equal to an agreed percentage of revenues less value-added tax, transport fee and insurance expenses related to the trading of the products, derived from these mineral resources.

The effects on the income statement and on the statement of financial position are shown below:

	Average price (R\$)			Financial results			Year ended December 31,		
	2024	2023	2022	2024	2023	2022	2024	2023	2022
Participative shareholders' debentures	35.33	35.80	36.59	(175)	(179)	659	2,217	2,874	2,725

The Company made available for withdrawal as remuneration the following amounts, as disclosed on the "Shareholders' debentures report" available on the Company's website, which were not incorporated by reference:

	Availability date	Remuneration amount
Remuneration for the first half of 2024	October 1, 2024	94
Remuneration for the second half of 2023	April 1, 2024	149
Year ended December 31, 2024		243
Remuneration for the first half of 2023	October 2, 2023	106
Remuneration for the second half of 2022	April 3, 2023	127
Year ended December 31, 2023		233
Remuneration for the first half of 2022	October 3, 2022	137
Remuneration for the second half of 2021	April 1, 2022	234
Year ended December 31, 2022		371

Accounting policy

The participative shareholders' debentures are measured at fair value through profit or loss based on the market approach, representing the amount that would be paid for the acquisition of these securities on the measurement date and, therefore, also implicitly includes the remuneration to the debenture holder. To calculate the fair value of the liabilities, the Company uses the weighted average price of the secondary market trades in the last month of period.

Notes to the Consolidated Financial Statements

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24. Loans, borrowings, cash and cash equivalents and short-term investments

a) Net debt

The Company monitors the net debt with the objective of ensuring the continuity of its business in the long term.

	December 31, 2024	December 31, 2023
Loans and borrowings	14,792	12,471
Leases (note 25)	713	1,452
Gross debt	15,505	13,923
(-) Cash and cash equivalents	4,953	3,609
(-) Short-term investments (i)	53	51
(-) Net Cash PTVI (note 17)	-	703
Net debt	10,499	9,560

(i) Substantially comprises investments in an exclusive investment fund, which portfolio is made by committed transactions and Selic Treasury Notes ("LFTs"), which are floating-rate securities issued by the Brazilian government.

b) Cash and cash equivalents

	December 31, 2024	December 31, 2023
R\$	1,709	953
US\$	3,048	2,516
Other currencies	196	140
Total	4,953	3,609

c) Loans and borrowings

i) Outstanding balance of loans and borrowings by type and currency

	Average interest rate (i)	Current liabilities		Non-current liabilities	
		December 31, 2024	December 31, 2023	December 31, 2024	December 31, 2023
Quoted in the secondary market:					
US\$ Bonds (ii)	6.04%	-	-	7,187	7,157
R\$ Debentures (iii)	7.28%	68	96	1,191	119
Debt contracts in Brazil in (iv):					
R\$, indexed to TJLP, TR, IPCA, IGP-M and CDI	8.19%	41	49	143	200
Basket of currencies and bonds in US\$ indexed to SOFR	9.92%	-	-	150	150
Debt contracts in the international market in:					
US\$, with variable and fixed interest	5.35%	716	500	5,042	3,945
Other currencies, with variable interest	3.94%	-	-	9	9
Other currencies, with fixed interest	4.47%	11	12	50	67
Accrued charges		184	167	-	-
Total		1,020	824	13,772	11,647

(i) In order to determine the average interest rate for debt contracts with floating rates, the Company used the rate applicable as of December 31, 2024.

(ii) In June 2024, the Company issued bonds of US\$1 billion with a coupon of 6.40% per year, payable semi-annually, and maturing in 2054.

(iii) In October 2024, the Company issued debentures of US\$1 billion (R\$6 billion) in Brazil with a coupon indexed to an inflation rate (IPCA) plus a spread from 6.38% to 6.43% per year, payable semi-annually, and maturing in 2034, 2036 and 2039. The proceeds were received in November 2024 and will be used in infrastructure projects related with the railway concessions.

(iv) The Company entered into derivatives to mitigate the exposure to cash flow variations of all floating rate debt contracts in Brazil, resulting in an average cost of 3.32 per year in US\$.

The reconciliation of loans and financing with cash flows resulting from financing activities is presented in Note 11(C).

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ii) Future flows of principal and interest of loans and borrowings payments

	Principal	Estimated future interest payments (i)
2025	836	867
2026	146	815
2027	1,694	755
2028	850	704
Between 2029 and 2031	3,722	1,203
2032 onwards	7,360	3,828
Total	14,608	8,172

(i) Based on interest rate curves and foreign exchange rates applicable as of December 31, 2024 and considering that the payments of principal will be made on their contracted payments dates. The amount includes the estimated interest not yet accrued and the interest already recognized in the annual financial statements.

For the year ended in 2024, 4% of total interest incurred in Loans and borrowings was capitalized (2023: 2%) (note 7). Loan and Borrowing costs that are not capitalized are recognized in the income statement of the year in which they are incurred.

Covenants

As of December 31, 2024, under the terms of certain financial liabilities which has a total carrying amount of US\$2,696 (2023: US\$2,469), the Company is required to comply with the following financial covenants at the end of each annual reporting period:

- Leverage: The debt must be not more than 4.5x adjusted EBITDA; and
- Interest coverage: The adjusted EBITDA must be not less than 2x interest expenses.

The Company has complied with these covenants as of December 31, 2024, and 2023 and the next measurement date will be at the end of the next annual reporting period.

Vale is also subject to non-financial covenants ordinarily used in the market, such as compliance with certain governance and environmental requirements, among others. The Company has complied with these covenants as of December 31, 2024 and 2023.

Accounting policy

Loans and borrowings are initially measured at fair value, net of transaction costs incurred and are subsequently carried at amortized cost and updated using the effective interest rate method. Any difference between the proceeds (net of transaction costs) and the redemption value is recognized in the Income statement over the period of the loan, using the effective interest rate method. The fees paid in obtaining the loan are recognized as transaction costs. The Company contracts derivatives to protect its exposure to changes in debt cash flows, changing the average cost of debts that have hedge derivatives contracted.

Loans and borrowing costs are capitalized as part of property, plants and equipment if those costs are directly related to a qualified asset. The capitalization occurs until the qualified asset is ready for its intended use. Interest on loans and borrowing not capitalized is recognized in profit or loss for the year when incurred.

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25. Leases

a) Right of use

	December 31, 2023	Additions and contract modifications	Depreciation	Acquisition of Aliança Energia	Deconsolidation of VODC	Translation adjustment	December 31, 2024
Ports	628	3	(44)	-	(525)	(11)	51
Vessels	415	-	(62)	-	-	-	353
Pelletizing plants	193	-	(48)	-	-	(36)	109
Properties	80	49	(20)	4	-	(19)	94
Energy plants	34	-	(5)	-	-	(1)	28
Other	9	31	(8)	-	-	(7)	25
Total	1,359	83	(187)	4	(525)	(74)	660

b) Leases liabilities

	December 31, 2023	Additions and contract modifications	Payments (i)	Interest	Acquisition of Aliança Energia	Deconsolidation of VODC	Translation adjustment	December 31, 2024
Ports	682	3	(63)	19	-	(583)	(4)	54
Vessels	397	-	(55)	14	-	-	-	356
Pelletizing plants	207	-	(46)	8	-	-	(43)	126
Properties	102	49	(24)	4	4	-	(28)	107
Energy plants	49	-	(6)	3	-	-	(3)	43
Other	15	31	(8)	1	-	-	(12)	27
Total	1,452	83	(202)	49	4	(583)	(90)	713
Current liabilities	197							147
Non-current liabilities	1,255							566
Total	1,452							713

(i) The total amount of the variable lease payments not included in the measurement of lease liabilities was US\$253 recorded in the income statement for the year ended December 31, 2024, (2023: US\$112 and 2022: US\$367).

Annual minimum payments and remaining lease term

The following table presents the undiscounted lease obligation by maturity date. The lease liability recognized in the statement of financial position is measured at the present value of such obligations.

	2025	2026	2027	2028	2029 onwards	Total	Remaining term (years)	Discount rate
Ports	25	12	1	1	18	57	2 to 18	4% to 5%
Vessels	59	54	53	51	188	405	1 to 8	3% to 4%
Pelletizing plants	39	13	13	13	63	141	1 to 8	2% to 6%
Properties	15	14	12	12	22	75	1 to 14	2% to 6%
Energy plants	8	6	5	5	33	57	2 to 5	5% to 6%
Other	9	6	3	3	1	22	1 to 4	3% to 6%
Total	155	105	87	85	325	757		

Accounting policy

The Company recognizes a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date. The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the earlier of the end of the lease term or the end of the useful life of the right-of-use asset.

The Company does not recognize right-of-use assets and liabilities for leases with less than 12 months of lease term and/or leases of low-value assets. The payments associated to these leases are recognized as an expense on a straight-line basis over the lease term.

The lease liability is initially measured at the present value of the lease payments, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Company's incremental borrowing rate. Lease payments included in the measurement of the lease liability comprise: (i) fixed payments, including in-substance fixed payments; (ii)

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variable lease payments that depend on an index or a rate; and (iii) the exercise price under a purchase option or renewal option that are under the Company's control and is reasonably certain to be exercised.

The lease liability is measured at amortized cost using the effective interest method. It is remeasured when there is a change in future lease payments arising from a change in an index or rate. When the lease liability is remeasured, a corresponding adjustment is made to the carrying amount of the right-of-use asset or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

26. Brumadinho dam failure

In January 2019, a tailings dam ("Dam I") experienced a failure at the Córrego do Feijão mine, in the city of Brumadinho, state of Minas Gerais, Brazil. The failure released a flow of tailings debris, destroying some of Vale's facilities, affecting local communities and disturbing the environment. The tailings released have caused an impact of around 315 km in extension, reaching the nearby Paraopeba River. The dam failure in Brumadinho ("event") resulted in 270 fatalities or presumed fatalities and caused extensive property and environmental damage in the region.

As a result of the dam failure, the Company recognized provisions to meet its assumed obligations, including indemnification to those affected by the event, remediation of the impacted areas and compensation to the society. In addition, the Company has incurred expenses in relation to tailings management, humanitarian assistance, payroll, legal services, water supply, among others.

Effects in income statements

	2024	2023	2022
Integral Reparation Agreement	52	(39)	-
Other obligations	(168)	(437)	(400)
Incurred expenses	(378)	(484)	(685)
Insurance (i)	11	30	6
Expenses related to Brumadinho event	(483)	(930)	(1,079)

(i) The Company is negotiating with insurers the payment of indemnification under its civil liability and Directors and Officers Liability Insurance.

