



Interim Financial Statements

June 30, 2023

BRGAAP

(A free translation of the original in Portuguese)



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(A free translation of the original in Portuguese)

Report on review of quarterly information

To the Board of Directors and Stockholders

Vale S.A.

Introduction

We have reviewed the accompanying parent company and consolidated interim accounting information of Vale S.A. ("Company"), included in the Quarterly Information Form (ITR) for the quarter ended June 30, 2023, which comprises the balance sheet as of June 30, 2023 and the respective income statements and the statements of comprehensive income for the three and six-month periods then ended, the statement of changes in equity for the six-month period then ended, the parent company statement of cash flows for the six-month period then ended and the consolidated statements of cash flows for the three and six-month periods then ended, and explanatory notes.

Management is responsible for the preparation of the parent company and consolidated interim accounting information in accordance with the accounting standard CPC 21, Interim Financial Reporting, of the Brazilian Accounting Pronouncements Committee (CPC) and International Accounting Standard (IAS) 34, Interim Financial Reporting issued by the International Accounting Standards Board (IASB), as well as the presentation of this information in accordance with the standards issued by the Brazilian Securities Commission (CVM), applicable to the preparation of the Quarterly Information (ITR). Our responsibility is to express a conclusion on this interim accounting information based on our review.

Scope of review

We conducted our review in accordance with Brazilian and International Standards on Reviews of Interim Financial Information (NBC TR 2410 - Review of Interim Financial Information Performed by the Independent Auditor of the Entity and ISRE 2410 - Review of Interim Financial Information Performed by the Independent Auditor of the Entity, respectively). A review of interim information consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Brazilian and International Standards on Auditing and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.



Conclusion on the interim information

Based on our review, nothing has come to our attention that causes us to believe that the accompanying parent company and consolidated interim accounting information included in the quarterly information referred to above has not been prepared, in all material respects, in accordance with CPC 21 and IAS 34 applicable to the preparation of the quarterly information, and presented in accordance with the standards issued by the CVM.

Other matters

Value added statements

The quarterly information referred to above includes the parent company and consolidated statements of value added for the six-month period ended June 30, 2023. These statements are the responsibility of the Company's management and are presented as supplementary information under IAS 34. These statements have been subjected to review procedures performed together with the review of the interim accounting information for the purpose of concluding whether they are reconciled with the interim accounting information and accounting records, as applicable, and if their form and content are in accordance with the criteria defined in the accounting standard CPC 09 - "Statement of Value Added". Based on our review, nothing has come to our attention that causes us to believe that these statements of value added have not been properly prepared, in all material respects, in accordance with the criteria established in this accounting standard, and consistent with the parent company and consolidated interim accounting information taken as a whole.

Rio de Janeiro, July 27, 2023

PricewaterhouseCoopers

Auditores Independentes Ltda.

CRC 2SP000160/O-5

Patricio Marques Roche

Contador CRC 1RJ081115/O-4

Consolidated Income Statement

In millions of Brazilian reais, except earnings per share

	Notes	Consolidated			
		Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Continuing operations					
Net operating revenue	4(b)	47,758	54,974	91,599	111,693
Cost of goods sold and services rendered	5(a)	(29,356)	(29,377)	(55,080)	(53,551)
Gross profit		18,402	25,597	36,519	58,142
Operating expenses					
Selling and administrative	5(b)	(685)	(625)	(1,300)	(1,254)
Research and development		(816)	(745)	(1,539)	(1,376)
Pre-operating and operational stoppage	24	(511)	(536)	(1,157)	(1,336)
Other operating expenses, net	5(c)	(1,893)	(2,235)	(3,046)	(3,648)
Impairment reversal (impairment) and results on disposal of non-current assets, net	15 and 17	(324)	(329)	(343)	4,999
Operating income		14,173	21,127	29,134	55,527
Financial income	6	523	672	1,151	1,460
Financial expenses	6	(1,964)	(1,864)	(3,623)	(3,396)
Other financial items, net	6	727	5,219	(1,016)	4,587
Equity results and other results in associates and joint ventures	14 and 23	35	(282)	(255)	837
Income before income taxes		13,494	24,872	25,391	59,015
Income taxes	7	(8,742)	(4,399)	(10,905)	(15,385)
Net income from continuing operations		4,752	20,473	14,486	43,630
Net income attributable to noncontrolling interests		179	252	392	369
Net income from continuing operations attributable to Vale's shareholders		4,573	20,221	14,094	43,261
Discontinued operations					
Net income from discontinued operations	15(f)	-	9,812	-	9,818
Net income from discontinued operations attributable to Vale's shareholders		-	9,812	-	9,818
Net income		4,752	30,285	14,486	53,448
Net income attributable to noncontrolling interests		179	252	392	369
Net income attributable to Vale's shareholders		4,573	30,033	14,094	53,079
Basic and diluted earnings per share from continuing operations	8				
Common share (R\$)		1.04	4.33	3.19	9.13
Basic and diluted earnings per share attributable to Vale's shareholders	8				
Common share (R\$)		1.04	6.43	3.19	11.20

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

Income Statement of the Parent Company

In millions of Brazilian reais, except earnings per share

	Notes	Parent Company			
		Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Net operating revenue		33,659	40,305	63,204	71,549
Cost of goods sold and services rendered		(16,424)	(15,210)	(31,022)	(27,678)
Gross profit		17,235	25,095	32,182	43,871
Operating expenses					
Selling and administrative		(390)	(308)	(731)	(609)
Research and development		(427)	(350)	(750)	(659)
Pre-operating and operational stoppage	24	(492)	(505)	(1,106)	(1,293)
Equity results and others results from subsidiaries		389	8,658	101	24,141
Other operating expenses, net		(1,689)	(2,198)	(2,696)	(3,582)
Impairment and results on disposals of non-current assets, net	15 and 17	(292)	(134)	(277)	(398)
Operating income		14,334	30,258	26,723	61,471
Financial income		264	509	566	1,117
Financial expenses		(2,338)	(1,516)	(4,459)	(2,857)
Other financial items, net		791	5,149	(594)	4,200
Equity results and other results in associates and joint ventures	13 and 23	35	(282)	(255)	837
Income before income taxes		13,086	34,118	21,981	64,768
Income taxes	7	(8,513)	(4,085)	(7,887)	(11,689)
Net income		4,573	30,033	14,094	53,079
Basic and diluted earnings per share	8				
Common share (R\$)		1.04	6.43	3.19	11.20

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

Consolidated and Parent Company's Statement of Comprehensive Income

In millions of Brazilian reais

		Consolidated			
		Three-month period ended June 30,		Six-month period ended June 30,	
	Notes	2023	2022	2023	2022
Net income		4,752	30,285	14,486	53,448
Other comprehensive income					
Items that will not be reclassified to income statement					
Retirement benefit obligations		(22)	560	(59)	718
Fair value adjustment to investment in equity securities		63	-	63	-
		41	560	4	718
Items that may be reclassified to income statement					
Translation adjustments		(1,680)	4,248	(2,750)	(5,560)
Net investment hedge	18	540	(721)	796	408
Cash flow hedge	18	(20)	1,551	79	(3)
Reclassification of cumulative translation adjustment to income statement	15	-	(14,636)	-	(15,415)
		(1,160)	(9,558)	(1,875)	(20,570)
Comprehensive income		3,633	21,287	12,615	33,596
Comprehensive income (loss) attributable to noncontrolling interests		(209)	950	(171)	350
Comprehensive income attributable to Vale's shareholders		3,842	20,337	12,786	33,246

	Notes	Parent Company			
		Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Net income		4,573	30,033	14,094	53,079
Other comprehensive income					
Items that will not be reclassified to income statement					
Retirement benefit obligations		(6)	(7)	(11)	(13)
Equity results	14	(16)	567	(48)	731
Fair value adjustment to investment in equity securities		63	-	63	
		41	560	4	718
Items that may be reclassified to income statement					
Translation adjustments		(1,292)	3,550	(2,187)	(5,541)
Net investment hedge	18	540	(721)	796	408
Cash flow hedge		4	(74)	6	(62)
Equity results	14	(24)	1,625	73	59
Reclassification of cumulative translation adjustment to income statement	15	-	(14,636)	-	(15,415)
		(772)	(10,256)	(1,312)	(20,551)
Comprehensive income		3,842	20,337	12,786	33,246

Items above are stated net of tax and the related taxes are disclosed in note 7.

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

Consolidated Statement of Cash Flows

In millions of Brazilian reais

	Notes	Consolidated			
		Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Cash flow from operations	9(a)	15,983	28,361	38,443	57,543
Interest on loans and borrowings paid	9(c)	(988)	(1,383)	(1,868)	(2,329)
Cash received (paid) on settlement of derivatives, net	18(d)	670	(195)	865	(589)
Payments related to Brumadinho event	22	(2,473)	(1,580)	(3,114)	(1,914)
Payments related to de-characterization of dams	24	(472)	(412)	(877)	(769)
Interest on participative shareholders' debentures paid	20	(637)	(1,120)	(637)	(1,120)
Income taxes (including settlement program) paid		(2,847)	(6,060)	(4,602)	(19,649)
Net cash generated by operating activities from continuing operations		9,236	17,611	28,210	31,173
Net cash generated by operating activities from discontinued operations	15(f)	-	-	-	213
Net cash generated by operating activities		9,236	17,611	28,210	31,386
Cash flow from investing activities:					
Capital expenditures	4(c)	(5,974)	(6,373)	(11,846)	(12,337)
Additions to investments	14(a)	(6)	-	(40)	-
Proceeds (payments) from the sale of investments, net	9(b)	-	-	(346)	2,269
Dividends received from associates and joint ventures	14	527	351	527	713
Short-term investment		328	502	43	486
Other investments activities, net		(139)	272	(496)	269
Net cash used in investing activities from continuing operations		(5,264)	(5,248)	(12,158)	(8,600)
Net cash used in investing activities from discontinued operations	15(f)	-	(333)	-	(534)
Net cash used in investing activities		(5,264)	(5,581)	(12,158)	(9,134)
Cash flow from financing activities:					
Loans and borrowings from third-parties	9(c)	7,277	967	8,858	3,328
Payments of loans and borrowings from third-parties	9(c)	(2,829)	(7,192)	(3,028)	(9,362)
Payments of leasing	21	(222)	(276)	(468)	(492)
Dividends and interest on capital paid to Vale's shareholders	28(c)	-	-	(9,449)	(17,849)
Dividends and interest on capital paid to noncontrolling interest		(26)	(19)	(41)	(35)
Shares buyback program	28(d)	(6,598)	(12,752)	(10,714)	(21,928)
Stake acquisition on subsidiaries	15(b)	(653)	-	(653)	-
Net cash used in financing activities from continuing operations		(3,051)	(19,272)	(15,495)	(46,338)
Net cash used in financing activities from discontinued operations	15(f)	-	-	-	(54)
Net cash used in financing activities		(3,051)	(19,272)	(15,495)	(46,392)
Net increase (decrease) in cash and cash equivalents		921	(7,242)	557	(24,140)
Cash and cash equivalents in the beginning of the period		23,901	42,931	24,711	65,409
Effect of exchange rate changes on cash and cash equivalents		(809)	1,944	(1,255)	(3,575)
Cash and cash equivalents from subsidiaries sold, net		-	-	-	(61)
Cash and cash equivalents at end of the period		24,013	37,633	24,013	37,633

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

Statement of Cash Flows of the Parent Company

In millions of Brazilian reais

	Notes	Parent Company	
		Six-month period ended June 30,	
		2023	2022
Cash flow from operations	9(a)	32,563	43,230
Interest on loans and borrowings paid		(3,098)	(1,978)
Cash received on settlement of derivatives, net		587	303
Payments related to Brumadinho event	22	(3,114)	(1,914)
Payments related to de-characterization of dams	24	(877)	(769)
Interest on participative shareholders' debentures paid	20	(637)	(1,120)
Income taxes (including settlement program) paid		(4,057)	(18,830)
Net cash generated by operating activities		21,367	18,922
Cash flow from investing activities:			
Capital expenditures		(8,343)	(8,635)
Additions to investments		(278)	(806)
Payments from the sale of investments, net	9(b)	(346)	-
Dividends received from associates and joint ventures		1,002	353
Short-term investment		(338)	351
Other investments activities, net		(2,203)	(1,164)
Net cash used in investing activities		(10,506)	(9,901)
Cash flow from financing activities:			
Loans and borrowings from third-parties		1,581	967
Payments of loans and borrowings from third-parties		(274)	(2,927)
Payments of leasing		(99)	(128)
Dividends and interest on capital paid to shareholders	28(c)	(9,449)	(17,849)
Shares buyback program	28(d)	(5,563)	(10,111)
Net cash used in financing activities		(13,804)	(30,048)
Reduction in cash and cash equivalents		(2,943)	(21,027)
Cash and cash equivalents in the beginning of the period		7,896	34,266
Cash and cash equivalents from subsidiaries sold or incorporated, net		-	85
Cash and cash equivalents at end of the period		4,953	13,324

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

Consolidated and Parent Company's Statement of Financial Position

In millions of Brazilian reais

		Consolidated		Parent Company	
	Notes	June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022
Assets					
Current assets					
Cash and cash equivalents	21	24,013	24,711	4,953	7,896
Short-term investments	21	225	320	25	15
Accounts receivable	10	14,298	22,537	41,152	47,380
Other financial assets	13	2,518	1,788	2,131	1,160
Inventories	11	25,026	23,386	8,816	7,817
Recoverable taxes	7(d)	7,237	6,639	5,736	5,270
Other		1,606	1,628	1,916	1,906
		74,923	81,009	64,729	71,444
Non-current assets					
Judicial deposits	26(c)	6,389	6,338	6,161	6,092
Other financial assets	13	3,359	1,462	2,655	1,125
Recoverable taxes	7(d)	5,924	5,793	3,863	3,564
Deferred income taxes	7(a)	47,732	56,195	43,219	48,697
Other		5,998	5,316	3,415	2,579
		69,402	75,104	59,313	62,057
Investments	14	9,161	9,381	111,350	122,573
Intangibles	16	53,017	53,421	36,787	36,640
Property, plant, and equipment	17	234,533	234,472	140,951	136,322
		366,113	372,378	348,401	357,592
Total assets		441,036	453,387	413,130	429,036
Liabilities					
Current liabilities					
Suppliers and contractors	12	25,252	23,278	16,355	14,248
Loans, borrowings and leases	21	4,395	2,552	3,242	1,098
Other financial liabilities	13	7,709	8,725	24,380	31,681
Taxes payable	7(d)	4,252	2,454	3,700	1,828
Settlement program ("REFIS")	7(c)	2,004	1,934	2,004	1,934
Liabilities related to associates and joint ventures	23	5,030	9,973	5,030	9,973
Provisions	25	4,091	5,402	3,080	3,932
Liabilities related to Brumadinho	22	5,788	4,926	5,788	4,926
De-characterization of dams and asset retirement obligations	24	4,334	3,450	3,712	2,954
Dividends payable		-	7,214	-	7,200
Other		2,474	2,570	3,214	2,608
		65,329	72,478	70,505	82,382
Non-current liabilities					
Loans, borrowings, and leases	21	62,770	63,778	14,169	16,062
Participative shareholders' debentures	20	12,181	14,218	12,181	14,218
Other financial liabilities	13	13,357	14,835	61,341	63,176
Settlement program ("REFIS")	7(c)	9,087	9,753	9,087	9,753
Deferred income taxes	7(a)	6,801	7,372	-	-
Provisions	25	13,012	12,759	8,501	8,141
Liabilities related to Brumadinho	22	9,998	12,356	9,998	12,356
De-characterization of dams and asset retirement obligations	24	32,702	34,019	23,124	23,421
Liabilities related to associates and joint ventures	23	12,409	7,355	12,409	7,355
Streaming transactions		8,158	8,411	-	-
Other		1,118	1,159	4,827	5,060
		181,593	186,015	155,637	159,542
Total liabilities		246,922	258,493	226,142	241,924
Equity	28				
Equity attributable to Vale's shareholders		186,988	187,112	186,988	187,112
Equity attributable to noncontrolling interests		7,126	7,782	-	-
Total equity		194,114	194,894	186,988	187,112
Total liabilities and equity		441,036	453,387	413,130	429,036

