



Interim Financial Statements

June 30, 2023

IFRS



Contents

Report of Independent Registered Public Accounting Firm.....	3
Consolidated Income Statement.....	4
Consolidated Statement of Comprehensive Income.....	5
Consolidated Statement of Cash Flows.....	6
Consolidated Statement of Financial Position.....	7
Consolidated Statement of Changes in Equity.....	8
1. Corporate information.....	9
2. Basis of preparation of interim financial statements.....	9
3. Significant events in the three-month period ended June 30, 2023.....	10
4. Information by business segment and geographic area.....	11
5. Costs and expenses by nature.....	14
6. Financial results.....	15
7. Income taxes.....	15
8. Basic and diluted earnings per share.....	17
9. Cash flows reconciliation.....	17
10. Accounts receivable.....	19
11. Inventories.....	19
12. Suppliers and contractors.....	19
13. Other financial assets and liabilities.....	20
14. Investments in subsidiaries, associates, and joint ventures.....	21
15. Acquisitions and divestitures.....	22
16. Intangibles.....	25
17. Property, plant, and equipment.....	26
18. Financial and capital risk management.....	27
19. Financial assets and liabilities.....	32
20. Participative shareholders' debentures.....	33
21. Loans, borrowings, leases, cash and cash equivalents and short-term investments.....	34
22. Brumadinho dam failure.....	35
23. Liabilities related to associates and joint ventures.....	38
24. Provision for de-characterization of dam structures and asset retirement obligations.....	41
25. Provisions.....	43
26. Litigations.....	43
27. Employee benefits.....	45
28. Equity.....	46
29. Related parties.....	47



Report of Independent Registered Public Accounting Firm

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

Results of Review of Interim Financial Statements

We have reviewed the accompanying consolidated statement of financial position of Vale S.A. and its subsidiaries (“Company”) as of June 30, 2023, and the related consolidated income statement, consolidated statement of comprehensive income and consolidated statement of cash flows for the three and six-month periods ended June 30, 2023 and 2022, and the consolidated statement of changes in equity for the six-month periods ended June 30, 2023 and 2022, including the related notes (collectively referred to as the “interim financial statements”). Based on our reviews, we are not aware of any material modifications that should be made to the accompanying interim financial statements for them to be in conformity with IAS 34 - *Interim Financial Reporting*, as issued by the International Accounting Standards Board (IASB).

We have previously audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated statement of financial position of the Company as of December 31, 2022, and the related consolidated income statement, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended (not presented herein), and in our report dated February 16, 2023, we expressed an unqualified opinion on those consolidated financial statements. In our opinion, the information set forth in the accompanying consolidated financial position as of December 31, 2022, is fairly stated, in all material respects, in relation to the consolidated financial position from which it has been derived.

Basis for Review Results

These interim financial statements are the responsibility of the Company’s management. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB. We conducted our review in accordance with the standards of the PCAOB. A review of interim financial statements consists principally of applying analytical procedures and making inquiries of persons responsible for financial and accounting matters. It is substantially less in scope than an audit conducted in accordance with the standards of the PCAOB, the objective of which is the expression of an opinion regarding the financial statements taken as a whole. Accordingly, we do not express such an opinion.

/s/ PricewaterhouseCoopers Auditores Independentes Ltda.