Changes in the provisions during 2024

	December 31, 2023	Revision to estimates	Monetary and present value adjustments	Disbursements	Translation adjustment	December 31, 2024
Integral Reparation Agreement						
Payment obligations	562	(16)	53	(189)	(106)	304
Provision for socio-economic reparation and others	592	(57)	52	(150)	(110)	327
Provision for social and environmental reparation	843	21	76	(244)	(163)	533
	1,997	(52)	181	(583)	(379)	1,164
Other obligations						
Tailings containment, geotechnical safety and environmental reparation	684	42	56	(147)	(131)	504
Individual indemnification	83	21	15	(60)	(10)	49
Other	296	105	42	(119)	(71)	253
	1,063	168	113	(326)	(212)	806
Liability	3,060	116	294	(909)	(591)	1,970

The cash flow for obligations are estimated for an average period ranging from 5 to 7 years and were discounted to the present value at an annual rate in real terms, which increased from 6.58% on December 31, 2023, to 7.88% on December 31, 2024.

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Judicial Settlement for Integral Reparation

On February 4, 2021, the Company entered into a Judicial Settlement for Integral Reparation ("Global Settlement"), which was under negotiations since 2019, with the State of Minas Gerais, the Public Defender of the State of Minas Gerais and the Federal and the State of Minas Gerais Public Prosecutors Offices, to repair the environmental and social damage resulting from the Dam I rupture. As a result of the Global Settlement, the requests for the reparation of socio-environmental and socioeconomic damages caused by the dam failure were substantially resolved.

The Settlement for Integral Reparation includes: (i) payment obligations, of which the funds will be used directly by the State of Minas Gerais and Institutions of Justice for socio-economic and socio-environmental compensation projects; (ii) socioeconomic projects in Brumadinho and other municipalities; and (iii) compensation of the environmental damage caused by the dam failure. These obligations are projected for an average period of 5 years.

For the measures described in item (i) and (ii), the amounts are specified in the agreement. For the execution of the environmental recovery actions has no cap limit despite having been estimated in the Settlement for Integral Reparation due to the Company's legal obligation to fully repair the environmental damage caused by the dam failure. Therefore, although Vale is monitoring this provision, the amount recorded could materially change depending on several factors that are not under the Company's control.

Other obligations

The Company is also working to ensure geotechnical safety of the remaining structures at the Córrego do Feijão mine, in Brumadinho, and the removal and proper disposal of the tailings of Dam I, including dredging part of the released material and de-sanding from the channel of the river Paraopeba. In 2024, the revision of estimates to carry out these actions resulted in the provision complement amounting to US\$42 (2023: US\$200).

For the individual indemnification, Vale and the Public Defendants of the State of Minas Gerais formalized an agreement on April 5, 2019, under which those affected by the Brumadinho's dam failure may join an individual or family group out-of Court settlement agreements for the indemnification of material, economic and moral damages. This agreement establishes the basis for a wide range of indemnification payments, which were defined according to the best practices and case law of Brazilian Courts, following rules and principles of the United Nations.

a) Legal proceedings

Class action in the United States

Vale is defending itself against a class action brought before a Federal Court in New York and filed by holders of securities - American Depositary Receipts ("ADRs") - issued by Vale.

The Court will review the admissibility of Vale's Motion for Summary Judgment through the consideration of a pre-motion letter submitted by Vale. Additionally, in 2024, there was a hearing with the Judge to consider Motion for Class Decertification filed by Vale and oral arguments on the relevance of expert opinions presented by the Plaintiffs' experts. A decision from the Court on Vale's requests is currently pending.

In November 2021, a new Complaint was filed by eight investment funds that chose to seek redress for alleged damages independently and separately from the class members of the main action, with the same allegations presented in the main class action. A decision from the Court on Vale's preliminary defense ("motion to dismiss") is currently pending.

The likelihood of loss of these proceedings is considered possible. However, considering the initial phase of this class action, it is not yet possible to reliably estimate the amount of a potential loss. The amount of damages sought in these claims is unspecified.

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Arbitration proceedings in Brazil filed by shareholders, a class association and foreign investment funds

In Brazil, Vale is named as a defendant in one arbitration filed by 385 minority shareholders and three arbitrations filed by foreign investment funds. Vale was also named as a respondent in two arbitrations filed by a class association allegedly representing all Vale's noncontrolling shareholders, which were dismissed in August 2024.

In the four proceedings, the claimants argue that Vale was aware of the risks associated with the dam and failed to disclose it to its shareholders. Based on such argument, they claim compensation for losses caused by the decrease in share price.

The expectation of loss is classified as possible for the four procedures and, considering the initial phase, it is not possible at this time to reliably estimate the amount of a possible loss.

In one of the proceedings filed by foreign legal entities, the Claimants initially estimated the amount of the alleged losses would be approximately US\$291 (R\$1,800 million). In another proceeding filed by foreign legal entities, the Claimants initially estimated the amount of the alleged losses would be approximately US\$630 (R\$3,900 million). In the procedure presented by minority shareholders, the applicants estimated the alleged losses at approximately US\$485 (R\$3,000 million), which could be increased later, as alleged by the applicants.

The Company disagrees with the ongoing proceedings and understands that, in this case and at the current stage of the proceedings, the probability of loss in the amount claimed by the foreign funds is remote.

Accounting policy

A provision is recognized when there is a present obligation as a result of a past event, it is probable that an outflow of resources will be required to settle the obligation and a reliable estimate about the amount can be made. The initial recognition of a provision is presented as 'Other operating revenues (expenses), net' in the income statement.

Provisions are recognized and subsequently measured at the present value of the estimated expenditures required to settle the Company's obligation. The effect related to the passage of time is presented in the income statement of the respective period as financial results.

Critical accounting estimates and judgments

The provision for social, economic and environmental reparation may be affected by factors including, but not limited to: (i) changes in the current estimated market price of the direct and indirect cost related to products and services, (ii) changes in timing for cash outflows, (iii) changes in the technology considered in measuring the provision, (iv) number of individuals entitled to the indemnification payments, (v) resolution of existing and potential legal claims, (vi) demographic assumptions, (vii) actuarial assumptions, and (viii) updates in the discount rate.

Thus, the amounts actually incurred by the Company may differ from the amounts currently provisioned, due to the confirmation of the assumptions used and which depend on several factors, some of which are not under the Company's control. These changes could result in a material impact on the amount of the provision in future periods. At each presentation date of its financial statements, the Company will reassess the main assumptions used in the preparation of projected cash flows and will adjust the provision, when applicable.

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27. Liabilities related to associates and joint ventures

In November 2015, the Fundão tailings dam owned by Samarco Mineração S.A. ("Samarco") experienced a failure, flooding certain communities and impacting communities and the environment along the Doce River. The dam failure resulted in 19 fatalities and caused property and environmental damage to the affected areas. Samarco is a joint venture equally owned by Vale S.A. and BHP Billiton Brasil Ltda. ("BHPB").

Thus, Vale, Samarco, and BHPB entered into agreements with the Federal Union, the States of Minas Gerais and Espírito Santo, and some other federal and state agencies, establishing the creation of socio-environmental and socio-economic programs aimed at adopting measures for mitigation, remediation, and compensation of damages. However, the requirements established reparation measures in the agreements were not fully implemented within the established period, and the involved parties began initiated further negotiations to seeking a definitive agreement for the resolution of all obligations related to the dam collapse.

a) Definitive Settlement for the full reparation

In October 2024, Vale, Samarco and BHPB, together with the Brazilian Federal Government, the State Governments of Minas Gerais and Espírito Santo, the Federal and State Public Prosecutors' and Public Defenders' Offices and other Brazilian public entities (jointly, "the Parties") are considering the general terms for a entered into a settlement new agreement ("Definitive Settlement") on integral and definitive reparation of the impacts of Fundão dam collapse, in Mariana, Minas Gerais. The agreement was ratified in November 2024.

The Definitive Settlement replaced all of the previously signed agreements, and addressed the claims related to the Fundão dam collapse that were brought by Brazilian public authorities that signed the agreement, from the perspective of socioenvironmental and socioeconomical damages.

The total amount of the Definitive Agreement is US\$31.7 billion (R\$170 billion), comprising past and future obligations, to serve the people, communities and environment impacted by the dam failure. It includes:

- US\$7.9 billion (R\$38 billion) already incurred, from the date of the dam collapse until the Definitive Settlement, by Vale, Samarco and BHPB with remediation and compensation measures and, therefore, do not constitute the Company's provision balance,
- US\$18 billion (R\$100 billion) to be paid over 20 years to the Federal Government, the States of Minas Gerais and Espírito Santo, the municipalities and which will also be used by Justice Institutions, to fund compensatory programs and actions tied to public policies, and
- US\$5.8 billion (R\$32 billion) in performance obligations by Samarco, including initiatives for individual indemnification, resettlement, and environmental recovery. The expectation is that the cash disbursement related to these obligations will occur substantially over the next 3 years.

Samarco has primary responsibility for funding the obligations related to the Definitive Settlement. Vale and BHPB have secondary funding obligations in the proportion to their 50 per cent shareholding in Samarco, in extent to which Samarco may not be able to fund the future cash outflows.

The judicial ratification of the Definitive Settlement ended a series of relevant lawsuits, moved by public authorities and justice institutions in Brazil. Vale, jointly with BHPB and Samarco, is requiring the termination and archive of these proceedings.

b) Provision related to the Samarco dam failure

As a result of the Definitive Agreement, the Company recognized an addition to the provision in the amount of US\$956 and reflects the change in Vale's assessment of potential outflows to resolve all aspects of the reparation and compensation of the Samarco dam failure.

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Changes in the provision

	Total
Balance as of December 31, 2023	4,427
Addition to the provision due to the Definitive Agreement	956
Monetary and present value adjustments	107
Disbursements	(808)
Translation adjustments	(1,019)
Balance as of December 31, 2024	3,663

The cash outflows to meet the obligations are discounted to present value at an annual rate in real terms, which increased from 5.22% on December 31, 2023, to 7.30% on December 31, 2024.

c) Remaining legal proceedings

With the Definitive Agreement, the public civil actions brought by the Brazilian Justice Institutions and Brazilian public authorities were substantially resolved and the parameters for compliance with the reparation and compensation for damages were defined. Thus, the remaining most relevant legal proceedings are shown below:

Claims in the United Kingdom and the Netherlands

In July 2024, Vale and BHP have entered into a confidential agreement without any admission of liability pursuant to Vale and BHP will share equally any potential payment obligations arising from the UK and Dutch Claims, described below.

London Contribution claim – As a result of the rupture of Samarco’s Fundão dam failure, BHP Group Ltd (“BHP”) was named as defendant in group action claims for damages filed in the courts of England and Wales for various plaintiffs, between individuals, companies and municipalities from Brazil that were supposedly affected by the Samarco dam failure (the “UK Claim”).