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

Consolidated Statement of Changes in Equity

In millions of Brazilian reais

	Notes	Share capital	Capital reserve	Profit reserves	Treasury shares	Other reserves	Cumulative translation adjustments	Retained earnings	Equity attributable to Vale's shareholders	Equity attributable to noncontrolling interests	Total equity
Balance at December 31, 2022		77,300	3,634	108,213	(25,675)	(5,276)	28,916	-	187,112	7,782	194,894
Net income		-	-	-	-	-	-	14,094	14,094	392	14,486
Other comprehensive income		-	-	-	-	5	(1,313)	-	(1,308)	(563)	(1,871)
Dividends and interest on capital of Vale's shareholders	28(c)	-	-	(2,265)	-	-	-	-	(2,265)	-	(2,265)
Dividends of noncontrolling interest		-	-	-	-	-	-	-	-	(187)	(187)
Acquisitions and disposal of noncontrolling interest	15(b)	-	-	-	-	15	-	-	15	(298)	(283)
Shares buyback program	28(d)	-	-	-	(10,714)	-	-	-	(10,714)	-	(10,714)
Treasury shares canceled	28(b)	-	-	(21,397)	21,397	-	-	-	-	-	-
Share-based payment programs	27(b)	-	-	-	132	(78)	-	-	54	-	54
Balance at June 30, 2023		77,300	3,634	84,551	(14,860)	(5,334)	27,603	14,094	186,988	7,126	194,114
Balance at December 31, 2021		77,300	3,634	87,621	(29,189)	(6,899)	59,936	-	192,403	4,655	197,058
Net income		-	-	-	-	-	-	53,079	53,079	369	53,448
Other comprehensive income		-	-	-	-	800	(20,633)	-	(19,833)	(19)	(19,852)
Dividends and interest on capital of Vale's shareholders		-	-	(17,849)	-	-	-	-	(17,849)	-	(17,849)
Dividends of noncontrolling interest		-	-	-	-	-	-	-	-	(23)	(23)
Acquisitions and disposal of noncontrolling interest	15(f)	-	-	-	-	-	-	-	-	2,783	2,783
Shares buyback program	28(d)	-	-	-	(21,928)	-	-	-	(21,928)	-	(21,928)
Treasury shares canceled	28(b)	-	-	(14,589)	14,589	-	-	-	-	-	-
Share-based payment programs		-	-	-	99	(20)	-	-	79	-	79
Balance at June 30, 2022		77,300	3,634	55,183	(36,429)	(6,119)	39,303	53,079	185,951	7,765	193,716

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

Consolidated and Parent Company's Value Added Statement

In millions of Brazilian reais

	Consolidated		Parent Company	
	2023	2022	Six-month period ended June 30, 2023	2022
Generation of value added				
Gross revenue				
Revenue from products and services	92,630	113,086	64,238	72,875
Revenue from the construction of own assets	3,540	3,716	3,103	2,939
Other revenues	1,108	814	825	591
Less:				
Cost of products, goods and services sold	(19,576)	(17,556)	(12,653)	(10,278)
Material, energy, third-party services and other	(21,951)	(21,746)	(9,603)	(8,476)
Impairment reversal (impairment) and results on disposal of non-current assets, net	(343)	4,999	(277)	(398)
Expenses related to Brumadinho event	(1,906)	(2,037)	(1,906)	(2,037)
De-characterization of dams	-	(192)	-	(192)
Other costs and expenses	(6,649)	(7,503)	(4,176)	(5,024)
Gross value added	46,853	73,581	39,551	50,000
Depreciation, amortization and depletion	(7,260)	(7,583)	(4,513)	(4,354)
Net value added	39,593	65,998	35,038	45,646
Received from third parties				
Equity results	(255)	837	(154)	24,978
Financial expenses	(2,144)	(1,868)	(2,509)	(1,822)
Total value added from continuing operations to be distributed	37,194	64,967	32,375	68,802
Value added from discontinued operations to be distributed	-	(1,733)	-	-
Total value added to be distributed	37,194	63,234	32,375	68,802
Personnel and charges				
Direct compensation	3,456	2,948	1,943	1,490
Benefits	1,552	1,557	1,178	1,087
FGTS	252	231	226	206
Taxes and contributions				
Federal taxes	13,706	19,049	10,691	15,183
State taxes	2,300	1,399	1,881	1,411
Municipal taxes	79	78	58	52
Remuneration of third-party capital				
Interest (net derivatives and monetary and exchange rate variation)	761	(4,846)	1,753	(4,624)
Leasing	602	921	551	918
Remuneration of own capital				
Reinvested net income from continuing operations	14,094	43,261	14,094	53,079
Net income attributable to noncontrolling interest	392	369	-	-
Distributed value added from continuing operations	37,194	64,967	32,375	68,802
Distributed value added from discontinued operations	-	(1,733)	-	-
Distributed value added	37,194	63,234	32,375	68,802

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

Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, 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 with securities traded on the share exchanges of São Paulo – B3 S.A. (VALE3), New York – NYSE (VALE) and Madrid – LATIBEX (XVALO).

Vale S.A. and its subsidiaries (“Vale” or the “Company”) are global producers of: (i) iron ore and iron ore pellets, which are key raw materials for steelmaking, (ii) nickel, that is used to produce stainless steel, electric vehicles and metal alloys employed in the production process of several products, (iii) copper, used in the construction sector to produce pipes and electrical wires, and (iv) platinum, gold, silver, and cobalt as by-products of nickel and copper. To outflow its production, Vale also operates a railroad and port logistics system in Brazil.

Most of the Company’s products are sold to international markets, through the Company’s main trading company, Vale International SA (“VISA”), a wholly owned subsidiary located in Switzerland.

In addition, Vale has investments in associates and joint operations which operate energy assets to reduce energy costs, minimize the risk of shortages and meet its energy consumption needs through renewable sources.

The Company also used to produce and sell thermal and metallurgical coal until April 2022, when Vale concluded the sale of this operation (note 15f). The results from the coal operation by the closing of the disposal process are presented in these interim financial statements as “discontinued operations”.

2. Basis of preparation of interim financial statements

The consolidated and individual interim financial statements of the Company (“interim financial statements”) have been prepared and are being presented in accordance with IAS 34/CPC 21 – Interim Financial Reporting, as issued by the International Accounting Standards Board (“IASB”), as implemented in Brazil by the Brazilian Accountant Pronouncements Committee (“CPC”), approved by the Brazilian Securities Exchange Commission (“CVM”). All relevant information for the interim financial statements, and only this information, are presented and consistent to those used by the Company’s Management.

The interim financial statements have been prepared to update users on the relevant events and transactions that occurred in the period and must be analyzed together with the financial statements for the year ended December 31, 2022. Accounting policies, accounting estimates and judgments, risk management and measurement methods are the same as those adopted in the preparation of the latest annual financial statements.

These interim financial statements were authorized for issue by the Board of Directors on July 27, 2023.

a) New and amended standards

In June 2023, the International Sustainability Standards Board (“ISSB”) issued IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Disclosures, which provide requirements for disclosures on sustainability-related risks and opportunities and climate-related specific disclosures, respectively. The Company is currently assessing the potential impacts arising from these standards, which are both effective for annual reporting periods beginning on or after 1 January 2024, subject to approval by local regulators. In Brazil, as of the date of issuance of these interim financial statements, the aforementioned pronouncements have not been approved by the regulators – the Federal Accounting Council (“CFC”) and the CVM.

Certain other new accounting standards, amendments and interpretations have been published that are not mandatory for December 31, 2023 reporting periods or have not materially impacted these interim financial statements. The Company did not early adopt any of these standards and does not expect them to have a material impact in future reporting periods.

b) Statement of Value Added

The presentation of the parent company and consolidated statements of value added is required by the Brazilian corporate legislation and the accounting practices adopted in Brazil for listed companies, while it is not required by IFRS. Therefore, under the IFRS, the presentation of such statements is considered supplementary information, and not part of the set of financial statements. The Statement of Value Added was prepared in accordance with the criteria defined in Technical Pronouncement CPC 09 – “Statement of Value Added”.

Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

c) Functional currency and presentation currency

The interim financial information of the Parent Company and its 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 is the Brazilian real ("R\$").

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

	Closing rate		Three-month period ended		Average rate	
	June 30, 2023	December 31, 2022	June 30, 2023	June 30, 2022	June 30, 2023	June 30, 2022
US Dollar ("US\$")	4.8192	5.2177	4.9485	4.9265	5.0744	5.0783
Canadian dollar ("CAD")	3.6421	3.8550	3.6860	3.8573	3.7654	3.9937
Euro ("EUR")	5.2626	5.5694	5.3867	5.2409	5.4831	5.5568

3. Significant events in the three-month period ended June 30, 2023

	Notes	Income Statement	Consolidated Cash Flow
Reversal of deferred income tax related to the Renova Foundation	23(c)	(5,468)	-
Notes offering	9(c)	-	7,277
Bond tender offers	9(c)	(106)	(2,426)

Reversal of deferred income tax related to the Renova Foundation – In May 2023, the Company has entered, together with BHP Billiton Brasil Ltda. ("BHPB"), Samarco Mineração S.A. ("Samarco") and certain creditors which hold together more than 50% of Samarco's notes claims and uncovered bank debt claims, into a binding agreement to setting the parameters of Samarco's debt restructuring to be implemented through a consensual restructuring plan, subject for approval by the creditors and confirmed by the Judicial Reorganization ("JR") court.

Under the agreement, Vale and BHPB will no longer be allowed to make direct payments to the Renova Foundation, instead they will have to make capital contributions to Samarco, which will be responsible to fund Renova. Therefore, following the change in the procedure to provide these contributions, Vale will no longer deduct these cash outflows from its income tax computation, resulting in the reversal of the deferred tax asset in the amount of R\$5,468 (US\$1,078 million), recorded in the income statement and presented as "Income taxes". Further details are presented in note 23 of these interim financial statements.

Notes offering – In June 2023, Vale issued notes of R\$7,277 (US\$1,500 million) with a coupon of 6.125% per year and maturing in 2033.

Bond tender offers – In June 2023, Vale redeemed notes in the total amount of R\$2,426 (US\$500 million) and paid a premium of R\$106 (US\$22 million), recorded in the income statement and presented as "Bond premium repurchase" in note 6 – Financial results.

Strategic partnership on the Energy Transition Metals business – In July 2023 (subsequent event), 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 will make an equity investment in Vale Base Metals Limited ("VBM"), the holding entity for Vale's Energy Transition Metals Business. At the same time, Vale and Engine No. 1 entered into another binding agreement for an equity investment in VBM. As a result of both agreements, the investors will hold a combined 13% equity interest in VBM for the consideration of approximately R\$16 billion (US\$3.4 billion), which will be contributed to VBM thereby diluting Vale to an 87% stake.

Therefore, the Company will retain control over VBM and this agreement shall be accounted for as an equity transaction with any result being recognized in shareholder's equity upon closing of the transaction, which is expected to take place in 2024, subject to precedent condition, including the approval of the relevant antitrust and regulatory authorities.

Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

4. Information by business segment and geographic area

Segment	Main activities
Iron Solutions	Comprise of the production and extraction of iron ore, iron ore pellets, manganese, other ferrous products, and its logistic related services.
Energy Transition Metals	Includes the production and extraction 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)	Comprise of the production and extraction of metallurgical and thermal coal and its logistic related services.
Other	Includes the revenues and cost of other products, services, research and development, investments in joint ventures and associates of other business and corporate expenses unallocated to the reportable segments, financial information related to Midwestern system and costs related to the Brumadinho event.

The segments are aligned with products and reflect the structure used by Management to evaluate the Company's performance. The responsible bodies for making operational decisions, allocating resources and evaluating performance are the Executive Boards and Board of Directors. Accordingly, the performance of the operating segments is assessed based on a measure of adjusted EBITDA, among other measures.

a) Adjusted EBITDA

The definition of Adjusted EBITDA for the Company is the operating income or loss plus dividends received and interest from associates and joint ventures, and excluding the amounts charged as (i) depreciation, depletion and amortization and (ii) impairment reversal (impairment) and results on disposal of non-current assets.

	Notes	Consolidated			
		Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Iron ore		15,214	19,567	28,927	45,545
Iron ore pellets		4,052	5,596	7,520	9,997
Other ferrous products and services		177	167	252	326
Iron solutions		19,443	25,330	36,699	55,868
Nickel		1,186	2,845	3,022	5,570
Copper		1,163	116	2,307	1,310
Energy Transition Metals		2,349	2,961	5,329	6,880
Other		(2,662)	(2,492)	(4,324)	(4,284)
Adjusted EBITDA from continuing operations		19,130	25,799	37,704	58,464
Depreciation, depletion and amortization	4(c)	(3,851)	(3,992)	(7,260)	(7,583)
Impairment reversal (impairment) and results on disposal of non-current assets, net and other (i)	15 and 17	(579)	(329)	(783)	4,999
Dividends received and interest from associates and joint ventures	14	(527)	(351)	(527)	(353)
Operating income		14,173	21,127	29,134	55,527
Equity results and other results in associates and joint ventures	14	35	(282)	(255)	837
Financial results	6	(714)	4,027	(3,488)	2,651
Income taxes	7	(8,742)	(4,399)	(10,905)	(15,385)
Net income from continuing operations		4,752	20,473	14,486	43,630

(i) Includes adjustments of R\$255 (US\$52 million) and R\$440 (US\$87 million) in the three and six-month periods ended June 30, 2023, respectively, to reflect the performance of the streaming transactions at market prices.

Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

	Notes	Consolidated			
		Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Adjusted EBITDA from discontinued operations		-	-	-	874
Impairment and results on disposals of non-current assets, net		-	(2,041)	-	(2,867)
Operating loss	15(f)	-	(2,041)	-	(1,993)
Financial results		-	14,636	-	14,603
Derecognition of noncontrolling interest		-	(2,783)	-	(2,783)
Income taxes		-	-	-	(9)
Net income from discontinued operations	15(f)	-	9,812	-	9,818

b) Net operating revenue by shipment destination

	Consolidated						
	Three-month period ended June 30, 2023						
	Iron Solutions			Energy Transition Metals			
	Iron ore	Iron ore pellets	Other ferrous products and services	Nickel and other products	Copper	Other	Total
Americas, except United States and Brazil	-	502	-	610	9	-	1,121
United States of America	-	477	-	1,661	-	-	2,138
Germany	228	1	6	612	617	-	1,464
Europe, except Germany	1,588	587	-	898	1,532	-	4,605
Middle East, Africa, and Oceania	-	2,512	-	43	-	-	2,555
Japan	3,080	269	-	729	-	-	4,078
China	21,491	12	-	1,067	264	-	22,834
Asia, except Japan and China	2,575	328	12	1,125	2	-	4,042
Brazil	1,787	2,304	611	90	-	129	4,921
Net operating revenue	30,749	6,992	629	6,835	2,424	129	47,758

	Consolidated						
	Three-month period ended June 30, 2022						
	Iron Solutions			Energy Transition Metals			
	Iron ore	Iron ore pellets	Other ferrous products and services	Nickel and other products	Copper	Other	Total
Americas, except United States and Brazil	-	649	24	543	-	375	1,591
United States of America	-	231	-	2,108	-	-	2,339
Germany	441	-	-	710	413	-	1,564
Europe, except Germany	2,549	435	-	1,430	1,063	-	5,477
Middle East, Africa, and Oceania	-	3,209	-	27	-	123	3,359
Japan	3,547	462	-	966	12	-	4,987
China	24,024	165	1	990	-	-	25,180
Asia, except Japan and China	2,578	747	13	779	126	225	4,468
Brazil	1,943	2,842	613	85	-	526	6,009
Net operating revenue	35,082	8,740	651	7,638	1,614	1,249	54,974

Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

	Consolidated						
	Six-month period ended June 30, 2023						
	Iron Solutions			Energy Transition Metals			
	Iron ore	Iron ore pellets	Other ferrous products and services	Nickel and other products	Copper	Other	Total
Americas, except United States and Brazil	5	1,263	–	1,351	9	–	2,628
United States of America	–	925	–	3,865	–	–	4,790
Germany	703	173	6	1,518	1,290	–	3,690
Europe, except Germany	3,522	1,307	–	2,776	2,898	–	10,503
Middle East, Africa, and Oceania	–	4,672	–	92	–	–	4,764
Japan	5,572	537	–	1,551	–	–	7,660
China	38,517	12	–	1,473	548	–	40,550
Asia, except Japan and China	4,669	541	23	1,853	229	–	7,315
Brazil	3,663	4,430	1,156	190	–	260	9,699
Net operating revenue	56,651	13,860	1,185	14,669	4,974	260	91,599