Rio de Janeiro, RJ, Brazil

July 27, 2023

Consolidated Income Statement

In millions of United States dollars, except earnings per share

	Notes	Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Continuing operations					
Net operating revenue	4(b)	9,673	11,157	18,107	21,969
Cost of goods sold and services rendered	5(a)	(5,940)	(5,950)	(10,889)	(10,572)
Gross profit		3,733	5,207	7,218	11,397
Operating expenses					
Selling and administrative	5(b)	(139)	(127)	(257)	(248)
Research and development		(165)	(151)	(304)	(272)
Pre-operating and operational stoppage	24	(103)	(111)	(227)	(265)
Other operating expenses, net	5(c)	(388)	(445)	(607)	(711)
Impairment reversal (impairment) and results on disposal of non-current assets, net	15 and 17	(66)	(82)	(70)	990
Operating income		2,872	4,291	5,753	10,891
Financial income	6	106	137	227	287
Financial expenses	6	(397)	(372)	(717)	(667)
Other financial items, net	6	134	1,056	(197)	959
Equity results and other results in associates and joint ventures	14 and 23	5	(56)	(50)	155
Income before income taxes		2,720	5,056	5,016	11,625
Income taxes	7	(1,792)	(911)	(2,210)	(3,002)
Net income from continuing operations		928	4,145	2,806	8,623
Net income attributable to noncontrolling interests		36	52	77	74
Net income from continuing operations attributable to Vale's shareholders		892	4,093	2,729	8,549
Discontinued operations					
Net income from discontinued operations	15(f)	-	2,058	-	2,060
Net income from discontinued operations attributable to Vale's shareholders		-	2,058	-	2,060
Net income		928	6,203	2,806	10,683
Net income attributable to noncontrolling interests		36	52	77	74
Net income attributable to Vale's shareholders		892	6,151	2,729	10,609
Basic and diluted earnings per share from continuing operations					
Common share (US\$)	8	0.20	0.88	0.62	1.80
Basic and diluted earnings per share attributable to Vale's shareholders					
Common share (US\$)	8	0.20	1.32	0.62	2.24

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

Consolidated Statement of Comprehensive Income

In millions of United States dollars

	Notes	Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Net income		928	6,203	2,806	10,683
Other comprehensive income:					
Items that will not be reclassified to income statement					
Translation adjustments		2,072	(3,616)	3,016	2,328
Retirement benefit obligations		(5)	111	(12)	143
Fair value adjustment to investment in equity securities		13	-	13	-
		2,080	(3,505)	3,017	2,471
Items that may be reclassified to income statement					
Translation adjustments		(249)	703	(406)	(1,049)
Net investment hedge	18	95	(145)	144	74
Cash flow hedge	18	(4)	312	15	8
Reclassification of cumulative translation adjustment to income statement	15	-	(3,072)	-	(3,222)
		(158)	(2,202)	(247)	(4,189)
Comprehensive income		2,850	496	5,576	8,965
Comprehensive income attributable to noncontrolling interests		36	46	84	68
Comprehensive income attributable to Vale's shareholders		2,814	450	5,492	8,897

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 United States dollars

	Notes	Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Cash flow from operations	9(a)	3,259	5,738	7,539	11,269
Interest on loans and borrowings paid	9(c)	(200)	(277)	(369)	(456)
Cash received (paid) on settlement of derivatives, net	18(d)	134	(42)	172	(118)
Payments related to Brumadinho event	22	(497)	(319)	(621)	(383)
Payments related to de-characterization of dams	24	(95)	(83)	(173)	(152)
Interest on participative shareholders' debentures paid	20	(127)	(235)	(127)	(235)
Income taxes (including settlement program) paid		(574)	(1,213)	(911)	(3,790)
Net cash generated by operating activities from continuing operations		1,900	3,569	5,510	6,135
Net cash generated by operating activities from discontinued operations	15(f)	-	-	-	41
Net cash generated by operating activities		1,900	3,569	5,510	6,176
Cash flow from investing activities:					
Capital expenditures	4(c)	(1,208)	(1,293)	(2,338)	(2,429)
Additions to investments	14(a)	(1)	-	(8)	-
Proceeds (payments) from the sale of investments, net	9(b)	-	-	(67)	437
Dividends received from associates and joint ventures	14	105	71	105	136
Short-term investment		67	101	12	103
Other investments activities, net		(30)	48	(97)	48
Net cash used in investing activities from continuing operations		(1,067)	(1,073)	(2,393)	(1,705)
Net cash used in investing activities from discontinued operations	15(f)	-	(65)	-	(103)
Net cash used in investing activities		(1,067)	(1,138)	(2,393)	(1,808)
Cash flow from financing activities:					
Loans and borrowings from third-parties	9(c)	1,500	200	1,800	625
Payments of loans and borrowings from third-parties	9(c)	(581)	(1,433)	(620)	(1,828)
Payments of leasing	21	(45)	(57)	(92)	(98)
Dividends and interest on capital paid to Vale's shareholders	28(c)	-	-	(1,795)	(3,480)
Dividends and interest on capital paid to noncontrolling interest		(5)	(4)	(8)	(7)
Shares buyback program	28(d)	(1,361)	(2,596)	(2,124)	(4,384)
Stake acquisition on subsidiaries	15(b)	(130)	-	(130)	-
Net cash used in financing activities from continuing operations		(622)	(3,890)	(2,969)	(9,172)
Net cash used in financing activities from discontinued operations	15(f)	-	-	-	(11)
Net cash used in financing activities		(622)	(3,890)	(2,969)	(9,183)
Net increase (decrease) in cash and cash equivalents		211	(1,459)	148	(4,815)
Cash and cash equivalents in the beginning of the period		4,705	9,061	4,736	11,721
Effect of exchange rate changes on cash and cash equivalents		67	(417)	99	290
Cash and cash equivalents from subsidiaries sold, net		-	-	-	(11)
Cash and cash equivalents at end of the period		4,983	7,185	4,983	7,185