The proceedings against BHP are still progressing in London and the first phase of the trial began in October 2024 expected to last until March 2025. It is estimated that the first-stage judgment will be handed down in the third quarter of 2025. The likelihood of loss of these proceedings is considered possible. However, considering the initial phase, it is not yet possible to reliably estimate the amount of a potential loss.

Netherlands proceeding – In March 2024, a court in Amsterdam granted a preliminary injunction freezing the shares in Vale Holdings B.V., a wholly owned subsidiary incorporated in the Netherlands, and the economic rights attached to those shares, in guarantee of an amount of approximately US\$956 (EUR920 million). The freezing orders were issued in anticipation of a legal action to be brought against Vale by certain Brazilian municipalities and an organization that represents individuals and small businesses that claim to have been affected by the collapse of Samarco’s Fundão dam in 2015.

In addition, in 2024, three rogatory letters were fulfilled in Brazil, sent by the Amsterdam court, so that Vale could be notified about the filing of the lawsuit and the seizure orders. In the records of these rogatory letters, Vale has already anticipated its understanding about the lack of jurisdiction of the Dutch Justice to analyze the claims of the initial petition.

The first court event for Vale in the Dutch court is expected to take place in the first quarter of 2025. The likelihood of loss of these proceedings is considered possible. However, considering the initial phase, it is not yet possible to reliably estimate the amount of a potential loss.

d) Judicial reorganization of Samarco

In April 2021, Samarco filed for Judicial Reorganization (“JR”) with the Courts of Minas Gerais to renegotiate its debt, which was held by bondholders abroad. The purpose of JR is to restructure Samarco’s debts and establish an independent and sustainable financial position, allowing Samarco to keep working to resume its operations safely and to fulfill its obligations related to the Renova Foundation.

In May 2023, Vale S.A. entered into a binding agreement jointly with BHPB, Samarco and certain creditors which hold together more than 50% of Samarco’s debt, setting the parameters of Samarco’s debt restructuring to be implemented through a consensual restructuring plan, which was approved by the creditors, submitted to the JR Court in July 2023, and confirmed by the judge in September 2023.

In December 2023, Samarco’s existing US\$4.8 billion of financial debt held by creditors was exchanged for approximately US\$3.9 billion of long-term unsecured debt, bearing interest from 2023 to 2031.

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After the execution of the plan, Samarco has a lean capital structure, in line with its operational ramp-up and cash flow generation. The plan considers the fund of the reparation and compensation programs capped at US\$1 billion from 2024 to 2030 and additional contributions after that period due to the Samarco's projected cash flows generation.

e) Tax consequences for Vale arising from the consensual restructuring plan of Samarco

The plan provides that additional cash demands from Renova Foundation will be made through capital contributions to Samarco. The contributions have been carried out directly by Vale and BHPB to the Renova Foundation on behalf of Samarco and, therefore, they were deemed tax deductible as incurred, according to the Brazilian tax regulation. Therefore, due to the change in the mechanism to fund Renova, Vale will no longer be allowed to deduct future payments from its income tax computation as they are not tax deductible in Brazil. Thus, the deferred income tax asset over the provision in the amount of US\$1,078 was reversed in full, with the corresponding impact in the income statement for the year ended December 31, 2023, recorded as "Income taxes" (note 9a).

f) Summarized financial information

The summarized financial information of Samarco are as follows. The stand-alone financial statements of Samarco may differ from the financial information reported herein, which is prepared considering Vale's accounting policies.

	Year ended December 31,	
	2024	2023
Current assets	659	532
Non-current assets	2,924	3,590
Total assets	3,583	4,122
Current liabilities	4,026	3,342
Non-current liabilities	17,603	12,179
Total liabilities	21,629	15,521
Negative reserves	(18,046)	(11,399)
(Loss) net income for the year ended	(7,371)	2,669

Accounting policy

A provision is recognized when there is a present obligation as a result of a past event, it is probable that an outflow of resources will be required to settle the obligation and a reliable estimate can be made. The provision is recorded as "Equity method results and other results in associates and joint ventures" in the income statement.

Provisions are recognized and subsequently measured at the present value of the estimated expenditures required to settle the Company's obligation. The effect related to the passage of time is presented in the income statement of the respective period as financial results.

Critical accounting estimates and judgments

Under Brazilian legislation and the terms of the joint venture agreement, the Company does not have an obligation to provide funding to Samarco. Accordingly, the Company's investment in Samarco was fully impaired and no provision was recognized in relation to the Samarco's negative equity.

The provision related to the Samarco dam failure requires the use of assumptions and estimates, which may significantly change due to: (i) the cost to complete the programs under the Definitive Agreement, (ii) the extent to which Samarco will be able to directly pay its future obligations related to remediation and compensation, considering that its cash flow projections mainly depend on Samarco's ability to resume maximum production levels and commodity prices, (iii) resolution of potential and existing legal claims, and (iv) updates to the discount rate.

As a result, future expenditures may differ from the amounts currently provided and changes to key assumptions could result in a material impact to the amount of the provision in future reporting periods.

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28. Provision for de-characterization of dam structures and asset retirement obligations

The Company is subject to local laws and regulations, that requires the decommissioning of the assets that Vale operates at the end of their useful lives, therefore, expenses for demobilization occur predominantly after the end of operational activities. These obligations are regulated by the ANM at the federal level and by environmental agencies at the state level. Among the requirements, the decommissioning plans must consider the physical, chemical and biological stability of the areas and post-closure actions for the period necessary to verify the effectiveness of the decommissioning. These obligations are accrued and are subject to critical estimates and assumptions applied to the measurement of costs by the Company. Depending on the geotechnical characteristics of the structures, the Company is required to de-characterize the structures, as shown in item a) below.

Effects in the income statements

	Notes	2024	2023	2022
De-characterization of upstream geotechnical structures	28(a)	206	(153)	(72)
Asset retirement obligations	28(b)	16	(5)	(23)
Environmental obligations	28(b)	(50)	(71)	(33)
		172	(229)	(128)

Changes in the provisions during 2024

	De-characterization of upstream geotechnical structures	Asset retirement obligations	Environmental obligations	Total
Balance as of December 31, 2023	3,451	3,779	499	7,729
Revision to estimates – amounts for closed plants charged to the income statement (i)	(206)	(16)	50	(172)
Revision to estimates – capitalized amounts for operating plants	-	(12)	33	21
Disbursements	(533)	(218)	(90)	(841)
Acquisition of Aliança Energia	-	3	20	23
Monetary and present value adjustments	185	108	27	320
Translation adjustment	(684)	(538)	(95)	(1,317)
Balance as of December 31, 2024	2,213	3,106	444	5,763

(i) Includes the reduction of the liability for the de-characterization of upstream geotechnical structures in the amount of US\$206, substantially due to the update in the discount rate, which increased from 5.41% on December 31, 2023, to 7.36% on December 31, 2024. The cash flows of the obligations are projected over a period of up to 14 years.

a) De-characterization of upstream geotechnical structures

As a result of the Brumadinho dam failure (note 26) and, in compliance with laws and regulations, the Company has decided to accelerate the plan to “de-characterize” of all its tailings dams and dikes built under the upstream method, located in Brazil. The Company also operates tailings dams in Canada, including upstream compacted dams. However, the Company decided that these dams will be decommissioned using other methods, thus, the provision to carry out the decommissioning of dams in Canada is recognized as “Obligations for decommissioning assets and environmental obligations”, as presented in item (b) below.

These structures are in different stages of maturity, some of them still in the conceptual engineering phase, for which the estimate of expenditures includes in its methodology a high degree of uncertainty in the definition of the total cost of the project in accordance with best market practices.

Laws and regulations related to dam safety

In December 2023, the government of Minas Gerais published decree No. 48,747, which regulates the measurement and execution of environmental guarantees individually for each dam, based on the reservoir area, classification and purpose of the dam, and estimated de-characterization costs and should be kept throughout the useful life of the dam, from its startup phase until the de-characterization and socio-environmental recovery.

In September 2024, the Company submitted environmental guarantee proposals to the government with a total amount of US\$274 (R\$1.7 billion), which will be met by providing property mortgage and property fiduciary lien, financial guarantees or insurance and Vale expects that the financial costs to be incurred will be immaterial.

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In December 2024, the government of Minas Gerais published Decree No. 48.977, which amended Decree No. 48.747 and established a new implementation schedule for the guarantees, which should have a maximum term of 3 years from the approval of the proposals by the government of Minas Gerais, with half of this amount within 12 months and the remainder within the following 2 years.

Operational stoppage and idle capacity

In addition, due to the de-characterization projects, the Company has suspended some operations due to judicial decisions or technical analysis performed by Vale on its upstream dam structures located in Brazil. The Company has been recording losses in relation to the operational stoppage and idle capacity of the Iron Solutions segment in the amounts of US\$152 for the year ended December 31, 2024 (2023: US\$218 and 2022: US\$269). The Company is working on legal and technical measures to resume all operations at full capacity.

b) Asset retirement obligations and environmental obligations

	Liability		Discount rate		Cash flow maturity	
	December 31, 2024	December 31, 2023	December 31, 2024	December 31, 2023	December 31, 2024	December 31, 2023
Liability by geographical area						
Brazil	1,784	2,415	7.38%	5.47%	2132	2132
Canada	1,520	1,592	1.44%	1.30%	2152	2150
Oman	142	158	3.66%	3.19%	2035	2035
Other regions	104	113	2.77%	2.04%	-	-
	3,550	4,278				
Operating plants	2,509	3,155				
Closed plants	1,041	1,123				
	3,550	4,278				

Decommissioning plan and future use

The implementation and execution of future use projects, after the decommissioning, is not required by law and is therefore not included in the provision. However, the Company has been studying a governance to assess the future use, considering its aptitudes, post-operational usage intention, socio-economic development of the community and the characteristics of the physical and biotic environments in which Vale operates. Any future obligations, if assumed by Vale, may result in material impact on the amount of the provision.

Accounting policy

A provision is recognized when there is a present obligation as a result of a past event, it is probable that an outflow of resources will be required to settle the obligation and a reliable estimate can be made.

Provisions are recognized and subsequently measured at the present value of the estimated expenditures required to settle the Company's obligation.

The cost corresponding to the initial recognition of the provision and subsequent updates due to revisions in estimates is capitalized as part of property, plant, and equipment and depreciated over the useful life of the related mining assets. When future economic benefits are no longer expected from the operation, changes in estimates are recognized as "other operating revenues (expenses), net" in the income statement for the respective period. The effect related to the passage of time is presented in the income statement for the respective period as financial results.

Critical accounting estimates and judgments

De-characterization of dam structures - The definition of the main critical assumptions and estimates applied by the Company in the de-characterization provision is supported by internal and external engineering and geology advisors and considers, among others: (i) volume of the waste to be removed based on historical data available and interpretation of the enacted laws and regulations; (ii) location availability for the tailings disposal; (iii) engineering methods and solutions; (iv) security levels; (v) productivity of the equipment used; (vi) advances in geological studies and new hydrological information; and (vii) discount rate update.