	Consolidated						
	Six-month period ended June 30, 2022						
	Iron Solutions			Energy Transition Metals			
	Iron ore	Iron ore pellets	Other ferrous products and services	Nickel and other products	Copper	Other	Total
Americas, except United States and Brazil	-	1,327	27	1,407	-	625	3,386
United States of America	-	372	-	3,604	-	-	3,976
Germany	1,113	-	-	1,607	1,518	-	4,238
Europe, except Germany	4,967	836	-	2,554	2,109	-	10,466
Middle East, Africa, and Oceania	-	5,816	-	45	-	123	5,984
Japan	6,811	752	2	1,950	23	-	9,538
China	50,768	209	37	2,491	-	-	53,505
Asia, except Japan and China	5,733	861	35	1,415	453	225	8,722
Brazil	3,806	5,728	1,146	158	-	1,040	11,878
Net operating revenue	73,198	15,901	1,247	15,231	4,103	2,013	111,693

c) Assets by segment

	Consolidated				Consolidated			
	June 30, 2023				December 31, 2022			
	Iron Solutions	Energy Transition Metals	Other	Total	Iron Solutions	Energy Transition Metals	Other	Total
Investments in associates and joint ventures	6,312	59	2,790	9,161	6,762	-	2,619	9,381
Intangibles	43,633	9,091	293	53,017	43,465	9,640	316	53,421
Property, plant and equipment	131,715	89,524	13,294	234,533	128,970	92,912	12,590	234,472
	Three-month period ended June 30,				Three-month period ended June 30,			
	2023				2022			
	Iron Solutions	Energy Transition Metals	Other	Total	Iron Solutions	Energy Transition Metals	Other	Total
Depreciation, depletion and amortization	2,478	1,301	72	3,851	2,450	1,476	66	3,992
Capital expenditures								
Sustaining capital (i)	2,332	1,610	171	4,113	2,349	1,690	118	4,157
Project execution	1,270	470	121	1,861	987	440	789	2,216
	3,602	2,080	292	5,974	3,336	2,130	907	6,373

Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

	Six-month period ended June 30,							
	2023				2022			
	Iron Solutions	Energy Transition Metals	Other	Total	Iron Solutions	Energy Transition Metals	Other	Total
Depreciation, depletion and amortization	4,571	2,552	137	7,260	4,622	2,819	142	7,583
Capital expenditures								
Sustaining capital (i)	4,991	2,982	320	8,293	4,990	3,100	281	8,371
Project execution	2,496	844	213	3,553	1,920	793	1,253	3,966
	7,487	3,826	533	11,846	6,910	3,893	1,534	12,337

(i) According to the Company's shareholder remuneration policy, dividends are calculated based on 30% of the adjusted EBITDA less sustaining capital investments.

d) Assets by geographic area

	June 30, 2023				Consolidated December 31, 2022			
	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	9,102	43,946	152,542	205,590	9,381	43,783	147,191	200,355
Canada	-	9,060	55,545	64,605	-	9,624	58,325	67,949
Americas, except Brazil and Canada	-	-	20	20	-	-	20	20
Europe	-	1	3,481	3,482	-	-	3,897	3,897
Indonesia	59	5	13,296	13,360	-	6	14,251	14,257
Asia, except Indonesia and China	-	-	3,663	3,663	-	-	4,102	4,102
China	-	3	79	82	-	5	98	103
Oman	-	2	5,907	5,909	-	3	6,588	6,591
Total	9,161	53,017	234,533	296,711	9,381	53,421	234,472	297,274

5. Costs and expenses by nature

a) Cost of goods sold, and services rendered

	Three-month period ended June 30,		Six-month period ended June 30,	
	2023	2022	2023	2022
Materials and services	4,977	4,228	9,182	7,785
Freight	4,927	5,814	8,472	10,146
Maintenance	4,716	3,974	8,940	7,257
Depreciation, depletion and amortization	3,648	3,832	6,830	7,206
Acquisition of products	2,704	3,323	5,486	5,718
Personnel	2,305	2,254	4,680	4,245
Fuel oil and gas	2,103	1,743	4,106	3,233
Royalties	1,576	1,381	2,783	2,478
Energy	917	888	1,783	1,681
Others	1,483	1,940	2,818	3,802
Total	29,356	29,377	55,080	53,551
Cost of goods sold	28,692	28,640	53,780	52,121
Cost of services rendered	664	737	1,300	1,430
Total	29,356	29,377	55,080	53,551

Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

b) Selling and administrative expenses

	Three-month period ended June 30,		Six-month period ended June 30,	
	2023	2022	2023	2022
Personnel	255	218	490	497
Services	149	151	294	266
Selling	104	115	197	213
Depreciation and amortization	64	58	124	118
Other	113	83	195	160
Total	685	625	1,300	1,254

c) Other operating expenses, net

	Notes	Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Expenses related to Brumadinho event	22	1,327	1,397	1,906	2,037
Expenses related to de-characterization of dam	24(a)	-	-	-	192
Asset retirement obligations	24(b)	64	200	64	200
Provision for litigations	26(a)	257	243	416	328
Profit sharing program		161	95	445	342
Other		84	300	215	549
Total		1,893	2,235	3,046	3,648

6. Financial results

	Notes	Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Financial income					
Short-term investments		406	598	864	1,276
Other		117	74	287	184
		523	672	1,151	1,460
Financial expenses					
Loans and borrowings gross interest		(916)	(798)	(1,853)	(1,641)
Capitalized loans and borrowing costs		28	85	52	156
Interest on REFIS		(190)	(253)	(386)	(364)
Interest on lease liabilities	21	(77)	(77)	(154)	(156)
Bond premium repurchase		(106)	(568)	(106)	(568)
Other		(703)	(253)	(1,176)	(823)
		(1,964)	(1,864)	(3,623)	(3,396)
Other financial items, net					
Participative shareholders' debentures	20	1,621	2,633	1,373	1,322
Financial guarantees	15(a)	-	1,798	-	2,411
Derivative financial instruments, net	18(c)	2,755	(1,360)	3,754	3,061
Foreign exchange and indexation gains (losses), net (i)		(3,649)	2,148	(6,143)	(2,207)
		727	5,219	(1,016)	4,587
Total		(714)	4,027	(3,488)	2,651

(i) It mainly includes foreign exchange gains or losses from accounts receivable (note 10) and loans (note 21) and indexation adjustments from liabilities related to Brumadinho (note 22), associates and joint ventures (note 23), de-characterization of dams and asset retirement obligations (note 24) and legal proceedings (note 26a).

Financial guarantees

As of June 30, 2023, the total guarantees granted by the Company (within the limit of its direct or indirect interest) for certain associates and joint ventures totaled R\$1,335 (US\$277 million) (December 31, 2022: R\$7,941 (US\$1,522 million)), which the fair value was R\$1 (US\$ null) as of June 30, 2023 (December 31, 2022: R\$537 (US\$103 million)), as presented in note 13.

Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

7. Income taxes

a) Income tax reconciliation

Income tax expense is recognized based on the estimate of the weighted average effective tax rate expected for the full year, adjusted for the tax effect of certain items that are recognized in full on the interim tax calculation. Therefore, the effective tax rate in the interim financial statements may differ from management's estimate of the effective tax rate for the year.

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

Notes	Consolidated		Parent Company	
	Three-month period ended June 30,		Three-month period ended June 30,	
	2023	2022	2023	2022
Income before income taxes	13,494	24,872	13,086	34,118
Income taxes at statutory rate (34%)	(4,588)	(8,456)	(4,449)	(11,600)
Adjustments that affect the taxes basis:				
Tax incentives	2,455	2,776	2,285	2,587
Equity results	165	105	296	3,042
Addition (reduction) of tax loss carryforward	(832)	1,214	(813)	1,254
Reversal of deferred income tax related to Renova Foundation	(5,468)	-	(5,468)	-
Other	(474)	(38)	(364)	632
Income taxes	(8,742)	(4,399)	(8,513)	(4,085)
Current tax	(2,006)	(5,841)	(1,612)	(5,421)
Deferred tax	(6,736)	1,442	(6,901)	1,336
Income taxes	(8,742)	(4,399)	(8,513)	(4,085)

Notes	Consolidated		Parent Company	
	Six-month period ended June 30,		Six-month period ended June 30,	
	2023	2022	2023	2022
Income before income taxes	25,391	59,015	21,981	64,768
Income taxes at statutory rate (34%)	(8,633)	(20,065)	(7,474)	(22,021)
Adjustments that affect the taxes basis:				
Tax incentives	4,563	5,322	4,292	5,035
Equity results	9	149	36	8,874
Addition (reduction) of tax loss carryforward	(1,203)	(2,358)	565	(4,366)
Reversal of deferred income tax related to Renova Foundation	(5,468)	-	(5,468)	-
Other	(173)	1,567	162	789
Income taxes	(10,905)	(15,385)	(7,887)	(11,689)
Current tax	(3,139)	(7,125)	(2,396)	(6,402)
Deferred tax	(7,766)	(8,260)	(5,491)	(5,287)
Income taxes	(10,905)	(15,385)	(7,887)	(11,689)

b) Deferred income tax assets and liabilities

	Consolidated	
	Assets	Liabilities
Balance at December 31, 2022	56,195	7,372
Effect in income statement	(7,928)	(162)
Translation adjustment	(384)	(396)
Other comprehensive income	(151)	(13)
Balance at June 30, 2023	47,732	6,801
Balance at December 31, 2021	63,847	10,494
Effect in income statement	(8,041)	219
Translation adjustment	(491)	(643)
Other comprehensive income	(126)	219
Transfers between assets and liabilities	(923)	(923)
Other	-	(151)
Balance at June 30, 2022	54,266	9,215

Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

c) Income taxes – Settlement program (“REFIS”)

	Consolidated	
	June 30, 2023	December 31, 2022
Current liabilities	2,004	1,934
Non-current liabilities	9,087	9,753
REFIS liabilities	11,091	11,687
SELIC rate	13.75%	13.75%

The balance is mainly related 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. As of June 30, 2023, this amount bears SELIC interest rate (Special System for Settlement and Custody) and will be paid in monthly installments until October 2028. The impact of the SELIC over the liability is recorded under the Company’s financial results.

d) Uncertain tax positions (“UTP”)

There have not been any relevant developments on matters related to UTP since the financial statements for the year ended December 31, 2022.

e) Recoverable and payable taxes

	Consolidated					
	June 30, 2023			December 31, 2022		
	Current assets	Non-current assets	Current liabilities	Current assets	Non-current assets	Current liabilities
Value-added tax (“ICMS”)	1,343	5	113	1,364	5	242
Brazilian federal contributions (“PIS and COFINS”)	4,422	4,123	332	3,602	3,861	182
Income taxes	1,429	1,796	2,910	1,614	1,927	1,156
Financial compensation for the exploration of mineral resources (“CFEM”)	–	–	318	–	–	284
Other	43	–	579	59	–	590
Total	7,237	5,924	4,252	6,639	5,793	2,454

8. Basic and diluted earnings per share

The basic and diluted earnings per share are presented below:

	Three-month period ended June 30,		Six-month period ended June 30,	
	2023	2022	2023	2022
Net income attributable to Vale's shareholders				
Net income from continuing operations	4,573	20,221	14,094	43,261
Net income from discontinued operations	–	9,812	–	9,818
Net income	4,573	30,033	14,094	53,079
Thousands of shares				
Weighted average number of common shares outstanding	4,396,778	4,668,739	4,424,788	4,737,806
Weighted average number of common shares outstanding and potential ordinary shares	4,400,609	4,673,377	4,428,619	4,742,444
Basic and diluted earnings per share from continuing operations				
Common share (US\$)	1.04	4.33	3.19	9.13
Basic and diluted earnings per share from discontinued operations				
Common share (US\$)	–	2.10	–	2.07
Basic and diluted earnings per share				
Common share (US\$)	1.04	6.43	3.19	11.20

Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

9. Cash flows reconciliation

a) Cash flow from operating activities:

	Notes	Consolidated			
		Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Cash flow from operating activities:					
Income before income taxes		13,494	24,872	25,391	59,015
Adjusted for:					
Equity results and other results in associates and joint ventures	14 and 23	(35)	282	255	(837)
Impairment (impairment reversal) and results on disposal of non-current assets, net	15 and 17	324	329	343	(4,999)
Provisions related to Brumadinho	22	678	637	678	637
Provision for de-characterization of dams	24	-	-	-	192
Depreciation, depletion and amortization		3,851	3,992	7,260	7,583
Financial results, net	6	714	(4,027)	3,488	(2,651)
Changes in assets and liabilities:					
Accounts receivable	10	(1,074)	4,477	7,679	9,201
Inventories	11	(891)	(1,272)	(2,635)	(2,695)
Suppliers and contractors	12	2,780	2,269	2,234	(1,568)
Other assets and liabilities, net		(3,858)	(3,198)	(6,250)	(6,335)
Cash flow from operations		15,983	28,361	38,443	57,543

	Notes	Parent Company	
		Six-month period ended June 30,	
		2023	2022
Cash flow from operating activities:			
Income before income taxes		21,981	64,768
Adjusted for:			
Equity results and others results from subsidiaries		(101)	(24,141)
Equity results and other results in associates and joint ventures	14 and 23	255	(837)
Impairment and results on disposal of non-current assets, net	15 and 17	277	398
Provisions related to Brumadinho	22	678	637
Provision for de-characterization of dams	24	-	192
Depreciation, depletion and amortization		4,513	4,354
Financial results, net	6	4,487	(2,460)
Changes in assets and liabilities:			
Accounts receivable	10	2,312	3,708
Inventories	11	(299)	(250)
Suppliers and contractors	12	2,097	(862)
Payroll, related charges and other remunerations		(954)	(781)
Other assets and liabilities, net		(2,683)	(1,496)
Cash flow from operations		32,563	43,230

b) Cash flow from investing activities

	Notes	Consolidated			
		Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Cash received from the sale of California Steel Industries	15(d)	-	-	-	2,269
Cash received from the sale of Companhia Siderúrgica do Pecém		-	-	5,637	-
Cash contribution to Companhia Siderúrgica do Pecém	15(a)	-	-	(5,983)	-
Proceeds (payments) from disposal of investments, net		-	-	(346)	2,269

	Notes	Parent Company	
		Six-month period ended June 30,	
		2023	2022
Cash received from the sale of Companhia Siderúrgica do Pecém		5,637	-
Cash contribution to Companhia Siderúrgica do Pecém	15(a)	(5,983)	-
Payments from disposal of investments, net		(346)	-

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Expressed in millions of Brazilian reais, unless otherwise stated

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

				Consolidated
	Quoted in the secondary market	Debt contracts in Brazil	Debt contracts on the international market	Total
December 31, 2022	33,900	1,461	22,980	58,341
Additions	7,277	-	1,581	8,858
Payments	(2,559)	(144)	(325)	(3,028)
Interest paid (i)	(1,213)	(64)	(591)	(1,868)
Cash flow from financing activities	3,505	(208)	665	3,962
Effect of exchange rate	(2,471)	-	(1,920)	(4,391)
Interest accretion	1,131	79	717	1,927
Non-cash changes	(1,340)	79	(1,203)	(2,464)
June 30, 2023	36,065	1,332	22,442	59,839

				Consolidated
	Quoted in the secondary market	Debt contracts in Brazil	Debt contracts on the international market	Total
December 31, 2021	44,501	2,120	21,346	67,967
Additions	-	-	3,328	3,328
Payments	(6,741)	(912)	(1,709)	(9,362)
Interest paid (i)	(2,077)	(213)	(39)	(2,329)
Cash flow from financing activities	(8,818)	(1,125)	1,580	(8,363)
Effect of exchange rate	(2,417)	311	(1,933)	(4,039)
Interest accretion	1,609	449	157	2,215
Non-cash changes	(808)	760	(1,776)	(1,824)
June 30, 2022	34,875	1,755	21,150	57,780

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

Additions - In March 2023, the Company contracted a loan of R\$1,524 (US\$300 million) with the Industrial and Commercial Bank of China Limited, Panama Branch ("ICBC") indexed to Secured Overnight Financing Rate ("SOFR") with spread adjustments and maturing in 2028.

In June 2023, Vale issued notes of R\$7,277 (US\$1,500 million) with a coupon of 6.125% per year, payable semi-annually, and maturing in 2033. The notes were sold at a price of 99.117% of the principal amount, resulting in a yield to maturity of 6.245%.

In January 2022, the Company contracted two loans of R\$2,361 (US\$425 million) with The Bank of Nova Scotia, indexed to Libor and maturing in 2027.

In May 2022, the Company contracted a loan of R\$967 (US\$200 million) with MUFG Bank indexed to SOFR with spread adjustments and maturing in 2027.

Payments - In January 2023, the Company paid principal and interest of debentures, in the amount of R\$124 (US\$24 million).

In June 2023, Vale redeemed notes with maturity date in 2026, 2036 and 2039, in the total amount of R\$2,426 (US\$500 million) and paid a premium of R\$106 (US\$22 million), recorded as "Bond premium repurchase" in the financial results for the three-month period ended June 30, 2023.

In January 2022, the Company prepaid R\$993 (US\$200 million) of a loan maturing in 2023 with The Bank of Nova Scotia.

In June 2022, the Company repurchased R\$6,520 (US\$1,291 million) of its Bonds and paid a premium of R\$568 (US\$113 million), which has been recorded and is presented as "Bond premium repurchase" in the financial results for the three-month period ended June 30, 2022.

Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

d) Non-cash transactions

	Consolidated			
	Three-month period ended June 30,		Six-month period ended June 30,	
	2023	2022	2023	2022
Non-cash transactions:				
Additions to property, plant and equipment – capitalized loans and borrowing costs	28	85	52	156

	Parent Company	
	Six-month period ended June 30,	
	2023	2022
Non-cash transactions:		
Additions to property, plant and equipment – capitalized loans and borrowing costs	52	156

10. Accounts receivable

	Notes	Consolidated		Parent Company	
		June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022
Receivables from contracts with customers					
Related parties	29	570	1,102	39,419	46,700
Third parties					
Iron Solutions		10,340	16,346	1,722	634
Energy Transition Metals		3,522	5,135	13	7
Other		80	180	62	100
Accounts receivable		14,512	22,763	41,216	47,441
Expected credit loss		(214)	(226)	(64)	(61)
Accounts receivable, net		14,298	22,537	41,152	47,380

No customer individually represented 10% or more of the Company's accounts receivable or revenues in the periods presented above.

Provisionally priced commodities sales – The Company is mainly exposed to iron ore and copper price risk. The final sales price of these commodities is calculated based on the pricing period stipulated in the sales contracts, which generally is later than the revenue recognition date. Therefore, the Company initially recognizes revenue based on a provisional invoice and the receivables of the provisionally priced products are subsequently measured at fair value through profit or loss (note 19), with these changes in the value of the receivables recorded in the Company's net operating revenue.

The sensitivity of the Company's risk on final settlement of provisionally priced accounts receivables is presented below:

	Thousand metric tons	Provisional price (US\$/ton)	Variation	June 30, 2023
				Effect on Revenue (R\$ million)
Iron ore	22,564	102	+/-10%	+/- 1,136
Copper	77	7,811	+/-10%	+/- 306

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11. Inventories

	Consolidated		Parent Company	
	June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022
Finished products				
Iron Solutions	12,715	11,091	5,663	4,927
Energy Transition Metals	3,073	3,396	191	224
	15,788	14,487	5,854	5,151
Work in progress	4,344	4,175	41	144
Consumable inventory	5,575	5,272	3,079	2,790
Allowance to net realizable value (i)	(681)	(548)	(158)	(268)
Total of inventories	25,026	23,386	8,816	7,817

(i) In the six-month period ended June 30, 2023, the effect of allowance to net realizable value was R\$232 (US\$47 million) (2022: R\$110 (US\$22 million)).

12. Suppliers and contractors

	Notes	Consolidated		Parent Company	
		June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022
Third parties – Brazil		15,988	14,042	15,183	13,184
Third parties – Abroad		8,447	8,342	176	85
Related parties	29	817	894	996	979
Total		25,252	23,278	16,355	14,248

The Company has transactions with certain suppliers, which allows them to anticipate their receivables and the Company to extend its payment term within the short term, that is, during its operational cycle. The outstanding balance related to those transactions was R\$7,379 (US\$1,531 million) as of June 30, 2023 (December 31, 2022: R\$3,877 (US\$743 million)), of which R\$1,513 (US\$314 million) (December 31, 2022: R\$1,058 (US\$202 million)) relates to the structure created by the Company with the exclusive purpose of enabling small and medium suppliers to anticipate their receivables with better interest rates, in line with Vale's social pillar.

13. Other financial assets and liabilities

	Notes	Current		Consolidated Non-Current	
		June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022
Other financial assets					
Restricted cash		-	-	518	404
Derivative financial instruments	18	2,518	1,788	2,694	1,022
Investments in equity securities (i)		-	-	147	36
		2,518	1,788	3,359	1,462
Other financial liabilities					
Derivative financial instruments	18	228	470	475	972
Other financial liabilities – Related parties	29(b)	902	2,086	-	-
Financial guarantees provided (ii)	15(a)	-	-	1	537
Liabilities related to the concession grant	13(a)	2,942	2,169	12,881	13,326
Contract liability and other financial liabilities (iii)		3,637	4,000	-	-
		7,709	8,725	13,357	14,835

Notes to the Interim Financial Statements

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	Notes	Parent Company			
		Current		Non-Current	
		June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022
Other financial assets					
Restricted cash		-	-	21	22
Derivative financial instruments		2,131	1,160	2,488	1,022
Investments in equity securities		-	-	92	31
Other financial assets		-	-	54	50
		2,131	1,160	2,655	1,125
Other financial liabilities					
Derivative financial instruments		34	128	255	848
Loans - Related parties	29(b)	18,231	25,691	48,204	48,465
Other financial liabilities - Related parties	29(b)	3,140	3,660	-	-
Financial guarantees provided (ii)	15(a)	-	-	1	537
Liabilities related to the concession grant	13(a)	2,942	2,169	12,881	13,326
Contract liability and other financial liabilities (iii)		33	33	-	-
		24,380	31,681	61,341	63,176

(i) It mainly relates to a 2.66% noncontrolling interest in Boston Electrometallurgical Company, which aims to promote the development of a technology focused on reducing carbon dioxide emissions in steel production.

(ii) In March 2023, the Company completed the sale of its interest in CSP and derecognized the financial guarantee granted by the Company.

(iii) Includes advances received from customers that meets the definition of contract liability described in IFRS 15/CPC47 - Revenue from Contracts with Customers and other financial liabilities that meets the definition of a financial liability described in IAS 32/CPC 39 - Financial Instruments: Presentation.

a) Liabilities related to the concession grant

	Consolidated				
	December 31, 2022	Addition	Present value adjustment	Disbursements	June 30, 2023
Payment obligation	4,975	24	250	(139)	5,110
Infrastructure investment	10,520	377	257	(441)	10,713
	15,495	401	507	(580)	15,823
Current liabilities	2,169				2,942
Non-current liabilities	13,326				12,881
Liabilities	15,495				15,823
Discount rate in nominal terms - Payment obligation	11.04%				11.04%
Discount rate in nominal terms - Infrastructure investment	6.08% - 6.23%				5.10% - 5.57%

Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

14. Investments in subsidiaries, associates, and joint ventures

				Investments in associates and joint ventures		Equity results						Dividends received		
						Three-month period ended June 30,		Six-month period ended June 30,		Three-month period ended June 30,		Six-month period ended June 30,		
				June 30, 2023	December 31, 2022	2023	2022	2023	2022	2023	2022	2023	2022	
Associates and joint ventures				Notes	% ownership	% voting capital								
Iron Solutions														
Baovale Mineração S.A.					50.00	50.00	133	125	4	4	7	7	-	-
Companhia Coreano-Brasileira de Pelotização					50.00	50.00	334	415	21	51	44	113	69	48
Companhia Hispano-Brasileira de Pelotização					50.89	50.00	204	250	6	3	21	5	95	7
Companhia Ítalo-Brasileira de Pelotização					50.90	50.00	281	323	17	58	36	65	114	93
Companhia Nipo-Brasileira de Pelotização					51.00	50.00	709	759	41	56	78	109	165	203
MRS Logística S.A.					48.16	47.09	2,887	2,656	199	99	232	148	-	-
Samarco Mineração S.A.				23	50.00	50.00	-	-	-	-	-	-	-	-
VLI S.A.					29.60	29.60	1,763	2,234	157	(6)	(474)	(100)	-	-
							6,311	6,762	445	265	(56)	347	443	351
Energy Transition Metals														
Korea Nickel Corp. (i)					-	-	-	-	-	5	-	13	-	-
PT Kolaka Nickel Indonesia					20.00	20.00	59	-	-	-	-	-	-	-
							59	-	-	5	-	13	-	-
Others														
Aliança Geração de Energia S.A.					55.00	55.00	1,966	1,772	44	42	92	83	84	-
Aliança Norte Energia Participações S.A.					51.00	51.00	539	553	(8)	(9)	(14)	(17)	-	-
California Steel Industries, Inc.				15(e)	-	-	-	-	-	-	-	-	-	360
Other							286	294	4	(2)	4	12	-	-
							2,791	2,619	40	31	82	78	84	-
Equity results in associates and joint ventures							9,161	9,381	485	301	26	438	527	351
Other results in associates and joint ventures				15			-	-	(450)	(583)	(281)	399	-	-
Equity results and other results in associates and joint ventures							9,161	9,381	35	(282)	(255)	837	527	351

(i) In September 2022, Vale completed the sale of its 25% stake in Korea Nickel Corp to Posco. for R\$86 (US\$16 million).

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a) Changes in the period

	Notes	Consolidated		Parent Company	
		2023	2022	2023	2022
Balance at January 1,		9,381	9,771	122,573	143,640
Additions and capitalizations		5	-	278	806
Transfer to asset held for sale – Midwestern System	15(d)	-	-	-	(860)
Equity results and others results from subsidiaries		-	-	101	24,141
Equity results and other results in associates and joint ventures		26	438	6	1,959
Equity results in statement of comprehensive income		-	-	25	790
Dividends declared		(298)	(266)	(875)	(124)
Translation adjustment		(6)	(15)	(5,644)	(23,972)
Share buyback programs	28(d)	-	-	(5,152)	(11,818)
Merger		-	-	-	(2,002)
Share-based payment		-	-	(30)	(4)
Other		53	(550)	68	(2,764)
Balance at June 30,		9,161	9,378	111,350	129,792

15. Acquisitions and divestitures

	Reference	Three-month period ended June 30, 2023		Six-month period ended June 30, 2023	
		Impairment reversal (impairment) of non-current assets	Equity results and other results in associates and joint ventures	Impairment reversal (impairment) of non-current assets	Equity results and other results in associates and joint ventures
Companhia Siderúrgica do Pecém	15(a)	-	-	-	190
Mineração Rio do Norte	15(c)	-	(448)	-	(448)
		-	(448)	-	(258)

	Reference	Three-month period ended June 30, 2022		Six-month period ended June 30, 2022	
		Impairment of non-current assets	Equity results and other results in associates and joint ventures	Impairment reversal (impairment) of non-current assets	Equity results and other results in associates and joint ventures
Midwestern System	15(d)	(76)	-	5,556	-
California Steel Industries	15(e)	-	(25)	-	1,520
Companhia Siderúrgica do Pecém	15(a)	-	(132)	-	(685)
		(76)	(157)	5,556	835
Discontinued operations (Coal)	15(f)	(2,041)	-	(2,867)	-
		(2,117)	(157)	2,689	835

a) Sale of 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 R\$553 (US\$111 million) and recorded a provision for accounts receivable with CSP in the amount of R\$132 (US\$24 million), both recorded in the income statement for the six-month period ended June 30, 2022.

In March 2023, the Company completed the sale of its interest in CSP to ArcelorMittal, for R\$11,147 (US\$2,194 million), which was fully used to prepay most of the outstanding net debt of R\$11,665 (US\$2,296 million). The remaining balance was settled by the shareholders and so Vale disbursed R\$346 (US\$67 million) upon completion of the transaction. The Company also derecognized its financial liability related to the guarantee granted to CSP, leading to a gain of R\$190 (US\$37 million) recorded as “Equity results and other results in associates and joint ventures” for the six-month period ended June 30, 2023.

b) Vale Oman Pelletizing Company LLC (“VOPC”) – In February 2023, OQ Group exercised its option to sell its 30% noncontrolling interest held in VOPC, a subsidiary consolidated by the Company. In April 2023, the Company completed the transaction and acquired the minority interest for R\$653 (US\$130 million), resulting in a gain of R\$15 (US\$3 million), recorded in equity as of June 30, 2023, as “Acquisitions and disposals of noncontrolling interests”, since it resulted from a transaction between shareholders. Upon closing, Vale owns 100% of VOPC's share capital.

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c) Mineração Rio do Norte S.A. ("MRN") – In April 2023, Vale signed a binding agreement with Ananke Alumina S.A. to sell its 40% stake in MRN, which has been impaired in full since 2021. Under the terms of the agreement, Vale will pay R\$448 (US\$93 million) to the buyer due to certain remaining commitments. Therefore, the Company recognized a provision for that amount with the corresponding impact in the income statement for the three-month period ended June 30, 2023, as "Equity results and other results in associates and joint ventures". The completion of the transaction is expected for 2024, subject to customary regulatory approvals.

d) Midwestern System – During the first quarter of 2022, the Company classified the assets and liabilities related to the Midwestern System as held for sale due to the negotiations with interested parties in Vale's iron ore, manganese and logistics assets in the Midwestern System. These negotiations resulted in the execution of a binding agreement with J&F Mineração Ltda. ("J&F"), which was signed in April 2022.

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 in the amount of R\$4,435 (US\$902 million) that were deemed onerous contracts under the Company's business model for the Midwestern System, which had negative net assets of R\$4,226 (US\$892 million) before the reclassification to "Non-current assets and liabilities held for sale" on March 31, 2022.

These offers received during the sale process of the assets represented an objective evidence of impairment reversal and required the remeasurement of the existing provision, which led to a gain of R\$5,556 (US\$1,104 million) recorded in the six-month period ended June 30, 2022 as "Impairment reversal (impairment) and result on disposal of non-current assets", of which R\$1,121 (US\$202 million) relates to the impairment reversal of the Property, plant and equipment and R\$4,435 (US\$902 million) is due to the remeasurement of the onerous contract liability. The closing was completed in July 2022 and the Company received R\$745 (US\$150 million).

e) 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 R\$2,269 (US\$437 million). In February 2022, the Company concluded the sale and recorded a gain of R\$1,520 (US\$292 million) for the three-month period ended March 31, 2022, as "Equity results and other results in associates and joint ventures", of which R\$741 (US\$142 million) relates to a gain from the sale and R\$779 (US\$150 million) is due the reclassification of the cumulative translation adjustments from the shareholders' equity to the income statement.

f) Discontinued operations (Coal) – In June 2021, in preparation for a sale of the coal operation in connection with the sustainable mining strategic agenda, the Company carried out a corporate reorganization by acquiring the interests held by Mitsui in the coal assets, which consist of Moatize mine and the Nacala Logistics Corridor ("NLC").

In December 2021, the Company entered into a binding agreement with Vulcan Resources for the sale of coal assets. According to the sale agreement, Vulcan has committed to pay the gross amount of R\$1,285 (US\$270 million) in addition of a 10-year royalty agreement, subject to certain mine production and coal price conditions and so, any gain will be recognized as incurred due to the nature and uncertainties related to the measurement of these royalties. To date, the Company has not recognized any gain in relation to these royalties.

Therefore, the Company adjusted the net assets of the coal business to the fair value less cost of disposal, which resulted in an impairment loss of R\$13,298 (US\$2,511 million) and started presenting the coal segment as a discontinued operation from December 2021.