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Therefore, future expenditures may differ from the amounts currently provided because the realized assumptions and various other factors are not always under the Company's control. These changes to key assumptions could result in a material impact to the amount of the provision in future reporting periods. At each reporting period, the Company will reassess the key assumptions used in the preparation of the projected cash flows and will adjust the provision, if required.

Asset retirement obligations – The definition of the main critical assumptions and estimates applied by the Company in the asset retirement obligations and environmental obligations is supported by internal and external engineering and geology advisors and considers, among others: interest rate, cost of closure, useful life of the mining asset considering the current conditions of closure and the projected date of depletion of each mine. Any changes in these assumptions may significantly impact the recorded provision. Therefore, the estimated costs for closure of the mining assets are deemed to be a critical accounting estimate and annually reviewed.

29. Legal and administrative proceedings

The Company is a defendant in numerous legal and administrative actions in the ordinary course of business, including civil, tax, environmental and labor proceedings.

The Company makes use of estimates to recognize the amounts and the probability of outflow of resources, based on reports and technical assessments and on management's assessment. Provisions are recognized for probable losses of which a reliable estimate can be made.

Arbitral, legal and administrative decisions against the Company, new jurisprudence and changes of existing evidence can result in changes regarding the probability of outflow of resources and on the estimated amounts, according to the assessment of the legal basis.

a) Provision for legal and administrative proceedings

Effects in income statements

	2024	2023	2022
Tax litigations	(80)	8	(40)
Civil litigations	(29)	(70)	(38)
Labor litigations	(191)	(167)	(67)
Environmental litigations	(3)	-	(8)
Total	(303)	(229)	(153)

Changes in the provisions during 2024

	Tax litigation	Civil litigation	Labor litigation	Environmental litigation	Total of litigation provision
Balance as of December 31, 2023	90	380	514	15	999
Additions and reversals, net	80	29	191	3	303
Payments	(15)	(72)	(111)	-	(198)
Indexation and interest	71	31	8	2	112
Acquisition of Aliança Energia	-	6	-	27	33
Translation adjustment	(25)	(84)	(120)	(7)	(236)
Balance as of December 31, 2024	201	290	482	40	1,013

The Company has considered all information available to assess the likelihood of an outflow of resources and in the preparation on the estimate of the costs that may be required to settle the obligations.

Tax litigations – The Company is party to several administrative and legal proceedings related mainly to the incidence of Brazilian federal contributions ("PIS" and "COFINS"), Value-added tax ("ICMS") and other taxes.

Civil litigations – Refers to lawsuits for: (i) indemnities for losses, payments and contractual fines due to contractual imbalance or non-compliance that are alleged by suppliers, and (ii) land claims referring to real estate Vale's operational activities.

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Labor litigations – Refers to lawsuits for claims by in-house employees and service providers, primarily involving demands for additional compensation for overtime work, moral damages or health and safety conditions.

Environmental litigations – Refers mainly to proceedings for environmental damages and issues related to environmental licensing.

The lawsuits related to Brumadinho event (note 26) and the Samarco dam failure (note 27) are presented in its specific notes to these financial statements and, therefore, are not disclosed above.

b) Contingent liabilities

	December 31, 2024	December 31, 2023
Tax litigations	5,995	7,235
Civil litigations	1,274	1,366
Labor litigations	292	378
Environmental litigations	1,050	1,320
Total	8,611	10,299

The main contingent liabilities, updated by applicable interest rates, for which the likelihood of loss is considered possible are presented by nature as follows. The proceedings related to Brumadinho event (note 26) and the Samarco dam failure (note 27) are presented in its specific notes to these financial statements.

Tax proceedings – Financial compensation for the exploration of mineral resources (“CFEM”)

The Company is engaged in numerous administrative and judicial proceedings related to the mining royalty known as CFEM. These proceedings arise from assessments by the Brazilian National Mining Agency (“*Agência Nacional de Mineração – ANM*”, former “DNPM”), which main discussions involve the deduction of taxes, insurance and transportation costs indicated in the corresponding invoice of CFEM payments, in addition to CFEM charges on pellet sales and the revenues from sales made by our foreign subsidiaries. The Company estimates the possible losses resulting from these proceedings to be US\$1,835 as of December 31, 2024 (December 31, 2023: US\$2,132).

Tax proceedings – PIS/COFINS

The Company is a party to several claims related to the alleged misuse of PIS and COFINS credits (federal taxes levied on the companies’ gross revenue). Brazilian tax legislation authorizes taxpayers to deduct PIS and COFINS tax credits, such as those referring to the acquisition of inputs for the production process and other items. The tax authorities mainly claim that (i) some credits were not related to the production process, and (ii) the right to use the tax credits was not adequately proven. The Company is discussing the afore mentioned charges related to credits determined as of 2002. The chances of loss related to these lawsuits classified as possible total US\$2,326 as of December 31, 2024 (December 31, 2023: US\$2,198).

Tax proceedings – Tax on Services (“ISS”)

The Company is party to several administrative and judicial proceedings related to the collection of ISS in several Brazilian municipalities. The tax authorities’ main allegations for those proceedings are: (i) the tax basis used for computing the tax payable was incorrect; (ii) failure to pay ISS related to third-party property and business management services; and (iii) the incidence of ISS over own goods port handling services (“self-service”). As of December 31, 2024, the total amount of the possible loss is US\$739 (December 31, 2023: US\$738).

Tax proceedings – Value added tax on services and circulation of goods (“ICMS”)

The Company is engaged in several administrative and judicial proceedings relating to additional charges of ICMS by the tax authorities of different Brazilian states. In each of these proceedings, the tax authorities claim that (i) misuse of tax credit; (ii) the Company is required to pay the ICMS on acquisition of electricity (iii) operations related to the collection of tax rate differential (“DIFAL”) and (iv) incidence of ICMS on its own transportation. The total amount classified as a possible loss is US\$389 as of December 31, 2024 (December 31, 2023: US\$586).

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Environmental litigations – Iron ore operations in Itabira

The Company is a party to two lawsuits filed by the municipality of Itabira, in the state of Minas Gerais. The first is a public civil action filed by the municipality of Itabira in August 1996, alleging that Vale's iron ore operations in Itabira caused environmental, social, and alleged environmental degradation damages to the site, and requesting the immediate recovery of the affected ecological complex and the implementation of compensatory environmental programs in the region. In the second action, filed in September 1996, the municipality of Itabira claims the right to be reimbursed for expenses incurred in relation to public services provided as a result of mining activities. The damages claimed, updated since the date of the action, total US\$460 on December 31, 2024 (2023: US\$524). Both actions are in the procedural instruction phase, and the Company has assessed the risk of loss as possible.

Environmental litigations – Public Civil Action of Maravilhas II and III and Forquilhas V

The Company is a party to public civil actions filed by the Public Prosecutor's Office of the State of Minas Gerais and the municipality of Jeceaba requesting the suspension of tailings disposal in the Maravilhas II and III dam (Vargem Grande complex) and Forquilhas V (Fábrica complex). The actions are ongoing, and evidence is awaited for subsequent judgment of the case. The Company considers the risk of loss to be possible. However, the amount of any losses resulting from the possible shutdown of these operations or compensation actions cannot be reliably estimated.

Environmental litigations – Proceeding related to the Tubarão Port

In July 2006, the National Association of Friends of the Environment (ANAMA) filed a class action against Vale, the State of Espírito Santo, the Environmental Institute of the State of Espírito Santo (IEMA), the Municipality of Vitória, the Federal Union, and the Brazilian Institute of Environment and Renewable Natural Resources (Ibama). ANAMA requested compensation for the pollution allegedly caused in the Metropolitan Region of the Municipality of Vitória and the suspension of the operating license. In 2018, the Company entered into an agreement that established investments to improve atmospheric emissions control at the Tubarão Port and pelletizing plants. This agreement should have halted the continuation of the lawsuit. However, despite the conclusions of the judicial technical evidence and the execution of the agreement, in November 2023, the court established that Vale should present additional technical evidence to assess the Company's contribution to the air quality of the metropolitan region of Vitória, in the state of Espírito Santo. The Company is defending these proceedings and considers the risk of loss to be possible. However, the amount of any losses resulting from the possible shutdown of these operations or compensation actions to prevent the suspension of the license cannot be reliably estimated.

Environmental litigations – Stella Banner Accident

In December 2020, the Federal Public Prosecutor's Office (MPF) filed a public civil action against Vale seeking compensation for the alleged environmental damages and reimbursement of expenses incurred by public authorities. In April 2022, the MPF filed a criminal action before the Federal Court against the captain of the carrier, Polaris, and Vale, for the alleged crime of pollution through the unauthorized discharge of oily waste. In November 2023, the court accepted the complaint for the alleged crime of pollution through the discharge of oil into the sea. The Company is defending these proceedings and considers the risk of loss to be possible. However, it is not yet possible to reliably estimate the amount of a potential loss.

c) Judicial deposits

	December 31, 2024	December 31, 2023
Tax litigations	338	516
Civil litigations	78	122
Labor litigations	110	148
Environmental litigations	11	12
Total	537	798

d) Guarantees contracted for legal proceedings

In addition to the above-mentioned tax, civil, labor and environmental judicial deposits, the Company contracted US\$2.9 billion (December 31, 2023: US\$2.7 billion) in guarantees for its lawsuits, as an alternative to judicial deposits.

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Accounting policy

A provision is recognized when there is a present obligation as a result of a past event, it is probable that an outflow of resources will be required to settle the obligation and a reliable estimate can be made. The provision is recorded an expense in the income statement.

Provisions are recognized and subsequently measured at the best estimate of the expenditures required to settle the Company's obligation.

This obligation is updated based on the developments of the judicial process or interest accretion and can be reversed if the expectation of loss is not considered probable due to changes in circumstances or when the obligation is settled.

Contingent assets are disclosed when the related economic benefits are probable and are only recognized in the financial statements in the period in which their realization is virtually certain.

Critical accounting estimates and judgments

Legal and administrative proceedings are contingent by nature, that is, it will be resolved when one or more future event occurs or fails to occur. Typically, the occurrence or not of such events is outside of the Company's control. Legal uncertainties involve the application of significant estimates and judgments by management regarding the potential outcomes of future events.

30. Employee benefits

		Current liabilities		Non-current liabilities	
	Notes	December 31, 2024	December 31, 2023	December 31, 2024	December 31, 2023
Payroll, related charges and other remunerations	30(a)	934	867	-	-
Share-based payment	30(b)	16	27	-	-
Employee post retirement obligation	30(c)	62	70	1,118	1,381
		1,012	964	1,118	1,381

a) Profit sharing program ("PLR")

The Company recorded as cost of goods sold and services rendered and other operating expenses related to the profit sharing program US\$611, US\$557 and US\$499 for the years ended on December 31, 2024, 2023 and 2022, respectively.