In April 2022, the transaction was completed and the Company recorded a net income from discontinued operations of R\$9,818 (US\$2,060 million) for the six-month period ended June 30, 2022, which was mainly driven by the reclassification of the cumulative translation adjustments of R\$14,636 (US\$3,072 million), from the stockholders' equity to the income statement, as required by IAS 21 – The Effects of Changes in Foreign Exchange Rates, partially offset by the derecognition of noncontrolling interest of R\$2,783 (US\$585 million) due to the deconsolidation of the coal assets. Additionally, until the closing of the transaction, the Company recorded losses of R\$2,867 (US\$589 million) due to the impairment of assets acquired during the period and other working capital adjustments. These effects are presented below:

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Net income and cash flows from discontinued operations

	Three-month period ended June 30,		Six-month period ended June 30,	
	2023	2022	2023	2022
Net income from discontinued operations				
Net operating revenue	-	-	-	2,308
Cost of goods sold and services rendered	-	-	-	(1,370)
Operating expenses	-	-	-	(64)
Impairment and results on disposals of non-current assets, net	-	(2,041)	-	(2,867)
Operating loss	-	(2,041)	-	(1,993)
Cumulative translation adjustments	-	14,636	-	14,636
Derecognition of noncontrolling interest	-	(2,783)	-	(2,783)
Financial results, net	-	-	-	(33)
Net income before income taxes	-	9,812	-	9,827
Income taxes	-	-	-	(9)
Net income from discontinued operations	-	9,812	-	9,818
Net income attributable to Vale's shareholders	-	9,812	-	9,818

	Three-month period ended June 30,		Six-month period ended June 30,	
	2023	2022	2023	2022
Cash flow from discontinued operations				
Operating activities				
Net income before income taxes	-	9,812	-	9,827
Adjustments:				
Impairment and results on disposals of non-current assets, net	-	2,041	-	2,867
Derecognition of noncontrolling interest	-	2,783	-	2,783
Financial results, net	-	(14,636)	-	(14,603)
Decrease in assets and liabilities	-	-	-	(661)
Net cash generated by operating activities	-	-	-	213
Investing activities				
Additions to property, plant and equipment	-	-	-	(201)
Disposal of coal, net of cash	-	(333)	-	(333)
Net cash used in investing activities	-	(333)	-	(534)
Financing activities				
Payments	-	-	-	(54)
Net cash used by financing activities	-	-	-	(54)
Net cash used by discontinued operations	-	(333)	-	(375)

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Expressed in millions of Brazilian reais, unless otherwise stated

16. Intangibles

	Consolidated			
	Goodwill	Concessions	Software	Research and development project
				Total
Balance at December 31, 2022	16,643	33,570	454	2,754
Additions	-	833	66	14
Disposals	-	(38)	-	-
Amortization	-	(625)	(105)	-
Translation adjustment	(543)	-	(6)	-
Balance at June 30, 2023	16,100	33,740	409	2,768
Cost	16,100	41,449	2,894	2,768
Accumulated amortization	-	(7,709)	(2,485)	-
Balance at June 30, 2023	16,100	33,740	409	2,768
Balance at December 31, 2021	17,905	29,149	479	2,754
Additions	-	664	83	3
Disposals	-	(46)	-	-
Amortization	-	(606)	(111)	-
Translation adjustment	(772)	-	(15)	-
Balance at June 30, 2022	17,133	29,161	436	2,757
Cost	17,133	35,858	2,880	2,757
Accumulated amortization	-	(6,697)	(2,444)	-
Balance at June 30, 2022	17,133	29,161	436	2,757

	Parent Company			
	Concessions	Software	Research and development project	Total
Balance at December 31, 2022	33,570	316	2,754	36,640
Additions	833	49	-	882
Disposals	(38)	-	-	(38)
Amortization	(625)	(72)	-	(697)
Balance at June 30, 2023	33,740	293	2,754	36,787
Cost	41,449	1,625	2,754	45,828
Accumulated amortization	(7,709)	(1,332)	-	(9,041)
Balance at June 30, 2023	33,740	293	2,754	36,787
Balance at December 31, 2021	29,149	291	-	29,440
Additions	664	58	-	722
Disposals	(46)	-	-	(46)
Amortization	(606)	(58)	-	(664)
Merger of New Steel	-	-	2,757	2,757
Balance at June 30, 2022	29,161	291	2,757	32,209
Cost	35,858	1,529	2,757	40,144
Accumulated amortization	(6,697)	(1,238)	-	(7,935)
Balance at June 30, 2022	29,161	291	2,757	32,209

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17. Property, plant, and equipment

Consolidated									
Notes	Building and land	Facilities	Equipment	Mineral properties	Railway equipment	Right of use assets	Other	Constructions in progress	Total
Balance at December 31, 2022	46,505	41,961	26,006	37,109	12,912	7,592	13,732	48,655	234,472
Additions (i)	-	-	-	-	-	96	-	12,291	12,387
Disposals	(41)	(42)	(27)	(1)	(26)	-	(4)	(276)	(417)
Assets retirement obligation 24(b)	-	-	-	474	-	-	-	-	474
Depreciation, depletion and amortization	(1,135)	(1,267)	(1,849)	(1,226)	(411)	(463)	(824)	-	(7,175)
Translation adjustment	(798)	(355)	(889)	(1,325)	(21)	(412)	(301)	(1,107)	(5,208)
Transfers	3,949	2,972	1,889	237	242	-	830	(10,119)	-
Balance at June 30, 2023	48,480	43,269	25,130	35,268	12,696	6,813	13,433	49,444	234,533
Cost	85,300	69,063	59,843	78,481	21,471	10,581	28,447	49,444	402,630
Accumulated depreciation	(36,820)	(25,794)	(34,713)	(43,213)	(8,775)	(3,768)	(15,014)	-	(168,097)
Balance at June 30, 2023	48,480	43,269	25,130	35,268	12,696	6,813	13,433	49,444	234,533
Balance at December 31, 2021	45,408	40,357	26,463	43,206	13,024	8,579	13,864	43,094	233,995
Additions (i)	-	-	-	-	-	151	-	11,691	11,842
Disposals	(73)	(38)	(19)	-	(26)	-	(7)	(233)	(396)
Assets retirement obligation 24(b)	-	-	-	(5,392)	-	-	-	-	(5,392)
Depreciation, depletion and amortization	(1,039)	(1,240)	(1,781)	(1,189)	(413)	(471)	(746)	-	(6,879)
Impairment reversal	295	177	339	203	-	-	107	-	1,121
Transfer to asset held for sale - Midwestern System	(295)	(177)	(339)	(203)	-	-	(107)	-	(1,121)
Translation adjustment	(943)	(543)	(928)	(2,476)	(24)	(413)	(416)	(1,320)	(7,063)
Transfers	1,201	1,513	1,507	1,738	384	-	1,036	(7,379)	-
Balance at June 30, 2022	44,554	40,049	25,242	35,887	12,945	7,846	13,731	45,853	226,107
Cost	81,774	64,787	59,142	85,468	21,065	10,803	30,391	45,853	399,283
Accumulated depreciation	(37,220)	(24,738)	(33,900)	(49,581)	(8,120)	(2,957)	(16,660)	-	(173,176)
Balance at June 30, 2022	44,554	40,049	25,242	35,887	12,945	7,846	13,731	45,853	226,107

(i) Includes capitalized interest.

Parent Company									
	Building and land	Facilities	Equipment	Mineral properties	Railway equipment	Right of use assets	Other	Constructions in progress	Total
Balance at December 31, 2022	30,009	33,417	11,864	10,263	12,583	1,514	8,175	28,497	136,322
Additions (i)	-	-	-	-	-	62	-	8,311	8,373
Disposals	(31)	(20)	(14)	-	(26)	-	(3)	(169)	(263)
Assets retirement obligation	-	-	-	527	-	-	-	-	527
Depreciation, depletion and amortization	(639)	(879)	(844)	(402)	(390)	(184)	(670)	-	(4,008)
Transfers	2,102	1,993	1,160	69	241	-	790	(6,355)	-
Balance at June 30, 2023	31,441	34,511	12,166	10,457	12,408	1,392	8,292	30,284	140,951
Cost	45,574	50,566	25,789	15,592	20,723	2,815	19,165	30,284	210,508
Accumulated depreciation	(14,133)	(16,055)	(13,623)	(5,135)	(8,315)	(1,423)	(10,873)	-	(69,557)
Balance at June 30, 2023	31,441	34,511	12,166	10,457	12,408	1,392	8,292	30,284	140,951
Balance at December 31, 2021	29,235	31,458	11,188	9,236	12,653	1,659	7,543	20,987	123,959
Additions (i)	-	-	-	-	-	164	-	7,770	7,934
Disposals	(61)	(34)	(5)	-	(26)	(9)	(5)	(179)	(319)
Assets retirement obligation	-	-	-	(108)	-	-	-	-	(108)
Depreciation, depletion and amortization	(596)	(862)	(815)	(330)	(392)	(192)	(601)	-	(3,788)
Merger of New Steel	11	2	11	-	-	-	7	17	48
Transfers	1,049	1,384	1,045	(27)	378	(3)	939	(4,765)	-
Balance at June 30, 2022	29,638	31,948	11,424	8,771	12,613	1,619	7,883	23,830	127,726
Cost	42,545	46,567	23,716	13,183	20,289	2,602	17,647	23,830	190,379
Accumulated depreciation	(12,907)	(14,619)	(12,292)	(4,412)	(7,676)	(983)	(9,764)	-	(62,653)
Balance at June 30, 2022	29,638	31,948	11,424	8,771	12,613	1,619	7,883	23,830	127,726

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Right-of-use assets (leases)

	December 31, 2022	Additions and contract modifications	Depreciation	Translation adjustment	June 30, 2023
Ports	3,424	–	(136)	(222)	3,066
Vessels	2,364	26	(109)	(173)	2,108
Pelletizing plants	1,064	62	(125)	–	1,001
Properties	456	(2)	(65)	(1)	388
Energy plants	206	–	(17)	(11)	178
Mining equipment	78	10	(11)	(5)	72
Total	7,592	96	(463)	(412)	6,813

Lease liabilities are presented in note 21.

18. Financial and capital risk management

a) Effects of derivatives on the statement of financial position

	June 30, 2023		Consolidated December 31, 2022	
	Assets	Liabilities	Assets	Liabilities
Foreign exchange and interest rate risk				
CDI & TJLP vs. US\$ fixed and floating rate swap	433	142	59	752
IPCA swap	–	199	–	330
Dollar swap and forward transactions	4,185	2	2,123	37
LIBOR swap	39	–	37	–
	4,657	343	2,219	1,119
Commodities price risk				
Gasoil, Brent and freight	339	343	406	293
Energy Transition Metals	216	4	185	7
	555	347	591	300
Other	–	13	–	23
Total	5,212	703	2,810	1,442

b) Net exposure

	June 30, 2023	Consolidated December 31, 2022
Foreign exchange and interest rate risk		
CDI & TJLP vs. US\$ fixed and floating rate swap	291	(693)
IPCA swap	(199)	(330)
Dollar swap and forward transactions	4,183	2,086
LIBOR swap (i)	39	37
	4,314	1,100
Commodities price risk		
Gasoil, Brent and freight	(4)	113
Energy Transition Metals	212	178
	208	291
Other	(13)	(23)
Total	4,509	1,368

(i) In March 2021, the UK Financial Conduct Authority ("FCA"), the financial regulator in the United Kingdom, announced the discontinuation of the LIBOR rate for all terms in pounds, euros, Swiss francs, yen and for terms of one week and two months in dollars at the end of December 2021 and the other terms at the end of June 2023. Vale has finalized the negotiations for the replacement of the reference interest rate of its financial contracts from LIBOR to Secured Overnight Financing Rate ("SOFR"), with spread adjustments to match the transaction costs. The Company does not expect material impacts on the cash flows of these operations.

Notes to the Interim Financial Statements

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c) Effects of derivatives on the income statement

	Consolidated			
	Gain (loss) recognized in the income statement			
	Three-month period ended June 30,		Six-month period ended June 30,	
	2023	2022	2023	2022
Foreign exchange and interest rate risk				
CDI & TJLP vs. US\$ fixed and floating rate swap	711	(602)	936	1,405
IPCA swap	112	(59)	148	336
Dollar swap and forward operations	1,840	(824)	2,686	1,027
LIBOR swap	8	32	24	210
Forwards	66	-	66	-
	2,737	(1,453)	3,860	2,978
Commodities price risk				
Gasoil, Brent and freight	15	51	(108)	127
Energy Transition Metals	(1)	81	(7)	42
	14	132	(115)	169
Other	4	(39)	9	(86)
Total	2,755	(1,360)	3,754	3,061

d) Effects of derivatives on the cash flows

	Consolidated			
	Financial settlement inflows (outflows)			
	Three-month period ended June 30,		Six-month period ended June 30,	
	2023	2022	2023	2022
Foreign exchange and interest rate risk				
CDI & TJLP vs. US\$ fixed and floating rate swap	(19)	(85)	(40)	(225)
IPCA swap	14	40	17	54
Dollar swap and forward operations	485	270	589	415
LIBOR swap	19	-	19	(3)
Forwards	66	-	66	-
	565	225	651	241
Commodities price risk				
Gasoil, Brent and freight	4	31	16	47
Energy Transition Metals	101	(451)	198	(877)
	105	(420)	214	(830)
Total	670	(195)	865	(589)

Notes to the Interim Financial Statements

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e) Market risk – Foreign exchange and interest rates

Protection programs for the R\$ denominated debt instruments and other liabilities

Flow	Notional				Fair value		Financial Settlement Inflows (Outflows)	Value at Risk	Fair value by year		
	June 30, 2023	December 31, 2022	Index	Average rate	June 30, 2023	December 31, 2022	June 30, 2023	June 30, 2023	2023	2024	2025+
CDI vs. US\$ fixed rate swap					424	(431)	(33)	113	36	79	309
Receivable	R\$ 5,696	R\$ 6,356	CDI	100.13%							
Payable	US\$ 1,320	US\$ 1,475	Fix	1.77%							
TJLP vs. US\$ fixed rate swap					(133)	(262)	(7)	17	(5)	(16)	(112)
Receivable	R\$ 743	R\$ 814	TJLP +	1.05%							
Payable	US\$ 186	US\$ 204	Fix	3.45%							
					291	(693)	(40)	130	31	63	197
IPCA swap vs. US\$ fixed rate swap					(199)	(330)	17	25	2	(31)	(170)
Receivable	R\$ 1,186	R\$ 1,294	IPCA +	4.54%							
Payable	US\$ 293	US\$ 320	Fix	3.88%							
					(199)	(330)	17	25	2	(31)	(170)
R\$ fixed rate vs. US\$ fixed rate swap					3,813	1,658	215	307	1,278	1,403	1,132
Receivable	R\$ 19,307	R\$ 20,854	Fix	7.61%							
Payable	US\$ 3,665	US\$ 3,948	Fix	0.00%							
Forward	R\$ 2,186	R\$ 4,342	B	5.24	370	428	374	30	159	165	46
					4,183	2,086	589	337	1,437	1,568	1,178

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%)
CDI vs. US\$ fixed rate swap	R\$ depreciation	424	(1,104)	(2,632)
	US\$ interest rate inside Brazil decrease	424	220	(1)
	Brazilian interest rate increase	424	269	114
Protected item: R\$ denominated liabilities	R\$ depreciation	n.a.	-	-
TJLP vs. US\$ fixed rate swap	R\$ depreciation	(133)	(346)	(559)
	US\$ interest rate inside Brazil decrease	(133)	(161)	(191)
	Brazilian interest rate increase	(133)	(171)	(206)
	TJLP interest rate decrease	(133)	(162)	(192)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
IPCA swap vs. US\$ fixed rate swap	R\$ depreciation	(199)	(541)	(882)
	US\$ interest rate inside Brazil decrease	(199)	(242)	(289)
	Brazilian interest rate increase	(199)	(261)	(321)
	IPCA index decrease	(199)	(228)	(257)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
R\$ fixed rate vs. US\$ fixed rate swap	R\$ depreciation	3,813	(276)	(4,365)
	US\$ interest rate inside Brazil decrease	3,813	3,511	3,193
	Brazilian interest rate increase	3,813	3,207	2,639
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
Forward	R\$ depreciation	370	(39)	(448)
	US\$ interest rate inside Brazil decrease	370	350	329
	Brazilian interest rate increase	370	350	291
Protected item: R\$ denominated liabilities	R\$ depreciation	n.a.	-	-

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Protection program for LIBOR floating interest rate US\$ denominated debt

Flow	Notional				Fair value		Financial Settlement Inflows (Outflows)	Value at Risk	Fair value by year	
	June 30, 2023	December 31, 2022	Index	Average rate	June 30, 2023	December 31, 2022	June 30, 2023	June 30, 2023	2023	2024
LIBOR vs. US\$ fixed rate swap					39	37	19	1	21	18
Receivable	US\$ 150	US\$ 150	LIBOR	0.85%						
Payable	US\$ 150	US\$ 150	Fix	0.85%						
					39	37	19	1	21	18

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%)
LIBOR vs. US\$ fixed rate swap	US\$ LIBOR decrease	39	35	30
Protected item: LIBOR US\$ indexed debt	US\$ LIBOR decrease	n.a.	(35)	(30)

Protection for American treasury volatility related to tender offer transaction

To reduce the volatility of the premium paid to investors on the tender offer transaction issued in June 2023, treasury lock transactions were implemented and have already been settled as of June 30, 2023.