Compensation Associated with ESG Performance Targets

Currently, the Company aligns the compensation programs with the business strategy and the objective of making Vale a safer company. Since 2020, the Company has been following new standards for executive compensation. For short-term compensation, at least 30% of performance targets are driven by ESG metrics and directly related to safety, risk management and sustainability targets.

b) Share-based payments

For the long-term incentive programs, the Company compensation plans includes Matching Program and Performance Share Unit program ("PSU"), with three-year-vesting cycles, respectively, with the aim of encouraging employee's retention and encouraging their performance. The fair value of the programs is recognized on a straight-line basis over the three-year required service period, net of estimated losses.

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Matching Program

For the Matching program, the participants can acquire Vale's common shares in the market without any benefits being provided by Vale. If the shares acquired are held for a period of three years and the participants keep an employment relationship with Vale, the participant is entitled to receive from Vale an award in shares, equivalent to the number of shares originally acquired by the executive.

The fair value of the Matching program was estimated using the Company's share price and ADR and the number of shares granted on the grant date.

	2024 Program	2023 Program	2022 Program
Granted shares	2,244,659	1,330,503	1,437,588
Share price	12.02	15.94	20.03

Performance Shares Units ("PSU")

Under the PSU, eligible executives can earn, during a three-year vesting cycle, an award equivalent to the market value of a certain number of common shares and conditioned to Vale's performance factor measured based on Total Shareholder Return ("TSR") and Environmental, Social and Governance ("ESG") metrics. It is comprised of 75% of TSR metrics and 25% of ESG indicators and health and safety.

The fair value of the PSU program was measured by estimating the performance factor using Monte Carlo simulations for the Return to Shareholders Indicator and health and safety and sustainability indicators. The assumptions used for the Monte Carlo simulations are shown in the table below, as well as the result used to calculate the expected value of the total performance factor.

	2024 Program	2023 Program	2022 Program
Granted shares	1,873,175	1,177,755	1,709,955
Date shares were granted	April 29, 2024	January 2, 2023	January 3, 2022
Share price	12.49	16.6	13.81
Expected volatility	35.60%	48.33%	39.00%
Expected term (in years)	3	3	3
Expected shareholder return indicator	66.95%	72.42%	51.20%
Expected performance factor	81.56%	69.17%	44.12%

c) Employee post retirement obligation

In Brazil, the management of the pension plans is the responsibility of Fundação Vale do Rio Doce de Seguridade Social ("Valia") a nonprofit entity with administrative and financial autonomy. The Brazilian plans are as follows:

Benefit plan Vale Mais ("Vale Mais") and benefit plan Valiaprev ("Valiaprev") - The Company's employees participating in Valia are associated, for the most part, with the Vale Mais plan, which has a defined benefit component (settled benefit from the former Defined Benefits Plan and specific benefit to cover death, disability retirement and sickness benefit) and defined contribution component (for programmable benefits). The Valiaprev plan is similar to the Vale Mais plan, with the exception of not having the benefit settled and the sickness benefit. Both Vale Mais and Valiaprev plans were overfunded as of December 31, 2024 and 2023.

Defined benefit plan ("Plano BD") - The Plano BD is closed to new entrants since 2000, when the Vale Mais plan was implemented. It is a plan that has defined benefit characteristics, covering almost exclusively retirees and their beneficiaries. It was overfunded as of December 31, 2024 and 2023 and the contributions made by the Company are not material.

"Abono complementação" benefit plan - The Company sponsors a specific group of former employees entitled to receive additional benefits from Valia regular payments. The contributions made by the Company finished in 2014. The "Abono complementação" benefit was overfunded as of December 31, 2024 and 2023.

Other benefits - The Company sponsors medical plans for employees that meet specific criteria and for employees who use the "abono complementação" benefit. Although those benefits are not specific retirement plans, actuarial calculations are used to calculate future obligations. As those benefits are related to health care plans they have nature of underfunded benefits, and are presented as underfunded plans as of December 31, 2024 and 2023.

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The foreign plans are managed in accordance with their region. They are divided between plans in Canada, USA and UK. Pension plans in Canada are composed of a defined benefit and defined contribution component. Currently the defined benefit plans do not allow new entrants. The majority of foreign defined benefit plans are underfunded as of December 31, 2024 and 2023 and just two overfunded plans as of December 31, 2024 and 2023.

In December 2023, the Company entered into annuity contracts to transfer US\$836 of pension plan obligations and its associated assets. This transaction triggered a settlement and remeasurement of the pension plan, and as a result, the Company recognized a non-cash loss of US\$5 in the income statement as "Other expenses", measured by the difference between the premium and the obligations transferred.

Employers' disclosure about pensions and other post-retirement benefits on the status of the defined benefit elements of all plans is provided as follows.

i. Evolution of present value obligation

	Overfunded pension plans	Underfunded pension plans and other benefits
Benefit obligation as of December 31, 2022	5,142	1,665
Service costs	16	23
Interest costs	322	171
Benefits paid	(479)	(182)
Effect of changes in the actuarial assumptions	468	174
Settlement	-	(836)
Transfer to assets held for sale	-	(40)
Other	3	8
Translation adjustment	246	84
Transfer	(1,201)	1,201
Benefit obligation as of December 31, 2023	4,517	2,268
Service costs	16	22
Past service cost	(5)	4
Interest costs	274	117
Benefits paid	(469)	(143)
Effect of changes in the actuarial assumptions	(220)	(86)
Administrative cost and taxes	3	2
Translation adjustment	(770)	(261)
Benefit obligation as of December 31, 2024	3,346	1,923

ii. Evolution of assets fair value

	Overfunded pension plans	Underfunded pension plans and other benefits
Fair value of plan assets as of December 31, 2022	6,340	339
Interest income	429	85
Employer contributions	22	81
Benefits paid	(479)	(182)
Return on plan assets (excluding interest income)	286	44
Settlement	-	(841)
Translation adjustment	320	28
Transfer	(1,261)	1,261
Fair value of plan assets as of December 31, 2023	5,657	815
Interest income	349	38
Employer contributions	17	78
Benefits paid	(469)	(143)
Return on plan assets (excluding interest income)	(259)	34
Translation adjustment	(979)	(79)
Fair value of plan assets as of December 31, 2024	4,316	743

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iii. Reconciliation of assets and liabilities recognized in the statement of financial position

	December 31, 2024			Plans in Brazil December 31, 2023
	Overfunded pension plans	Underfunded pension plans and other benefits	Overfunded pension plans	Underfunded pension plans and other benefits
Movements of assets ceiling				
Balance at beginning of the year	893	-	924	-
Interest income	61	-	95	-
Changes on asset ceiling	(109)	-	(194)	-
Translation adjustment	(196)	-	68	-
Balance at end of the year	649	-	893	-
Amount recognized in the statement of financial position				
Present value of actuarial liabilities	(2,113)	(438)	(3,152)	(661)
Fair value of assets	2,762	60	4,045	94
Effect of the asset ceiling	(649)	-	(893)	-
Liabilities	-	(378)	-	(567)
Current liabilities	-	(22)	-	(25)
Non-current liabilities	-	(356)	-	(542)
Liabilities	-	(378)	-	(567)

	December 31, 2024			Foreign plan December 31, 2023
	Overfunded pension plans (i)	Underfunded pension plans and other benefits	Overfunded pension plans	Underfunded pension plans and other benefits
Movements of assets ceiling				
Balance at beginning of the year	178	-	190	-
Interest income	8	-	8	1
Changes on asset ceiling and onerous liability	33	-	2	(28)
Translation adjustment	(8)	-	5	-
Transfer	-	-	(27)	27
Balance at end of the year	211	-	178	-
Amount recognized in the statement of financial position				
Present value of actuarial liabilities	(1,233)	(1,485)	(1,365)	(1,605)
Fair value of assets	1,554	683	1,611	721
Effect of the asset ceiling	(211)	-	(178)	-
Assets (liabilities)	110	(802)	68	(884)
Current liabilities	-	(40)	-	(45)
Non-current assets (liabilities)	110	(762)	68	(839)
Assets (liabilities)	110	(802)	68	(884)

	December 31, 2024			Total December 31, 2023
	Overfunded pension plans (i)	Underfunded pension plans and other benefits	Overfunded pension plans	Underfunded pension plans and other benefits
Movements of assets ceiling				
Balance at beginning of the year	1,071	-	1,114	-
Interest income	69	-	103	1
Changes on asset ceiling	(76)	-	(192)	(28)
Translation adjustment	(204)	-	73	-
Transfer	-	-	(27)	27
Balance at end of the year	860	-	1,071	-
Amount recognized in the statement of financial position				
Present value of actuarial liabilities	(3,346)	(1,923)	(4,517)	(2,266)
Fair value of assets	4,316	743	5,656	815
Effect of the asset ceiling	(860)	-	(1,071)	-
Assets (liabilities)	110	(1,180)	68	(1,451)
Current liabilities	-	(62)	-	(70)
Non-current assets (liabilities)	110	(1,118)	68	(1,381)
Assets (liabilities)	110	(1,180)	68	(1,451)

(i) The pension plan asset is recorded as "Other non-current assets" in the balance sheet.

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iv. Costs recognized in the income statement

	Year ended December 31,					
	2024		2023		2022	
	Overfunded pension plans	Underfunded pension plans and other benefits	Overfunded pension plans	Underfunded pension plans and other benefits	Overfunded pension plans	Underfunded pension plans and other benefits
Service cost	16	22	16	23	45	53
Interest expense	274	117	322	171	325	99
Interest income	(349)	(38)	(429)	(85)	(412)	(17)
Interest expense on effect of (asset ceiling)/ onerous liability	69	-	103	1	84	-
Others	(2)	7	3	8	-	-
Total of cost, net	8	108	15	118	42	135

v. Costs recognized in the statement of comprehensive income

	Year ended December 31,					
	2024		2023		2022	
	Overfunded pension plans	Underfunded pension plans and other benefits	Overfunded pension plans	Underfunded pension plans and other benefits	Overfunded pension plans	Underfunded pension plans and other benefits
Balance at beginning of the year	(127)	(73)	(124)	17	(93)	(264)
Effect of changes actuarial assumptions	220	86	(468)	(174)	784	452
Return on plan assets (excluding interest income)	(259)	34	286	44	(752)	(31)
Change of asset ceiling	76	-	192	28	(65)	-
Others	(4)	(3)	-	(12)	(3)	-
	33	117	10	(114)	(36)	421
Deferred income tax	(15)	(33)	(3)	39	12	(128)
Others comprehensive income	18	84	7	(75)	(24)	293
Translation adjustments	28	40	(10)	(15)	(7)	(12)
Accumulated other comprehensive income	(81)	51	(127)	(73)	(124)	17

vi. Risks related to plans

The Administrators of the plans have committed to strategic planning to strengthen internal controls and risk management. This obligation is achieved by conducting audits and assessments of internal controls, which aim to mitigate operational market and credit risks. Risks are presented as follow:

Legal - Lawsuits: issuance of periodic reports to the audit and Board of Directors, including the lawyers' analysis of the chances of success (remote, probable or possible), focusing on the administrative decision on provisions. Promote and monitor adaptations to new legal obligations and monitor compliance with established legal obligations. Due diligence of third parties from the perspective of the Integrity Program.