Flow	Notional				Fair value		Financial Settlement Inflows (Outflows)	Value at Risk	Fair value by year
	June 30, 2023	December 31, 2022	Index	Average rate	June 30, 2023	December 31, 2022	June 30, 2023	June 30, 2023	2023
Forwards	-	-	B	-	-	-	66	-	-

f) Protection program for product prices and input costs

Flow	Notional				Fair value		Financial settlement Inflows (Outflows)	Value at Risk	Fair value by year	
	June 30, 2023	December 31, 2022	Bought / Sold	Average strike (US\$)	June 30, 2023	December 31, 2022	June 30, 2023	June 30, 2023	2023	2024+
Brent crude oil (bbl)										
Call options	31,139,250	22,600,500	B	95	325	384	-	71	27	298
Put options	31,139,250	22,600,500	S	62	(340)	(267)	-	76	(112)	(228)
Forward Freight Agreement (days)										
Freight forwards	960	2,085	B	13,791	11	(4)	16	4	11	-
					(4)	113	16	151	(74)	70

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)				
Options	Price input decrease	(15)	(1,388)	(3,659)
Protected item: Part of costs linked to fuel oil prices	Price input decrease	n.a.	1,388	3,659
Forward Freight Agreement (days)				
Forwards	Freight price decrease	11	(8)	(26)
Protected item: Part of costs linked to maritime freight prices	Freight price decrease	n.a.	8	26

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g) Other derivatives, including embedded derivatives in contracts

Flow	Notional				Fair value		Financial settlement Inflows (Outflows)	Value at Risk	Fair value by year	
	June 30, 2023	December 31, 2022	Bought / Sold	Average strike (US\$/ton)	June 30, 2023	December 31, 2022	June 30, 2023	June 30, 2023	2023	2024
Fixed price nickel sales protection (ton)										
Nickel forwards	2,580	766	B	20,842	(3)	35	18	14	(2)	(1)
Hedge program for products acquisition for resale (ton)										
Nickel forwards	-	384	S	-	-	(3)	10	-	-	-
					(3)	32	28	14	(2)	(1)
Embedded derivative (pellet price) in natural gas purchase (volume/month)										
Call options	746,667	746,667	S	233	(13)	(23)	-	11	(13)	-
					(13)	(23)	-	11	(13)	-

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%)
Fixed price sales protection (ton)				
Forwards	Nickel price decrease	(3)	(66)	(129)
Protected item: Part of nickel revenues with fixed prices	Nickel price decrease	n.a.	66	129
Hedge program for products acquisition for resale (ton)				
Forwards	Nickel price increase	-	-	-
Protected item: Part of revenues from products for resale	Nickel price increase	-	-	-
Embedded derivative (pellet price) in natural gas purchase agreement (volume/month)				
Embedded derivatives – Gas purchase	Pellet price increase	(13)	(38)	(77)

h) Hedge accounting

	Consolidated			
	Gain (loss) recognized in the other comprehensive income			
	Three-month period ended June 30,		Six-month period ended June 30,	
	2023	2022	2023	2022
Net investments hedge	467	(721)	723	408
Cash flow hedge	(26)	1,551	73	(3)

Cash flow hedge

Flow	Notional (ton)				Fair value		Financial settlement Inflows (Outflows)	Value at Risk	Fair value by year
	June 30, 2023	December 31, 2022	Bought / Sold	Average strike (US\$/ton)	June 30, 2023	December 31, 2022	June 30, 2023	June 30, 2023	2023
Nickel revenue hedge program									
Forward	(3,150)	6,300	S	34,929	215	146	170	18	215
					215	146	170	18	215

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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%)
Nickel Revenue Hedging Program				
Forward	Nickel price increase	215	138	62
Protected item: Part of nickel revenues with fixed sales prices	Nickel price increase	n.a.	(138)	(62)

i) 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.

	June 30, 2023		Consolidated December 31, 2022	
	Cash and cash equivalents and investment	Derivatives	Cash and cash equivalents and investment	Derivatives
Aa1	175	-	168	-
Aa2	3,498	-	1,787	25
Aa3	915	-	1,248	-
A1	7,720	672	9,108	510
A2	3,547	1,427	4,894	753
A3	3,435	252	4,791	329
Baa1	1	-	2	-
Baa2	246	-	37	-
Ba2 (i)	3,847	2,050	2,142	910
Ba3 (i)	854	811	854	283
	24,238	5,212	25,031	2,810

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

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19. Financial assets and liabilities

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:

		June 30, 2023						Consolidated December 31, 2022	
	Notes	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
Financial assets									
Current									
Cash and cash equivalents	21	24,013	-	-	24,013	24,711	-	-	24,711
Short-term investments	21	-	-	225	225	-	-	320	320
Derivative financial instruments	18	-	-	2,518	2,518	-	-	1,788	1,788
Accounts receivable	10	2,041	-	12,257	14,298	2,809	-	19,728	22,537
		26,054	-	15,000	41,054	27,520	-	21,836	49,356
Non-current									
Judicial deposits	26(c)	6,389	-	-	6,389	6,338	-	-	6,338
Restricted cash		518	-	-	518	404	-	-	404
Derivative financial instruments	18	-	-	2,694	2,694	-	-	1,022	1,022
Investments in equity securities	13	-	147	-	147	-	36	-	36
		6,907	147	2,694	9,748	6,742	36	1,022	7,800
Total of financial assets		32,961	147	17,694	50,802	34,262	36	22,858	57,156
Financial liabilities									
Current									
Suppliers and contractors	12	25,252	-	-	25,252	23,278	-	-	23,278
Derivative financial instruments	18	-	-	228	228	-	-	470	470
Loans, borrowings and leases	21	4,395	-	-	4,395	2,552	-	-	2,552
Liabilities related to the concession grant	13(a)	2,942	-	-	2,942	2,169	-	-	2,169
Other financial liabilities - Related parties	29	902	-	-	902	2,086	-	-	2,086
Contract liability and other financial liabilities		3,637	-	-	3,637	4,000	-	-	4,000
		37,128	-	228	37,356	34,085	-	470	34,555
Non-current									
Derivative financial instruments	18	-	-	475	475	-	-	972	972
Loans, borrowings and leases	21	62,770	-	-	62,770	63,778	-	-	63,778
Participative shareholders' debentures	20	-	-	12,181	12,181	-	-	14,218	14,218
Liabilities related to the concession grant	13(a)	12,881	-	-	12,881	13,326	-	-	13,326
Financial guarantees		-	-	1	1	-	-	537	537
		75,651	-	12,657	88,308	77,104	-	15,727	92,831
Total of financial liabilities		112,779	-	12,885	125,664	111,189	-	16,197	127,386

a) Hierarchy of fair value

		June 30, 2023				Consolidated December 31, 2022			
	Notes	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Financial assets									
Short-term investments	21	225	-	-	225	320	-	-	320
Derivative financial instruments	18	-	5,212	-	5,212	-	2,810	-	2,810
Accounts receivable	10	-	12,257	-	12,257	-	19,728	-	19,728
Investments in equity securities	13	-	147	-	147	-	36	-	36
		225	17,616	-	17,841	320	22,574	-	22,894
Financial liabilities									
Derivative financial instruments	18	-	703	-	703	-	1,442	-	1,442
Participative shareholders' debentures	20	-	12,181	-	12,181	-	14,218	-	14,218
Financial guarantees		-	1	-	1	-	537	-	537
		-	12,885	-	12,885	-	16,197	-	16,197

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

Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

b) Fair value of loans and borrowings

	June 30, 2023		Consolidated December 31, 2022	
	Carrying amount	Fair value	Carrying amount	Fair value
Quoted in the secondary market:				
Bonds	34,491	34,579	32,125	32,626
Debentures	1,093	1,072	1,217	1,177
Debt contracts in Brazil in:				
R\$, indexed to TJLP, TR, IPCA, IGP-M and CDI	1,328	1,330	1,445	1,452
R\$, with fixed interest	1	1	8	8
Debt contracts in the international market in:				
US\$, with variable and fixed interest	21,746	17,287	22,260	22,912
Other currencies, with variable interest	43	25	49	44
Other currencies, with fixed interest	385	330	466	474
	59,087	54,624	57,570	58,693

20. Participative shareholders' debentures

	Average price (R\$)		Three-month period ended June 30,		Financial results Six-month period ended June 30,		Liabilities	
	2023	2022	2023	2022	2023	2022	June 30, 2023	December 31, 2022
Participative shareholders' debentures	31.35	43.39	1,621	2,633	1,373	1,322	12,181	14,218

On April 3, 2023, the Company made available for withdrawal as remuneration the amount of R\$637 (US\$125 million) for the second semester of 2022 (2022: R\$1,120 (US\$225 million) for the second semester of 2021), as disclosed on the "Participating debentures report" made available on the Company's website.

21. Loans, borrowings, leases, 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.

	Consolidated	
	June 30, 2023	December 31, 2022
Debt contracts	59,839	58,341
Leases	7,326	7,989
Total of loans, borrowings and leases	67,165	66,330
(-) Cash and cash equivalents	24,013	24,711
(-) Short-term investments (i)	225	320
Net debt	42,927	41,299

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

b) Cash and cash equivalents

	Consolidated	
	June 30, 2023	December 31, 2022
R\$	5,527	9,233
US\$	17,339	14,602
Other currencies	1,147	876
	24,013	24,711

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c) Loans, borrowings, and leases

i) Total debt

	Average interest rate (i)	Consolidated	
		Current liabilities	Non-current liabilities
		June 30, 2023	December 31, 2022
Quoted in the secondary market:			
US\$ Bonds	6.02%	-	34,491
R\$, Debentures (ii)	10.07%	457	636
Debt contracts in Brazil in (iii):			
R\$, indexed to TJLP, TR, IPCA, IGP-M and CDI	10.62%	239	1,089
R\$, with fixed interest	3.04%	1	-
Debt contracts in the international market in:			
US\$, with variable and fixed interest	5.37%	1,928	19,818
Other currencies, with variable interest	4.10%	-	43
Other currencies, with fixed interest	3.87%	57	328
Accrued charges		752	-
		3,434	56,405

	Average interest rate (i)	Parent Company	
		Current liabilities	Non-current liabilities
		June 30, 2023	December 31, 2022
Quoted in the secondary market:			
US\$ Bonds	5.66%	-	2,368
R\$, Debentures (ii)	10.07%	460	634
Debt contracts in Brazil in (iii):			
R\$, indexed to TJLP, TR, IPCA, IGP-M and CDI	10.62%	239	1,087
R\$, with fixed interest	3.04%	1	-
Debt contracts in the international market in:			
US\$, with variable and fixed interest	5.37%	1,928	8,771
Other currencies, with variable interest	4.10%	-	43
Accrued charges		209	-
		2,837	14,809

(i) In order to determine the average interest rate for debt contracts with floating rates, the Company used the rate applicable as of June 30, 2023.

(ii) The Company has debentures in Brazil obtained for the Company's infrastructure investment projects.

(iii) The Company entered into derivatives to mitigate the exposure to cash flow variations of all floating rate debt contracted in Brazil, resulting in an average cost of 3.42% per year in US\$.

Future flows of debt payments, principal and interest

	Consolidated		Parent Company	
	Principal	Estimated future interest payments (i)	Principal	Estimated future interest payments (i)
2023	187	1,866	184	512
2024	3,167	3,658	3,109	947
2025	2,175	3,530	665	820
2026	2,755	3,384	424	767
2027	8,191	2,935	3,668	624
Between 2028 and 2030	15,058	7,320	2,902	1,061
2031 onwards	27,554	10,471	4,579	2,203
Total	59,087	33,164	15,531	6,934

(i) Based on interest rate curves and foreign exchange rates applicable as of June 30, 2023 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 interim financial statements.

Covenants

Some of the Company's debt agreements with lenders contain financial covenants. The primary financial covenants in those agreements require maintaining certain ratios, such as debt to EBITDA (as defined in note 4a) and interest coverage. The Company did not identify any instances of noncompliance as of June 30, 2023.

Notes to the Interim Financial Statements

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ii) Lease liabilities

						Consolidated
	December 31, 2022	Additions and contract modifications	Payments (i)	Interest	Translation adjustment	June 30, 2023
Ports	3,599	–	(174)	65	(238)	3,252
Vessels	2,303	26	(161)	47	(192)	2,023
Pelletizing plants	1,157	62	(13)	22	–	1,228
Properties	549	(2)	(94)	10	(1)	462
Energy plants	274	–	(13)	9	(19)	251
Mining equipment	107	10	(13)	1	5	110
Total	7,989	96	(468)	154	(445)	7,326
Current liabilities	948					961
Non-current liabilities	7,041					6,365
Total	7,989					7,326

(i) The total amount of the variable lease payments not included in the measurement of lease liabilities for the six-month period ended June 30, 2023 was R\$376 (US\$74 million) (2022: R\$723 (US\$143 million)).

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.

							Consolidated	
	2023	2024	2025	2026	2027 onwards	Total	Average remaining term (years)	Discount rate
Ports	245	326	325	260	3,368	4,524	3 to 20	3% to 5%
Vessels	223	290	283	259	1,406	2,461	2 to 10	3% to 4%
Pelletizing plants	283	242	229	83	555	1,392	1 to 10	2% to 5%
Properties	122	134	86	75	181	598	1 to 10	1% to 6%
Energy plants	24	32	32	28	223	339	1 to 7	5% to 6%
Mining equipment	27	28	25	24	16	120	1 to 5	2% to 6%
Total	924	1,052	980	729	5,749	9,434		

22. 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, including 3 victims still missing, and caused extensive property and environmental damage in the region.

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. The Global Settlement was ratified by the Minas Gerais State Court on February 4, 2021, and the res judicata was drawn up on April 7, 2021.

As a result of the dam failure, the Company has been recognizing provisions to meet its assumed obligations, including indemnification to those affected by the event, remediation of the impacted areas and compensation to the society, as shown below:

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					Consolidated
	December 31, 2022	Operating expense	Monetary and present value adjustments	Disbursements	June 30, 2023
Global Settlement for Brumadinho					
Payment obligations	4,602	-	225	(1,221)	3,606
Provision for socio-economic reparation and others	4,523	-	300	(1,196)	3,627
Provision for social and environmental reparation	4,057	-	248	(126)	4,179
	13,182	-	773	(2,543)	11,412
Commitments					
Tailings containment and geotechnical safety	2,916	-	143	(337)	2,722
Individual indemnification	237	395	12	(156)	488
Other commitments	947	283	12	(78)	1,164
	4,100	678	167	(571)	4,374
Liability	17,282	678	940	(3,114)	15,786
Current liability	4,926				5,788
Non-current liability	12,356				9,998
Liability	17,282				15,786
Discount rate in nominal terms	9.08%				9.37%

(i) In addition, the Company has incurred expenses, which have been recognized straight to the income statement as "other operating expenses, net" (note 5c), in relation to tailings management, humanitarian assistance, payroll, legal services, water supply, among others. In the six-month period ended June 30, 2023, the Company incurred expenses in the amount of R\$1,228 (US\$242 million) (2022: R\$1,400 (US\$277 million)).

a) Global Settlement for Brumadinho

The Global settlement 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 (i) and (ii), the agreement specifies an amount for each project and changes in the original budget and deadlines may have an impact in the provision. In addition, the execution of the environmental recovery actions has no cap limit despite having been estimated in the Global Settlement due to the Company's legal obligation to fully repair the environmental damage caused by the dam failure. The expenses related to these obligations are deducted from the income tax calculation, in accordance with the Brazilian tax regulation, which is subject to periodic inspection by the competent authorities. 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.

b) Provision for individual indemnification and other commitments

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.

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.

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c) Contingencies and other legal matters

Public civil actions brought by the State of Minas Gerais and state public prosecutors for damages resulting from the failure of Dam I

The Company is party to public civil actions brought by the State of Minas Gerais and justice institutions, claiming compensation for socioeconomic and socio-environmental damages resulting from the dam failure and seeking a broad range of preliminary injunctions ordering Vale to execute specific remediation and reparation actions. As a result of the Global Settlement, settled in February 2021, the requests for the reparation of socio-environmental and socioeconomic damages caused by the dam failure were substantially resolved. Indemnifications for individual damages was excluded from the Global Settlement, and the Term of Commitment signed with the Public Defendants of the State of Minas Gerais was ratified, whose parameters are utilized as a basis for the settlement of individual agreements. In the same year of 2021, the fulfilment of the Global Settlement was initiated, by Vale and other parties.

Collective Labor Civil Action

In 2021, public civil actions were filed with Labor Court of Betim in the State of Minas Gerais, by a workers' unions claiming the compensation for death damages to own and outsourced employees, who died as a result of the failure of Dam I. Initial decisions sentenced Vale to pay R\$1 (US\$208 thousand) per fatality. In June 2023, the Superior Labor Court ruled the lawsuit filed by workers' union, sustaining the initial decision that condemned Vale. The Company is defending itself in the lawsuits and considers that the likelihood of loss is possible.