Actuarial - The annual actuarial evaluation of the benefit plans comprises the assessment of taxes, income and adequacy of the costing plans. Technical study of compliance with the assumptions adopted in the actuarial evaluation of benefit plans prepared by an external actuary, in accordance with current legislation. Monitoring of biometric, demographic and economic-financial assumptions.

Market - Technical allocation studies are carried out with the objective of evaluating investment portfolios of the different obligations of the plans and projecting the future result of these portfolios. Asset Liability Management studies are carried out for defined benefit type obligations (Asset Liability Management study), while for defined contribution type obligations there are efficient frontier studies (investment profiles) and glidepath (life cycles). Periodic monitoring of the plans' short-term market risk based on risk indicators (VaR - Value at Risk, Benchmark VaR, Maximum Drawdown, Stress Tests, among others).

Credit - Risk classification of securities from corporate and bank issuers based on quantitative and qualitative assessments of the credit risk of the issuer, the asset and its guarantees, from acquisition to maturity. This internal rating sensitizes provisions for credit risk losses, as well as verified defaults, in accordance with current legislation. Provisions for loan losses with participants are realized based on default verified in payments.

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Liquidity – Technical study of the liquidity of plans with defined benefit obligations, focusing on the long term, whose objective is to verify the sufficiency of the assets in fulfilling the plan's obligations. Monitoring of short-term liquidity with a focus on cash available to meet plan obligations for the coming years. The defined contribution bond portfolios (investment profiles and life cycles) have assets available for sale at any time in normal market situations.

vii. Actuarial and economic assumptions and sensitivity analysis

All calculations involve future actuarial projections about some parameters, such as: salaries, interest, inflation, mortality and disability.

The economic and actuarial assumptions adopted have been formulated considering the long-term period for maturity and should therefore be analyzed accordingly. In the short term they may not be realized.

The following assumptions were adopted in the assessment:

	Brazil			
	December 31, 2024		December 31, 2023	
	Overfunded pension plans	Underfunded pension plans and other benefits	Overfunded pension plans	Underfunded pension plans and other benefits
Discount rate to determine benefit obligation	11,07% - 11,48%	11,07% - 12,12%	8,57% - 8,63%	8,59% - 10,15%
Nominal average rate to determine expense/ income	11,07% - 11,48%	12,12%	8,57% - 8,63%	10,15%
Nominal average rate of salary increase	3,50% - 5,57%	4,25%	3,08% - 4,94%	4,50%
Nominal average rate of benefit increase	3,50% - 4,02%	4,25%	3,08% - 3,60%	4,50%
Immediate health care cost trend rate	N/A	6,61%	N/A	6,17%
Ultimate health care cost trend rate	N/A	6,61%	N/A	6,17%
Nominal average rate of price inflation	3,50%	3,50% - 4,25%	3,08%	3,08% - 4,5%

	Foreign			
	December 31, 2024		December 31, 2023	
	Overfunded pension plans	Underfunded pension plans and other benefits	Overfunded pension plans	Underfunded pension plans and other benefits
Discount rate to determine benefit obligation	4,66%	4,66% - 4,72%	4,63%	4,63% - 4,64%
Nominal average rate to determine expense/ income	4,61%	4,61%	5,10%	5,10% - 5,14%
Nominal average rate of salary increase	3,10%	3,10%	3,31%	3,31%
Nominal average rate of benefit increase	3,00%	3,00%	3,00%	3,00%
Immediate health care cost trend rate	N/A	4,50%	N/A	4,85%
Ultimate health care cost trend rate	N/A	4,39%	N/A	4,49%
Nominal average rate of price inflation	2,08%	2,08%	2,08%	2,08%

For the sensitivity analysis, the Company applies the effect of 1.0% in nominal discount rate to the present value of the Company's actuarial liability. The effects of this analysis on the Company's actuarial liability and assumptions adopted are as follows:

	Brazil	
	December 31, 2024	
	Overfunded pension plans	Underfunded pension plans and other benefits
Nominal discount rate - 1% increase		
Actuarial liability adjusted for sensitivity test	1,990	422
Assumptions made	12,28%	12,45% - 13,12%
Nominal discount rate - 1% reduction		
Actuarial liability adjusted for sensitivity test	2,253	490
Assumptions made	10,28%	10,45% - 11,12%

	Foreign	
	December 31, 2024	
	Overfunded pension plans	Underfunded pension plans and other benefits
Nominal discount rate - 1% increase		
Actuarial liability adjusted for sensitivity test	1,123	1,301
Assumptions made	5,66%	5,66% - 5,72%
Nominal discount rate - 1% reduction		
Actuarial liability adjusted for sensitivity test	1,364	1,684
Assumptions made	3,66%	3,66% - 3,72%

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viii. Assets of pension plans

Brazilian plan assets as of December 31, 2024 and 2023 includes respectively (i) investments in a portfolio of Vale's share and other instruments in the amount of US\$23 and US\$47, which are presented as "Investments funds – Equity" and (ii) Brazilian Federal Government securities in the amount of US\$3,945 and US\$4,793, which are presented as "Debt securities governments" and "Investments funds – Fixed" Foreign plan assets as of December 31, 2024 and 2023 includes Canadian Government securities in the amount of US\$507 and US\$592, respectively.

ix. Overfunded pension plans

Assets by category are as follows:

	December 31, 2024				December 31, 2023			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	-	28	-	28	-	14	-	14
Equity securities	69	-	-	69	261	-	-	261
Debt securities – Corporate	-	196	-	196	-	396	-	396
Debt securities – Government	2,521	279	-	2,800	3,814	361	-	4,175
Investments funds – Fixed Income	1,123	-	-	1,123	1,391	162	-	1,553
Investments funds – Equity	376	-	-	376	483	1	-	484
International investments	55	-	51	106	59	186	-	245
Structured investments – Private Equity funds	-	20	43	63	-	51	72	123
Real estate	-	-	212	212	-	-	235	235
Loans to participants	-	-	142	142	-	-	162	162
Other	-	-	924	924	-	-	187	187
Total	4,144	523	1,372	6,039	6,008	1,171	656	7,835
Funds not related to risk plans (i)				(1,723)				(2,178)
Fair value of plan assets at end of year				4,316				5,657

(i) Financial investments not related to coverage of overfunded pension plans. Funds are related to the Company's unconsolidated entities and former employees.

Measurement of overfunded plan assets at fair value with no observable market variables (level 3) are as follows:

	Private equity funds	International investments	Real estate funds	Real estate	Loans to participants	Others	Total
Balance as of December 31, 2022	240	-	3	293	128	-	664
Return on plan assets	5	-	-	9	22	-	36
Assets purchases	11	-	-	8	211	-	230
Assets sold during the year	(6)	-	(3)	(16)	(210)	-	(235)
Translation adjustment	8	-	-	18	11	-	37
Transfer between overfunded and underfunded pension plans	(58)	-	-	(18)	-	-	(76)
Balance as of December 31, 2023	200	-	-	294	162	-	656
Transfer	(129)	129	-	-	-	-	-
Return on plan assets	(12)	(69)	-	(19)	23	-	(77)
Assets purchases	-	-	-	3	62	-	65
Assets sold during the year	(3)	-	-	(12)	(67)	-	(82)
Translation adjustment	(13)	(9)	-	(54)	(38)	-	(114)
Transfer between overfunded and underfunded pension plans	-	-	-	-	-	924	924
Balance as of December 31, 2024	43	51	-	212	142	924	1,372

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x. Underfunded pension plans

Assets by category are as follows:

	December 31, 2024				December 31, 2023			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	-	8	-	8	-	6	-	6
Equity securities	89	-	-	89	112	-	-	112
Debt securities – Corporate	-	114	-	114	-	215	-	215
Debt securities – Government	20	216	-	236	60	150	-	210
Investments funds – Fixed Income	43	-	-	43	41	-	-	41
Investments funds – Equity	-	1	-	1	8	11	-	19
International investments	-	-	66	66	-	-	-	-
Structured investments – Private Equity funds	-	26	-	26	-	-	55	55
Real estate	-	-	43	43	-	-	27	27
Loans to participants	-	-	1	1	-	-	1	1
Others	-	-	116	116	-	-	131	131
Total	152	365	226	743	221	382	214	817

Measurement of underfunded plan assets at fair value with no observable market variables (level 3) are as follows:

	Private equity funds	International investments	Real estate	Loans to participants	Others	Total
Balance as of December 31, 2022	8	-	6	1	125	140
Return on plan assets	4	-	-	-	3	7
Assets purchases	3	-	2	-	-	5
Assets sold during the year	(19)	-	-	-	-	(19)
Translation adjustment	1	-	1	-	3	5
Transfer between surplus and deficit plans	58	-	18	-	-	76
Balance as of December 31, 2023	55	-	27	1	131	214
Transfer	(54)	54	-	-	-	-
Return on plan assets	-	17	20	-	(4)	33
Assets sold during the year	(1)	-	(1)	-	-	(2)
Translation adjustment	-	(5)	(3)	-	(11)	(19)
Balance as of December 31, 2024	-	66	43	1	116	226

xi. Disbursement of future cash flow

Vale expects to disburse US\$53 in 2025 in relation to pension plans and other benefits.

xii. Expected benefit payments

The expected benefit payments, which reflect future services, are as follows:

	Overfunded pension plans	Underfunded pension plans and other benefits
2025	222	46
2026	224	48
2027	226	49
2028	228	50
2029	229	51
2030 and thereafter	1,136	275

Notes to the Consolidated Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

Accounting policy

Employee benefits

i. Current benefits – wages, vacations and related taxes

Payments of benefits such as wages or accrued vacation, as well the related social security taxes over those benefits are recognized monthly in income, on an accrual basis.

ii. Current benefits – profit sharing program

The Company has the Annual Incentive Program (AIP) based on Team and business unit's contribution and Company-wide performance through operational cash generation. The Company makes an accrual based on evaluation periodic of goals achieved and Company result, using the accrual basis and recognition of present obligation arising from past events in the estimated outflow of resources in the future. The accrual is recorded as cost of goods sold and services rendered or operating expenses in accordance with the activity of each employee.

iii. Non-current benefits – share-based payments

The Company has established a procedure for awarding certain eligible executives (Matching and Performance Share Unit ("PSU") Programs) with the goal of encouraging employee retention and optimum performance. Share-based long-term compensation programs are equity-settled, under which the Company receives employee services as consideration for equity instruments. The fair value of employee services received in exchange for the grant of options is recognized as an expense. The total amount of expenses is recognized during the period in which the right is acquired; period during which the specific vesting conditions are met.

iv. Non-current benefits – pension costs and other post retirement benefits

The Company has several retirement plans for its employees.