U.S. Securities class action suit

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. Following the decision of the Court, in May 2020, that denied the Motion to Dismiss presented by the Company, the Discovery phase has started and is expected to be concluded in 2024.

On November 24, 2021, a new complaint was filed before the same Court by eight Plaintiffs, all investment funds, as an "opt-out" litigation from the class action already pending in the Eastern District of New York court, asserting virtually the same allegations in the main class action.

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.

Arbitration proceedings filed by minority shareholders and a class association

In Brazil, Vale is named as a defendant in (i) one arbitration filed by 385 minority shareholders, (ii) two arbitrations filed by a class association allegedly representing all Vale's noncontrolling shareholders, and (iii) three arbitrations filed by foreign investment funds.

In the six 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 six 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 funds, the Claimants initially estimated the amount of the alleged losses would be approximately R\$1,800 (US\$374 million). In another proceeding filed by foreign funds, the Claimants initially estimated the amount of the alleged losses would be approximately R\$3,900 (US\$809 million). 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.

Securities and Exchange Commission ("SEC") and investigations conducted by the CVM

On April 28, 2022, the SEC filed a lawsuit against Vale in the U.S. District Court for the Eastern District of New York, alleging that certain Vale's disclosures related to dam safety management prior to the dam failure in Brumadinho violated U.S. securities laws. On March 28, 2023, Vale reached a settlement with the SEC to fully resolve this litigation. Under the agreement, without admitting or denying the settled claims, Vale will make payments totaling R\$285 (US\$56 million), which are provided by Vale. The settlement resolves the litigation without judgment on the claims based upon intentional or reckless fraud. In April 2023, the settlement was approved by the court.

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CVM is also conducting investigations relating to Vale's disclosure of relevant information to shareholders, investors and the market in general, especially regarding the conditions and management of Vale's dams. The likelihood of loss of this proceeding is classified as possible and it is not yet possible to reliably estimate the amount of a potential loss to the Company.

Criminal proceedings and investigations

In January 2020, the State Prosecutors of Minas Gerais ("MPMG") filed criminal charges against 16 individuals (including former executive officers of Vale and former employees) for a number of potential crimes, including homicide, and against Vale S.A. for alleged environmental crimes.

In November 2021, the Brazilian Federal Police concluded the investigation on potential criminal responsibility related with the Brumadinho dam failure and the final report sent to the Federal Public Prosecutors ("MPF").

In January 2023, after the Federal Supreme Court recognized the competence of the Federal Court, the MPF ratified the complaint presented by MPMG, which was received by the competent authority. The MPF and the Brazilian Federal Police conducted a separate investigation into the causes of the dam failure in Brumadinho, which may result in new criminal proceedings. Vale is defending itself against the criminal claims and is not possible to estimate when a decision will be issued. The likelihood of a financial loss to the Company is classified as possible and it is not yet possible to reliably estimate the amount of a potential loss to Vale.

Decision of the Brazilian Office of the Comptroller General of the Union ("CGU")

In October 2020, the CGU notified the Company about an administrative proceeding prosecution based on the same allegations mentioned above under the Brazilian Law 12,846/2013 in connection with inspection and monitoring activities related to the Brumadinho dam. In August 2022, the CGU concluded that Vale has failed to present reliable information to the Brazilian National Mining Agency ("ANM"), as once a positive stability condition statement ("DCE") was issued for the Dam I, where it should be negative in the view of the CGU. Thus, even recognizing the non-existence of corruption acts or practices, the CGU fined Vale R\$86 (US\$18 million), which is the minimum amount established by law, i.e., the CGU recognizes the non-involvement or tolerance of the Company's top management. Vale has submitted a request for reconsideration and considers the likelihood of loss for this amount is possible.

d) Insurance

The Company is negotiating with insurers the payment of indemnification under its civil liability and Directors and Officers Liability Insurance. The Company received R\$55 (US\$11 million) from insurers for the six-month period ended June 30, 2023.

23. Liabilities related to associates and joint ventures

a) Samarco dam failure

In November 2015, the Fundão tailings dam owned by Samarco Mineração S.A. ("Samarco") experienced a failure, releasing mine tailings downstream, 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").

In 2016, Vale, Samarco and BHPB, entered into a Framework Agreement with the Federal Government of Brazil, the states of Espírito Santo and Minas Gerais and certain other public authorities to establish the Renova Foundation that is developing and executing environmental and socio-economic programs to remediate and provide compensation for damage caused by the Samarco dam failure.

In June 2018, Samarco, Vale and BHPB entered into a comprehensive agreement with the offices of the federal and state (Minas Gerais and Espírito Santo) prosecutors, public defenders and attorney general, among other parties ("TacGov Agreement"), improving the governance mechanism of Renova Foundation and establishing, among other things, a process for potential revisions to the remediation programs under the Framework Agreement.

Under the Framework Agreement, Samarco has primary responsibility for funding Renova Foundation's annual calendar year budget for the duration of the Framework Agreement. However, to the extent that Samarco does not meet its funding obligations, Vale and BHPB have secondary funding obligations under the Framework Agreement in proportion to their 50 per cent shareholding in Samarco.

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Samarco began to gradually recommence operations in December 2020, however, there remains significant uncertainty regarding Samarco's long-term cash flow generation.

b) Changes on the provisions in the period

	December 31, 2022	Monetary and present value adjustments	Disbursements	June 30, 2023
Renova Foundation reparation and compensation programs	16,302	646	(557)	16,391
De-characterization of the Germano dam	1,026	22	-	1,048
Liabilities	17,328	668	(557)	17,439
Current liabilities	9,973			5,030
Non-current liabilities	7,355			12,409
Liabilities	17,328			17,439
Discount rate in nominal terms	6.20% – 9.51%			5.46% – 9.20%

c) Judicial reorganization of Samarco

In April 2021, Samarco filed for Judicial Reorganization ("JR") with the Courts of Minas Gerais.

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 ("Agreement"), subject for approval by the creditors and to be confirmed by the JR court. The plan aims to establish an independent and sustainable financial position for Samarco by resuming its high-quality pellets production, allowing Samarco to comply with its socio-environmental obligations.

Under the Agreement, the payments to the financial creditors will be made from 2024 to 2030, in line with Samarco's operational ramp-up and cash flow generation.

The Agreement also provides that additional cash demands that exceed these payments will be made to Fundação Renova 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 R\$5,468 (US\$1,078 million) was reversed in full, with the corresponding impact in the income statement for the three-month period ended June 30, 2023 recorded as "Income taxes".

In addition, the Agreement does not require the capitalization of the expenses of R\$3,371 (US\$699 million) that were incurred in the past and so, there are no change in relation to the tax treatment adopted. This matter was disclosed in the annual financial statements for the year ended December 31, 2022 in the uncertain tax positions note.

d) Contingencies related to Samarco accident

These proceedings include public civil actions brought by Brazilian authorities and multiple proceedings involving claims for significant amounts of damages and remediation measures. The Framework Agreements represents a model for the settlement of the public civil action brought by the MPF and other related proceedings. There are also putative securities class actions in the USA against Vale and some of its current and former officers and a criminal proceeding in Brazil. The main updates regarding the lawsuits in the year were as follows:

Public Civil Action filed by the Federal Government and others and public civil action filed by the Federal Public Ministry ("MPF")

Vale is a defendant in several legal proceedings brought by governmental authorities and civil associations claiming socioenvironmental and socioeconomic damages and a number of specific remediation measures as a result of the Samarco's Fundão dam failure, including a claim brought by the Federal Public Prosecution Office in 2016 seeking R\$155 billion (US\$32 billion) (the effect for Vale would be 50% of this amount), which has been suspended from the date of ratification of the TacGov Agreement.

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However, as pre-requisites established in the TacGov Agreement, for renegotiation of the Framework Agreement were not implemented during the two-year period ended September 30, 2020, the Brazilian Federal and State prosecutors and public defenders filed a request for the immediate resumption of the R\$155 billion (US\$32 billion) claim.

Therefore, Vale, Samarco, BHPB and Federal and State prosecutors have been engaging in negotiations to seek a definitive settlement of the obligations under the Framework Agreement and the R\$155 billion (US\$32 billion) Federal Public Prosecution Office claim. The goal in signing a potential agreement is to provide a stable framework for the execution of reparation and compensation programs.

The potential agreement is still uncertain as it is subject to conclusion of the negotiations and approval by the Company, relevant authorities and intervenient parties.

The estimate of the economic impact of a potential agreement will depend mainly on (i) a detailed assessment of the estimates of the amounts to be spent on the reparation and compensation projects being discussed, (ii) an analysis of the detailed scope of such projects to determine their overlap with the initiatives and amounts already provisioned; and (iii) the timing of the execution of projects and disbursements, which will impact the present value of the obligations.

Therefore, until any revisions to the Programs are agreed, Renova Foundation will continue to implement the Programs in accordance with the terms of the Framework Agreement and the TacGov Agreement, for which the expected costs are reflected in the Company's provision.

Judicial decision requesting cash deposits

In March 2023, as part of a proceeding related to a potential increase on the number of territories recognized as affected by the collapse of Samarco's Fundão dam and covered by the TTAC, a Federal Court issued a decision ordering Vale and BHP Brasil to make judicial deposits in the total amount of US\$2.1 billion (R\$10.3 billion), in ten installments, which the effect for Vale would be 50% of this amount. On April 28, 2023, the Federal Court granted the companies' request for a suspensive effect on the decision that determined this deposit. The Company believes its provisions are sufficient to comply with the TTAC obligations.

Criminal proceedings

In September 2019, the federal court dismissed all criminal charges against Vale representatives relating to the first group of charges, which concerns the results of the Fundão dam failure, remaining only the legal entity in the passive pole. The second group of charges against Vale S.A. and one of the Company's employees, which concerns the accusation of alleged crimes committed against the Environmental Public Administration, remained unchanged. The Company cannot estimate when a final decision on the case will be issued. The likelihood of a financial loss to the Company is classified as possible and it is not yet possible to reliably estimate the amount of a potential loss to Vale.

United Kingdom 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 (The "UK Claim"). The UK Claim includes only BHP and was filed on behalf of certain individuals and municipalities in Brazil only against BHP, for the allegedly damages caused by the Fundão dam failure.

In December 2022, BHP filed a contribution claim against Vale, requesting the Company to be responsible for the indemnification payments in the proportion to its interest held in Samarco. The Company believes that it is not subject to the jurisdiction of the English Court and it does not have any contractual obligation in relation to this matter, therefore, the Company has assessed the risk of loss as remote.

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24. 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 and mine sites that Vale operates at the end of their useful lives, therefore, expenses for demobilization occur predominantly after the end of operational activities. Depending on the geotechnical characteristics of the structures, the Company is required to de-characterize the structures, as shown in item a) below.

Laws and regulations related to dam safety

In September 2020, the Federal Government enacted Law no. 14,066, which modified the National Dam Safety Policy (Law no. 12,334/2020), reinforcing the prohibition of constructing and raising upstream dams in Brazil. The law also requires companies to de-characterize the structures built using the upstream method by 2022, or by a later date if it is proven that the de-characterization is not technically feasible by 2022. As made available to competent bodies, a substantial part of the Company's de-characterization projects will be completed in a period exceeding the date established in the legislation due to the characteristics and safety levels of the Company's geotechnical structures.

Thus, in February 2022, the Company filed with the relevant bodies a request for an extension to perform the projects and, as a result, signed a Term of Commitment establishing legal and technical certainty for the process of de-characterization of the upstream dams, considering that the deadline defined was technically unfeasible, especially due to the necessary actions to increase safety during the works. With the signing of the agreement, the Company recorded an additional provision of R\$192 (US\$37 million) to make investments in social and environmental projects over a period of 8 years.

In December 2022, the Federal Government published decree no. 11,310, which regulates dispositions of the National Dam Safety Policy, regulates dam supervision activities, establishes the competence to regulate the extension of the self-rescue zone for authorities acting in dam emergency situations, and presents guidelines on technical reports regarding the causes of a breach and other aspects of management of geotechnical structures. This decree also determined that companies must present guarantees for dams in an alert situation, however, the procedures for measuring and executing these guarantees are still being discussed by the responsible public agencies.

In February 2023, ANM issued a resolution that modifies the current dam safety regulation. The main changes are new rules in connection with the active and passive monitoring during the de-characterization of dams, the simplified dam collapse study and simplified emergency action plan for specific cases, and the dam safety plan ("PSB"). The Company believes its provisions are sufficient to comply with the effective legal obligations.

Thus, depending on the development of these laws, the provisions registered by the Company may be materially impacted in future periods.

a) De-characterization of upstream and centerline geotechnical structures

As a result of the Brumadinho dam failure (note 22) and, in compliance with Law 14,066, the Company has decided to speed up the plan to "de-characterize" of all its tailings dams built under the upstream method, certain "centerline structures" and dikes, 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.

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The cash flow for de-characterization projects are estimated for a period up to 13 years and were discounted at present value at a rate, which reduced from 6.16% to 5.72%. Changes in the provisions are as follows:

	Consolidated	
	2023	2022
Balance at January 1,	17,627	19,666
Additional provision	-	192
Disbursements	(877)	(769)
Present value valuation	893	(525)
Balance at June 30,	17,643	18,564

	June 30, 2023	December 31, 2022
Current liabilities	2,419	1,865
Non-current liabilities	15,224	15,762
Liabilities	17,643	17,627

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 ferrous mineral segment in the amounts of R\$248 (US\$50 million) for the period ended June 30, 2023 (2022: R\$823 (US\$161 million)). The Company is working on legal and technical measures to resume all operations at full capacity.

b) Asset retirement obligations and environmental obligations

	Consolidated		Parent Company		Discount rate		Cash flow maturity	
	June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022
Liability by geographical area								
Brazil	9,800	9,331	9,193	8,748	5.46%	6.20%	2096	2096
Canada	7,949	8,781	-	-	1.35% - 1.61%	1.11%	2151	2148
Oman	551	596	-	-	3.25%	3.90%	2035	2035
Indonesia	418	382	-	-	3.76%	4.33%	2062	2061
Other regions	675	752	-	-	1.70% - 2.45%	1.84% - 2.00%	-	-
	19,393	19,842	9,193	8,748				

Provision changes during the period

	Consolidated					
	2023			2022		
	Asset retirement obligations	Environmental obligations	Total	Asset retirement obligations	Environmental obligations	Total
Balance on January 1,	18,084	1,758	19,842	23,906	1,649	25,555
Adjustment to present value	318	21	339	128	2	130
Disbursements	(301)	(262)	(563)	(215)	(141)	(356)
Revisions on projected cash flows	479	406	885	(5,733)	(27)	(5,760)
Transfer to assets held for sale	-	-	-	(231)	(9)	(240)
Translation adjustment	(1,089)	(21)	(1,110)	(1,583)	(13)	(1,596)
Balance on June 30,	17,491	1,902	19,393	16,272	1,461	17,733

	June 30, 2023			December 31, 2022		
	Asset retirement obligations	Environmental obligations	Total	Asset retirement obligations	Environmental obligations	Total
Current	1,169	746	1,915	1,095	490	1,585
Non-current	16,322	1,156	17,478	16,989	1,268	18,257
Liability	17,491	1,902	19,393	18,084	1,758	19,842

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Financial guarantees

The Company has issued letters of credit and surety bonds for R\$4,296 (US\$891 million) as of June 30, 2023 (December 31, 2022: R\$3,361 (US\$644 million)), in connection with the asset retirement obligations for its Energy Transition Metals operations. In addition, for Indonesia, the Company has bank deposits as collateral in relation to the bank guarantees issued by the bank in relation to the reclamation and mine closure guarantees.

25. Provisions

	Notes	Current liabilities		Consolidated Non-current liabilities	
		December 31,		December 31,	
		June 30, 2023	2022	June 30, 2023	2022
Provisions for litigation	26	582	551	6,490	6,187
Employee post retirement obligation	27	328	344	6,522	6,572
Payroll, related charges and other remunerations		3,181	4,507	-	-
		4,091	5,402	13,012	12,759

26. Litigations

The Company is a defendant in numerous legal 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 proceedings

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 – Mainly refers to the lawsuit filed in 2011 by Valepar (merged by Vale) seeking the right to exclude the amount of dividends received in the form of interest on capital ("JCP") from the PIS and COFINS tax base. The amount reserved for this proceeding as at June 30, 2023 is R\$2,677 (US\$555 million) (2022: R\$2,598 (US\$498 million)). This proceeding is fully guaranteed by a judicial deposit.