For defined contribution plans, the Company's obligations are limited to a monthly contribution linked to a pre-defined percentage of the remuneration of employees enrolled into these plans.

For defined benefit plans, actuarial calculations are periodically obtained for liabilities determined in accordance with the Projected Unit Credit Method in order to estimate the Company's obligation. The liability recognized in the statement of financial position represents the present value of the defined benefit obligation as of that date, less the fair value of plan assets. The Company recognized in the income statement the costs of services, the interest expense of the obligations and the interest income of the plan assets. The rereasurement of gains and losses, return on plan assets (excluding the amount of interest on return of assets, which is recognized in income for the year) and changes in the effect of the ceiling of the active and onerous liabilities are recognized in comprehensive income for the year.

For overfunded plans, the Company recognizes the net defined benefit assets limited to the present value of the economic benefits available as refunds or reductions in future contributions, considering minimum funding requirements applicable. For underfunded plans, the Company recognizes net defined benefit liabilities. The gain or loss on recognition/rereasurement of these net assets/liabilities are recognized in income statement or in comprehensive income, when arising from the actuarial valuation.

Critical accounting estimates and judgments

Post retirement benefits for employees – The amounts recognized depend on several factors that are determined based on actuarial calculations using various assumptions in order to determine costs and liabilities. One of these assumptions is selection and use of the discount rate. Any changes to these assumptions will affect the amount recognized.

At the end of each year the Company and external actuaries review the assumptions that will be used for the following year. These assumptions are used in determining the fair values of assets and liabilities, costs and expenses and the future values of estimated cash outflows, which are recorded in the plan obligations.

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31. Equity

a) Share capital

As of December 31, 2024, the share capital was US\$61,614 corresponding to 4,539,007,580 shares issued and fully paid without par value. The Board of Directors may, regardless of changes to by-laws, approve the issue and cancellation of common shares, including the capitalization of profits and reserves to the extent authorized.

Shareholders	December 31, 2024		
	Common shares	Golden shares	Total
Previ (i)	397,061,482		397,061,482
Mitsui&co (i)	286,347,055	-	286,347,055
Blackrock, Inc (ii)	289,063,618	-	289,063,618
Total shareholders with more than 5% of capital (i)	972,472,155	-	972,472,155
Free floating	3,296,247,846	-	3,296,247,846
Golden shares	-	12	12
Total outstanding (without shares in treasury)	4,268,720,001	12	4,268,720,013
Shares in treasury	270,287,567	-	270,287,567
Total capital	4,539,007,568	12	4,539,007,580

(i) Number of shares owned by shareholders, as per statement provided by the custodian, based on shares listed at B3.

(ii) Number of shares as reported in Blackrock, Inc.'s Schedule 13G/A, filed with the SEC.

b) Cancellation of treasury shares

During 2023 and 2022, the Board of Directors approved cancellations of common shares issued by the Company, acquired and held in treasury, without reducing the amount of its share capital, as shown below. The effects were transferred in shareholders' equity as "Treasury shares cancelled", between the "Revenue reserve" and "Treasury shares". There were no shares cancellations in 2024.

	Number of canceled shares	Carrying amount
Cancelation approved on March 2, 2023	239,881,683	4,164
Year ended December 31, 2023	239,881,683	4,164
Cancelation approved on February 24, 2022	133,418,347	2,830
Cancelation approved on July 28, 2022	220,150,800	3,786
Year ended December 31, 2022	353,569,147	6,616

Notes to the Consolidated Financial Statements

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c) Share buyback program

On February 19, 2025 (subsequent event), the Board of Directors approved the common shares buyback program, limited to a maximum of 120,000,000 common shares or their respective ADRs, with a term of 18 months started from the end of the ongoing program.

In 2023 and 2022, the Board of Directors approved shares buyback programs for Vale's shares, as described below:

	Total of shares repurchased			Effect on cash flows		
	2024	2023	2022	2024	2023	2022
Shares buyback program up to 150,000,000 shares (i)						
Acquired by Parent	18,251,159	1,500,000	-	240	22	-
Acquired by wholly owned subsidiaries	12,672,414	1,500,000	-	169	22	-
	30,923,573	3,000,000	-	409	44	-
Shares buyback program up to 500,000,000 shares (ii)						
Acquired by Parent	-	93,638,352	87,779,900	-	1,378	1,375
Acquired by wholly owned subsidiaries	-	88,058,750	90,847,177	-	1,292	1,410
	-	181,697,102	178,627,077	-	2,670	2,785
Shares buyback program up to 470,000,000 shares (iii)						
Acquired by Parent	-	-	81,855,600	-	-	1,501
Acquired by wholly owned subsidiaries	-	-	96,959,900	-	-	1,750
	-	-	178,815,500	-	-	3,251
Shares buyback program	30,923,573	184,697,102	357,442,577	409	2,714	6,036

(i) On October 26, 2023, a new share buyback program limited to a maximum of 150,000,000 common shares and their respective ADRs, over the next 18 months started from the end of the program previously on going.

(ii) On April 27, 2022, the Board of Directors approved the common shares buyback program, limited to a maximum of 500,000,000 common shares or their respective ADRs, with a term of 18 months.

(iii) On April 1, 2021, the Board of Directors approved the common shares buyback program, limited to a maximum of 270,000,000 common shares or their respective ADRs. In continuation of the previous program, the Board of Directors approved a new share repurchase program on October 28, 2021, with a limit of up to 200,000,000 common shares or their respective ADRs. Both programs ended in 2022.

d) Profit distribution

	2024	2023	2022
Net income of the year	6,166	7,983	18,788
Appropriation to legal reserve (i)	-	-	(276)
Appropriation to tax incentive reserve	(392)	(891)	(1,157)
Net income after appropriations to legal reserve and tax incentive reserve	5,774	7,092	17,355
Minimum remuneration to shareholders (ii)	1,698	2,042	4,386
Additional shareholders' remuneration			
According to shareholder remuneration policy (iii)	1,394	2,066	437
Additional remuneration from the net income for the year (iv)	500	2,000	-
Total remuneration to shareholders	3,592	6,108	4,823
Appropriation to statutory reserve	2,182	984	8,821
Appropriation to retained earnings reserve	-	-	3,711

(i) In 2022, the limit of 20% of the share capital for the constitution of the legal reserve was reached, in accordance with article 193 of Law 6,404 and article 39 of the Company's Bylaws.

(ii) Mandatory minimum remuneration corresponding to 25% of the net income after appropriations to legal reserve and tax incentive reserve, according to Vale S.A.'s by-laws.

(iii) According to the Company's shareholder remuneration policy, minimum remuneration to Vale S.A. shareholders is calculated based on 30% of the adjusted EBITDA (as defined in note 5) less sustaining capital investments, which represented US\$4,538 (2023: US\$4,269 and 2022: US\$3,897) for the year ended December 31, 2024. Therefore, the additional remuneration to comply with the policy was US\$1,394.

(iv) In addition, the Company approved dividends beyond the policy calculation in the amount of US\$500, totaling US\$3,592 in remuneration to shareholders for the year ended December 31, 2024.

Notes to the Consolidated Financial Statements

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Remuneration approved

The Company's By-laws determines as its minimum mandatory remuneration to Vale shareholders an amount equal to 25% of the net income, after appropriations to legal and tax incentive reserves. The remuneration approved as interest on capital ("JCP") is gross up with the income tax applicable to Vale's shareholders. The remuneration to Vale's shareholders was based on the following resolutions:

- On February 19, 2025 (subsequent event), the Board of Directors approved dividends to shareholders in the total amount of US\$1,596 (R\$9,143 million), approved as additional remuneration. The payment is expected by March 2025.
- On November 28, 2024, the Board of Directors approved interest on equity to shareholders in the amount of US\$388 (R\$2,222 million), which will be paid in March 2025 as remuneration for the year ending December 31, 2024.
- On July 25, 2024, the Board of Directors approved interest on capital to its shareholders in the total amount of US\$1,608 (R\$8,940 million), as an anticipation of the remuneration for the year ended December 31, 2024. This remuneration was fully paid in September 2024.
- On February 22, 2024, the Board of Directors has approved remuneration to shareholders in the total amount of US\$2,364 (R\$11,722 million). The total amount was approved as dividends and recorded in equity as "Additional remuneration reserve". The payment was fully paid in March 2024.
- On October 26, 2023, the Board of Directors approved an additional remuneration to its shareholders in the amount of US\$2,000 (R\$10,033 million) as an anticipation of the shareholders remuneration for the year ending December 31, 2023, of which US\$657 (R\$3,295 million) was approved as interest on capital and US\$1,343 (R\$6,738 million) as dividends. The payment of this remuneration was fully paid in December 2023.
- On July 27, 2023, the Board of Directors approved interest on capital to its shareholders in the amount of US\$1,744 (R\$8,277 million) as an anticipation of remuneration for the year ended December 31, 2023. The payment of this remuneration was fully paid in September 2023.
- On February 16, 2023, the Board of Directors approved the shareholder's remuneration of R\$8,130 (US\$1,569 million), of which R\$5,865 (US\$1,132 million) is part of the minimum mandatory remuneration, recorded as a liability for the year ended December 31, 2022, and R\$2,265 (US\$437 million) as an additional remuneration, recorded in equity as "Additional remuneration reserve". The payment of this remuneration was fully paid in March 2023.
- On December 1, 2022, the Board of Directors approved interest on capital to shareholders in the amount of US\$254 (R\$1.319 million), as an anticipation of the income for the year ended December 31, 2022, which is part of the minimum mandatory remuneration, recorded as a liability for the year ended December 31, 2022. The payment of this remuneration was fully paid in March 2023.
- On July 28, 2022, the Board of Directors approved the remuneration to shareholders in the amount of US\$3,000 (R\$16,243 million), which is part of the minimum mandatory remuneration, recorded as a liability for the year ended December 31, 2022. The payment of this remuneration was fully paid in September 2022.
- On February 24, 2022, the Board of Directors approved the remuneration to shareholders in the amount of US\$3,500 (R\$17,849 million) as an additional remuneration for the year ended December 31, 2021, recorded in equity as "Additional remuneration reserve". The payment of this remuneration was fully paid in March 2022.