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.

Labor litigations – Refers to lawsuits for individual 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 22) and the Samarco dam failure (note 23) are presented in its specific notes to these financial statements and, therefore, are not disclosed below.

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					Consolidated Total of litigation provision
	Tax litigation	Civil litigation	Labor litigation	Environmental litigation	
Balance at December 31, 2022	3,008	1,509	2,145	76	6,738
Additions and reversals, net	15	129	262	10	416
Payments	(16)	(112)	(195)	(14)	(337)
Indexation and interest	91	102	53	9	255
Balance at June 30, 2023	3,098	1,628	2,265	81	7,072
Current liabilities	96	117	359	10	582
Non-current liabilities	3,002	1,511	1,906	71	6,490
Balance at June 30, 2023	3,098	1,628	2,265	81	7,072
Balance at December 31, 2021	2,542	1,579	2,000	42	6,163
Additions and reversals, net	9	119	168	32	328
Payments	(5)	(137)	(121)	(2)	(265)
Indexation and interest	70	145	68	-	283
Discontinued operations	(4)	(39)	(8)	-	(51)
Balance at June 30, 2022	2,612	1,667	2,107	72	6,458
Current liabilities	79	123	334	32	568
Non-current liabilities	2,533	1,544	1,773	40	5,890
Balance at June 30, 2022	2,612	1,667	2,107	72	6,458

b) Contingent liabilities

	Consolidated June 30, 2023	Consolidated December 31, 2022
Tax litigations	33,214	34,383
Civil litigations	6,210	6,625
Labor litigations	2,372	2,970
Environmental litigations	6,118	5,750
Total	47,914	49,728

There have not been any relevant developments since the December 31, 2022, financial statements.

c) Judicial deposits

	Consolidated June 30, 2023	Consolidated December 31, 2022
Tax litigations	5,068	4,928
Civil litigations	559	640
Labor litigations	683	701
Environmental litigations	79	69
Total	6,389	6,338

d) Guarantees contracted for legal proceedings

In addition to the above-mentioned tax, civil, labor and environmental judicial deposits, the Company contracted R\$12.3 billion (US\$2.6 billion) (December 31, 2022: R\$12 billion (US\$2.3 billion)) in guarantees for its lawsuits, as an alternative to judicial deposits.

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27. Employee benefits

a) Employee post retirement obligation

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

	June 30, 2023			Consolidated December 31, 2022		
	Overfunded pension plans (i)	Underfunded pension plans	Other benefits	Overfunded pension plans	Underfunded pension plans	Other benefits
Balance at beginning of the period	5,816	-	-	5,135	-	-
Interest income	260	-	-	430	-	-
Changes on asset ceiling	1,731	-	-	334	-	-
Translation adjustment	(88)	-	-	(83)	-	-
Balance at end of the period	7,719	-	-	5,816	-	-
Amount recognized in the statement of financial position						
Present value of actuarial liabilities	(26,051)	(3,101)	(5,454)	(26,828)	(3,168)	(5,522)
Fair value of assets	34,231	1,705	-	33,079	1,774	-
Effect of the asset ceiling	(7,719)	-	-	(5,816)	-	-
Assets (liabilities)	461	(1,396)	(5,454)	435	(1,394)	(5,522)
Current liabilities	-	(58)	(270)	-	(52)	(292)
Non-current assets (liabilities)	461	(1,338)	(5,184)	435	(1,342)	(5,230)
Assets (liabilities)	461	(1,396)	(5,454)	435	(1,394)	(5,522)

(i) The pension plan asset is recorded as "Other non-current assets" in the statement of financial position.

b) Long-term incentive programs

The Company has long-term reward mechanisms that include the Matching Program and the Performance Shares Units ("PSU") for eligible executives, whose objective is to encourage the permanence of employees and stimulate 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.

On March 30, 2023, a new cycle of the Matching program started, and the fair value estimate was based on the Company's share price and ADR at the grant date, R\$81.82 and US\$15.94 per share. The number of shares that will be granted for the 2023 cycle was 1,330,503 (2022: 1,437,588 shares).

On April 28, 2023, a new cycle of the PSU program has started, and the Company will grant 1,177,755 shares (2022: 1,709,955 shares). The fair value was calculated based on 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:

	2023	2022
Granted shares	1,177,755	1,709,955
Date shares were granted	04/28/2023	01/03/2022
VALE (R\$)	88.88	78.00
VALE ON (US\$)	16.60	13.81
Expected volatility (per year)	48.33%	39.00%
Expected term (in years)	3	3
Expected performance factor	72.42%	53.08%

The fair value of both programs will be recognized on a straight-line basis over the required three-year period of service, net of estimated losses.

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28. Equity

a) Share capital

As at June 30, 2023, the share capital was R\$77,300 (US\$61,614 million) 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 cancelation of common shares, including the capitalization of profits and reserves to the extent authorized.

Shareholders	June 30, 2023		
	Common shares	Golden shares	Total
Shareholders with more than 5% of total capital	959,040,176	-	959,040,176
Previ	395,686,156	-	395,686,156
Mitsui&co	286,347,055	-	286,347,055
Blackrock, Inc	277,006,965	-	277,006,965
Free floating	3,384,352,681	-	3,384,352,681
Golden shares	-	12	12
Total outstanding (without shares in treasury)	4,343,392,857	12	4,343,392,869
Shares in treasury	195,614,711	-	195,614,711
Total capital	4,539,007,568	12	4,539,007,580

The information presented above is based on communications sent by shareholders pursuant to Instruction 358 issued by the Brazilian Securities Exchange Commission ("CVM").

b) Cancelation of treasury shares

	Number of canceled shares	Carrying amount
Cancelation approved on March 2, 2023 (i)	239,881,683	21,397
Six-month period ended June 30, 2023	239,881,683	21,397
Cancelation approved on February 24, 2022 (i)	133,418,347	14,589
Six-month period ended June 30, 2022	133,418,347	14,589

(i) During the six-month period ended June 30, 2023 and 2022, the Board of Directors approved cancelations of common shares issued by the Company, acquired and held in treasury, without reducing the amount of its share capital. The effects were transferred in shareholders' equity as "Treasury shares cancelled", between the "Revenue reserve" and "Treasury shares".

c) Remuneration approved

- On February 16, 2023, the Board of Directors approved 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". It was fully paid in March 2023.
- On July 27, 2023 (subsequent event), the Board of Directors approved interest on capital to shareholders in the amount of R\$8,277 (US\$1,744 million), which will be paid in September 2023 as anticipated remuneration for the year ended December 31, 2023.
- On December 1, 2022, the Board of Directors approved interest on capital to shareholders in the amount of R\$1,319 (US\$254 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. It was fully paid in March 2023.
- On February 24, 2022, the Board of Directors approved the remuneration to shareholders in the amount of R\$17,849 (US\$3,500 million) as an additional remuneration for the year ended December 31, 2021, recorded in equity as "Additional remuneration reserve". It was fully paid in March 2022.

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d) Share buyback program

	Total of shares repurchased		Effect on cash flows	
	2023	2022	Six-month period ended June 30, 2023	2022
Shares buyback program for 500,000,000 shares (i)				
Acquired by Parent	73,179,052	32,416,000	5,563	2,644
Acquired by wholly owned subsidiaries	67,979,481	38,027,798	5,151	3,059
	141,158,533	70,443,798	10,714	5,703
Shares buyback program for 470,000,000 shares (ii)				
Acquired by Parent	-	81,855,600	-	7,467
Acquired by wholly owned subsidiaries	-	96,959,900	-	8,758
	-	178,815,500	-	16,225
Shares buyback program	141,158,533	249,259,298	10,714	21,928

(i) 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.

(ii) 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. Continuing the previous program, the Board of Directors approved a new shares buyback program on October 28, 2021, with a limit of up to 200,000,000 common shares or their respective ADRs. Both programs were concluded in 2022.

In February 2023, the Company approved the transfer of 85 million shares from its wholly-owned subsidiaries to the Parent Company.

29. 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.

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a) Transactions with related parties

	Consolidated					
	Three-month period ended June 30,					
	2023			2022		
	Net operating revenue	Cost and operating expenses	Financial result	Net operating revenue	Cost and operating expenses	Financial result
Joint Ventures						
Companhia Siderúrgica do Pecém	-	-	-	619	-	20
Aliança Geração de Energia S.A.	-	(132)	-	-	(136)	-
Pelletizing companies (i)	-	(220)	(54)	-	(476)	(54)
MRS Logística S.A.	-	(563)	-	3	(548)	-
Norte Energia S.A.	-	(162)	-	-	(155)	-
Other	54	(14)	1	69	(4)	-
	54	(1,091)	(53)	691	(1,319)	(34)
Associates						
VLI	374	(22)	(3)	407	(38)	(3)
Other	-	(1)	-	1	-	10
	374	(23)	(3)	408	(38)	7
Major shareholders						
Bradesco	-	-	977	-	-	(508)
Mitsui	418	-	-	384	-	-
Banco do Brasil	-	-	1	-	-	2
	418	-	978	384	-	(506)
Total	846	(1,114)	922	1,483	(1,357)	(533)

	Consolidated					
	Six-month period ended June 30,					
	2023			2022		
	Net operating revenue	Cost and operating expenses	Financial result	Net operating revenue	Cost and operating expenses	Financial result
Joint Ventures						
Companhia Siderúrgica do Pecém	484	-	-	1,289	-	(13)
Aliança Geração de Energia S.A.	-	(266)	-	-	(268)	-
Pelletizing companies (i)	-	(445)	(127)	-	(843)	(102)
MRS Logística S.A.	-	(896)	-	3	(892)	-
Norte Energia S.A.	-	(304)	-	-	(317)	-
Other	79	(27)	-	99	(17)	-
	563	(1,938)	(127)	1,391	(2,337)	(115)
Associates						
VLI	732	(56)	(6)	735	(63)	(6)
Other	-	(2)	1	3	-	-
	732	(58)	(5)	738	(63)	(6)
Major shareholders						
Bradesco	-	-	1,352	-	-	985
Mitsui	652	-	-	788	-	-
Banco do Brasil	-	-	1	-	-	3
	652	-	1,353	788	-	988
Total	1,947	(1,996)	1,221	2,917	(2,400)	867

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

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	Parent Company					
	Three-month period ended June 30,					
	2023			2022		
	Net operating revenue	Cost and operating expenses	Financial result	Net operating revenue	Cost and operating expenses	Financial result
Subsidiaries						
Vale International	28,568	-	(2,749)	34,541	-	1,134
Other	70	(242)	(106)	59	(260)	26
	28,638	(242)	(2,855)	34,600	(260)	1,160
Joint Ventures						
Companhia Siderúrgica do Pecém	-	-	-	620	-	20
Aliança Geração de Energia S.A.	-	(132)	-	-	(136)	-
Pelletizing companies (i)	-	(220)	(11)	-	(475)	(16)
MRS Logística S.A.	-	(563)	-	-	(548)	-
Norte Energia S.A.	-	(162)	-	-	(155)	-
Other	54	(14)	(1)	69	(3)	(1)
	54	(1,091)	(12)	689	(1,317)	3
Associates						
VLI	374	(22)	(3)	407	(38)	(3)
Other	-	-	-	2	-	11
	374	(22)	(3)	409	(38)	8
Major shareholders						
Bradesco	-	-	974	-	-	(533)
Banco do Brasil	-	-	1	-	-	1
	-	-	975	-	-	(532)
Total	29,066	(1,355)	(1,895)	35,698	(1,615)	639

	Parent Company					
	Six-month period ended June 30,					
	2023			2022		
	Net operating revenue	Cost and operating expenses	Financial result	Net operating revenue	Cost and operating expenses	Financial result
Subsidiaries						
Vale International	53,065	-	(4,757)	60,211	-	(3,451)
Other	128	(417)	(219)	113	(434)	(10)
	53,193	(417)	(4,976)	60,324	(434)	(3,461)
Joint Ventures						
Companhia Siderúrgica do Pecém	484	-	-	1,277	-	(13)
Aliança Geração de Energia S.A.	-	(266)	-	-	(268)	-
Pelletizing companies (i)	-	(445)	(22)	-	(842)	(20)
MRS Logística S.A.	-	(896)	-	-	(892)	-
Norte Energia S.A.	-	(304)	-	-	(317)	-
Other	79	(27)	(1)	99	(16)	(1)
	563	(1,938)	(23)	1,376	(2,335)	(34)
Associates						
VLI	732	(56)	(6)	735	(63)	(6)
Other	-	-	1	2	-	1
	732	(56)	(5)	737	(63)	(5)
Major shareholders						
Bradesco	-	-	1,346	-	-	948
Banco do Brasil	-	-	1	-	-	2
	-	-	1,347	-	-	950
Total	54,488	(2,411)	(3,657)	62,437	(2,832)	(2,550)

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

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b) Outstanding balances with related parties

	Consolidated Assets					
	June 30, 2023			December 31, 2022		
	Cash and cash equivalents	Accounts receivable	Dividends receivable	Cash and cash equivalents	Accounts receivable	Dividends receivable
Joint Ventures						
Companhia Siderúrgica do Pecém	-	-	-	-	475	89
Pelletizing companies (i)	-	-	85	-	-	128
MRS Logística S.A.	-	-	126	-	-	128
Other	-	23	73	-	19	260
	-	23	284	-	494	605
Associates						
VLI	-	457	-	-	71	-
Other	-	1	6	-	-	12
	-	458	6	-	71	12
Major shareholders						
Bradesco	1,867	-	1,856	1,749	-	802
Banco do Brasil	170	-	-	156	-	-
Mitsui	-	12	-	-	467	-
	2,037	12	1,856	1,905	467	802
Pension plan	-	77	-	-	70	-
Total	2,037	570	2,146	1,905	1,102	1,419

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

	Consolidated Liabilities			
	June 30, 2023		December 31, 2022	
	Supplier and contractors	Financial instruments and other liabilities	Supplier and contractors	Financial instruments and other liabilities
Joint Ventures				
Pelletizing companies (i)	390	902	326	2,086
MRS Logística S.A.	164	-	299	-
Other	162	-	157	-
	716	902	782	2,086
Associates				
VLI	31	753	27	274
Other	9	1	16	-
	40	754	43	274
Major shareholders				
Bradesco	-	111	-	391
Mitsui	-	-	7	-
	-	111	7	391
Pension plan	61	-	62	-
Total	817	1,767	894	2,751

(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 Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

	Parent Company Assets					
	June 30, 2023			December 31, 2022		
	Cash and cash equivalents	Accounts receivable	Dividends receivable	Cash and cash equivalents	Accounts receivable	Dividends receivable
Subsidiaries						
Vale International S.A.	-	38,790	-	-	46,021	-
Minerações Brasileiras Reunidas S.A.	-	-	236	-	-	229
Salobo Metais	-	-	495	-	-	400
Other	-	71	114	-	44	111
	-	38,861	845	-	46,065	740
Joint Ventures						
Companhia Siderúrgica do Pecém	-	-	-	-	475	89
Pelletizing companies (i)	-	-	85	-	-	128
MRS Logística S.A.	-	-	23	-	-	23
Other	-	23	73	-	19	260
	-	23	181	-	494	500
Associates						
VLI	-	457	-	-	71	-
Other	-	1	6	-	-	3
	-	458	6	-	71	3
Major shareholders						
Bradesco	352	-	1,856	744	-	802
Banco do Brasil	14	-	-	15	-	-
	366	-	1,856	759	-	802
Pension Plan	-	77	-	-	70	-
Total	366	39,419	2,888	759	46,700	2,045

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

	Parent Company Liabilities					
	June 30, 2023			December 31, 2022		
	Supplier and contractors	Loans	Financial instruments and other liabilities	Supplier and contractors	Loans	Financial instruments and other liabilities
Subsidiaries						
Vale International S.A.	-	66,435	4,675	-	74,156	5,037
Minerações Brasileiras Reunidas S.A.	-	-	-	-	-	-
Other	190	-	3,239	101	-	3,762
	190	66,435	7,914	101	74,156	8,799
Joint Ventures						
Pelletizing companies (i)	390	-	-	326	-	-
MRS Logística S.A.	164	-	-	299	-	-
Other	162	-	-	157	-	-
	716	-	-	782	-	-
Associates						
VLI	31	-	753	27	-	274
Other	-	-	-	1	-	-
	31	-	753	28	-	274
Major shareholders						
Bradesco	-	-	111	-	-	391
Mitsui	-	-	-	7	-	-
	-	-	111	7	-	391
Pension plan	59	-	-	61	-	-
Total	996	66,435	8,778	979	74,156	9,464

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