Notes to the Consolidated Financial Statements

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e) Profit reserves

	Legal reserve	Tax incentive reserve	Statutory reserve	Retained earnings reserve	Additional remuneration reserve	Total of profit reserves
Balance as of December 31, 2021	2,523	3,083	6,898	-	3,198	15,702
Allocation of income	276	1,157	8,821	3,711	437	14,402
Deliberated dividends and interest on capital of Vale's shareholders	-	-	-	-	(3,500)	(3,500)
Treasury shares cancellation	-	-	(6,616)	-	-	(6,616)
Transfer of reserves	-	3	(3)	-	-	-
Translation adjustment	165	173	249	(133)	302	756
Balance as of December 31, 2022	2,964	4,416	9,349	3,578	437	20,744
Allocation of income	-	891	984	-	2,364	4,239
Deliberated dividends and interest on capital of Vale's shareholders	-	-	-	-	(437)	(437)
Treasury shares cancellation	-	-	(4,164)	-	-	(4,164)
Translation adjustment	230	383	604	278	-	1,495
Balance as of December 31, 2023	3,194	5,690	6,773	3,856	2,364	21,877
Allocation of income	-	392	2,182	-	1,596	4,170
Deliberated dividends and interest on capital of Vale's shareholders	-	-	-	-	(2,364)	(2,364)
Translation adjustment	(696)	(1,308)	(2,162)	(841)	-	(5,007)
Balance as of December 31, 2024	2,498	4,774	6,793	3,015	1,596	18,676

Legal reserve - Is a legal requirement for Brazilian public companies to retain 5% of the annual net income up to 20% of the capital. The reserve can only be used to compensate losses or to increase capital. The reserve can only be used to absorb losses or to increase capital. In 2022, the limit of 20% of the share capital for the constitution of the legal reserve was reached, in accordance with article 193 of Law No. 6,404 and article 39 of the Company's Bylaws.

Tax incentive reserve - Results from the option to designate a portion of the income tax for investments in projects approved by the Brazilian Government as well as tax incentives.

Statutory reserve - Aims to ensure the maintenance and development of the main activities that comprise the Company's operations and to retain budgeted capital for investments. Based on the Company's by-laws, this reserve is capped to 50% of the annual distributable net income, up to the amount of the share capital.

Retained earnings reserve - It is intended to be used in investments for capital expenditures as allowed by the Brazilian Corporate Law.

Additional remuneration reserve - Results from the remuneration proposed by Management that exceeds the mandatory minimum remuneration of 25% of the adjusted net income.

Accounting policy

Share capital and treasury shares - The Company holds shares in treasury for a future sale, cancellation or for the payment of the executives' long-term compensation programs. These shares are recognized in a specific account as a reduction of equity to the acquisition value and maintained at the cost of the transaction. Incremental costs directly attributable to the issue of new shares or options are recognized in equity as a deduction from the amount raised, net of taxes.

Shareholder's remuneration - The shareholder's remuneration is paid on dividends and interest on capital. This remuneration is recognized as a liability in the financial statements of the Company based on bylaws. Any amount above the minimum mandatory remuneration approved by the by-laws shall only be recognized in current liabilities on the date that is approved by shareholders.

The Company is permitted to distribute interest attributable to equity. The calculation is based on the equity amounts as stated in the statutory accounting records and the interest rate applied may not exceed the Brazilian Government Long-term Interest Rate ("TJLP") determined by the Central Bank of Brazil. Also, such interest may not exceed 50% of the net income for the year or 50% of retained earnings plus profit reserves as determined by Brazilian corporate law.

The benefit to the Company, as opposed to making a dividend payment, is a reduction in the income tax burden because this interest charge is tax deductible in Brazil. Income tax of 15% is withheld on behalf of the shareholders relative to the interest distribution. Under Brazilian law, interest attributed to equity is considered as part of the annual minimum mandatory dividend. This notional interest distribution is treated for accounting purposes as a deduction from equity in a manner similar to a dividend and the tax deductibility recorded in the income statement.

Notes to the Consolidated Financial Statements

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32. Related parties

The Company's related parties are subsidiaries, joint ventures, associates, shareholders and its related entities and key management personnel of the Company.

Related party transactions were made by the Company on terms equivalent to those that prevail in arm's-length transactions, with respect to price and market conditions that are no less favorable to the Company than those arranged with third parties.

Net operating revenue relates to sale of iron ore to the steelmakers and right to use capacity on railroads. Cost and operating expenses mostly relates to the variable lease payments of the pelletizing plants.

Purchases, accounts receivable and other assets, and accounts payable and other liabilities relate largely to amounts charged by joint ventures and associates related to the pelletizing plants operational lease and railway transportation services.

a) Transactions with related parties

	Year ended December 31,								
	2024			2023			2022		
	Net operating revenue	Cost and operating expenses	Financial result	Net operating revenue	Cost and operating expenses	Financial result	Net operating revenue	Cost and operating expenses	Financial result
Joint Ventures									
Companhia Siderúrgica do Pecém	-	-	-	93	-	-	434	-	(3)
Aliança Geração de Energia S.A.	-	(63)	-	-	(126)	-	-	(121)	-
Pelletizing companies (i)	-	(308)	(26)	-	(227)	(38)	-	(337)	(34)
MRS Logística S.A.	-	(429)	-	-	(453)	-	1	(397)	-
Norte Energia S.A.	-	(66)	-	-	(107)	-	-	(135)	-
Other	29	(72)	(3)	32	(10)	1	41	(8)	-
	29	(938)	(29)	125	(923)	(37)	476	(998)	(37)
Associates									
VLI	359	(26)	(2)	321	(29)	(3)	289	(26)	(3)
PTVI	-	(397)	-	-	-	-	-	-	-
Other	-	(2)	3	-	(1)	-	1	-	-
	359	(425)	1	321	(30)	(3)	290	(26)	(3)
Shareholders									
Cosan	3	(4)	-	10	(11)	-	-	-	-
Bradesco	-	-	(416)	-	-	201	-	-	381
Mitsui	247	-	-	280	-	-	416	-	-
Banco do Brasil	-	-	1	-	-	-	-	-	3
	250	(4)	(415)	290	(11)	201	416	-	384
Total	638	(1,367)	(443)	736	(964)	161	1,182	(1,024)	344

(i) Aggregated entities: Companhia Coreano-Brasileira de Pelotização, Companhia Hispano-Brasileira de Pelotização, Companhia Ítalo-Brasileira de Pelotização and Companhia Nipo-Brasileira de Pelotização.

Notes to the Financial Statements

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b) Outstanding balances with related parties

	December 31, 2024			December 31, 2023		
	Cash and cash equivalents	Accounts receivable	Dividends receivable and other assets	Cash and cash equivalents	Accounts receivable	Dividends receivable and other assets
Joint Ventures						
Pelletizing companies (i)	-	-	34	-	-	27
MRS Logística S.A.	-	13	32	-	16	34
Other	-	5	-	-	4	43
	-	18	66	-	20	104
Associates						
VLI	-	19	-	-	46	-
Other	-	-	1	-	1	2
	-	19	1	-	47	2
Shareholders						
Cosan	-	3	-	-	1	-
Bradesco	261	-	16	176	-	313
Banco do Brasil	22	-	-	58	-	-
Mitsui	-	7	-	-	5	-
	283	10	16	234	6	313
Pension plan	-	16	-	-	16	-
Total	283	63	83	234	89	419

(i) Aggregated entities: Companhia Coreano-Brasileira de Pelotização, Companhia Hispano-Brasileira de Pelotização, Companhia Ítalo-Brasileira de Pelotização and Companhia Nipo-Brasileira de Pelotização.

	December 31, 2024		December 31, 2023	
	Supplier and contractors	Financial instruments and other liabilities	Supplier and contractors	Financial instruments and other liabilities
Joint Ventures				
Pelletizing companies (i)	49	291	51	290
MRS Logística S.A.	32	-	48	-
Other	66	-	39	-
	147	291	138	290
Associates				
VLI	2	47	1	59
PTVI	67	-	-	-
Other	2	-	4	-
	71	47	5	59
Shareholders				
Cosan	1	-	1	-
Bradesco	-	163	-	23
	1	163	1	23
Pension plan	11	-	14	-
Total	230	501	158	372

(i) Aggregated entities: Companhia Coreano-Brasileira de Pelotização, Companhia Hispano-Brasileira de Pelotização, Companhia Ítalo-Brasileira de Pelotização and Companhia Nipo-Brasileira de Pelotização.

Notes to the Financial Statements

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c) Key management personnel compensation

	Year ended December 31,		
	2024	2023	2022
Short-term benefits	"		
Wages	10	11	10
Direct and indirect benefits	1	1	2
Profit sharing program ("PLR")	11	11	12
	22	23	24
Long-term benefits			
Shares based	10	14	18
Severance	3	2	2
	35	39	44

33. Commitments and guarantee

a) Commitments

	December 31, 2024	December 31, 2023
Purchase of raw materials and services	6,421	5,361
Purchase of energy	1,767	2,316
	8,188	7,677

Commitments arise mainly from contracts for the acquisition of fuel and power and the purchase of raw materials and services. They represent the minimum required and non-cancelable payments related to contractual obligations.

b) Guarantee

	December 31, 2024			December 31, 2023		
	Guarantee	Restricted cash	Liability (i)	Guarantee	Restricted cash	Liability (i)
Associates and joint ventures	210	-	-	274	-	-
Assets retirement obligations	1,091	-	-	910	-	-
	1,301	-	-	1,184	-	-

(i) The fair value of these financial guarantees is recorded as "Other financial liabilities" (note 15).

Guarantees for associates and joint ventures - The Company has issued financial guarantees to certain associates and joint ventures to the extent of its direct and indirect ownership interest. In March 2023, the Company concluded the sale of its interest in CSP and derecognized the financial liability related to the guarantee granted by the Company (note 17h). In 2022, the Company recognized a gain of US\$481 in the result as "other financial items, net" due to the improvement in the credit rating of the associates (note 7).

Guarantees related to asset retirement obligations - The Company has financial guarantees provided for the asset retirement obligations of its energy transition metals operations in Canada. In addition, for Indonesia, Vale has bank deposits to guarantee asset retirement obligations.

Fixed assets given as guarantee for loans and financing - The securities issued through Vale's wholly owned finance subsidiary Vale Overseas Limited are fully and unconditionally guaranteed by Vale and no other subsidiary of the Parent Company guarantees those securities.

Accounting policy

Power Purchase Agreements ("PPAs") - The Company holds PPAs that were entered into and continue to be held for own use. As such, these contracts fall outside the scope of IFRS 9 – Financial Instruments. These PPAs are accounted for as executory contracts and are recorded as energy is received.