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

Consolidated Statement of Financial Position

In millions of United States dollars

	Notes	June 30, 2023	December 31, 2022
Assets			
Current assets			
Cash and cash equivalents	21	4,983	4,736
Short-term investments	21	46	61
Accounts receivable	10	2,967	4,319
Other financial assets	13	522	342
Inventories	11	5,193	4,482
Recoverable taxes	7(d)	1,502	1,272
Other		334	314
		15,547	15,526
Non-current assets			
Judicial deposits	26(c)	1,326	1,215
Other financial assets	13	698	280
Recoverable taxes	7(d)	1,229	1,110
Deferred income taxes	7(a)	9,904	10,770
Other		1,245	1,019
		14,402	14,394
Investments in associates and joint ventures	14	1,901	1,798
Intangibles	16	11,001	10,238
Property, plant, and equipment	17	48,666	44,938
		75,970	71,368
Total assets		91,517	86,894
Liabilities			
Current liabilities			
Suppliers and contractors	12	5,240	4,461
Loans, borrowings, and leases	21	912	489
Other financial liabilities	13	1,599	1,672
Taxes payable	7(d)	882	470
Settlement program ("REFIS")	7(c)	416	371
Liabilities related to associates and joint ventures	23	1,044	1,911
Provisions	25	849	1,036
Liabilities related to Brumadinho	22	1,201	944
De-characterization of dams and asset retirement obligations	24	899	661
Dividends payable		-	1,383
Other		514	493
		13,556	13,891
Non-current liabilities			
Loans, borrowings, and leases	21	13,025	12,223
Participative shareholders' debentures	20	2,528	2,725
Other financial liabilities	13	2,771	2,843
Settlement program ("REFIS")	7(c)	1,886	1,869
Deferred income taxes	7(a)	1,411	1,413
Provisions	25	2,700	2,446
Liabilities related to Brumadinho	22	2,075	2,368
De-characterization of dams and asset retirement obligations	24	6,786	6,520
Liabilities related to associates and joint ventures	23	2,575	1,410
Streaming transactions		1,693	1,612
Other		220	216
		37,670	35,645
Total liabilities		51,226	49,536
Equity			
	28		
Equity attributable to Vale's shareholders		38,812	35,867
Equity attributable to noncontrolling interests		1,479	1,491
Total equity		40,291	37,358
Total liabilities and equity		91,517	86,894

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

Consolidated Statement of Changes in Equity

In millions of United States dollars

	Notes	Share capital	Capital reserve	Profit reserves	Treasury shares	Other reserves	Cumulative translation adjustments	Retained earnings	Equity attributable to Vale's shareholders	Equity attributable to noncontrolling interests	Total equity
Balance at December 31, 2022		61,614	1,139	20,744	(4,980)	(1,675)	(40,975)	-	35,867	1,491	37,358
Net income		-	-	-	-	-	-	2,729	2,729	77	2,806
Other comprehensive income		-	-	1,402	-	7	1,354	-	2,763	7	2,770
Dividends and interest on capital of Vale's shareholders	28(c)	-	-	(437)	-	-	-	-	(437)	-	(437)
Dividends of noncontrolling interest		-	-	-	-	-	-	-	-	(37)	(37)
Acquisitions and disposal of noncontrolling interest	15(b)	-	-	-	-	3	-	-	3	(59)	(56)
Shares buyback program	28(d)	-	-	-	(2,124)	-	-	-	(2,124)	-	(2,124)
Treasury shares canceled	28(b)	-	-	(4,164)	4,164	-	-	-	-	-	-
Share-based payment programs	27(b)	-	-	-	26	(15)	-	-	11	-	11
Balance at June 30, 2023		61,614	1,139	17,545	(2,914)	(1,680)	(39,621)	2,729	38,812	1,479	40,291
Balance at December 31, 2021		61,614	1,139	15,702	(5,579)	(1,960)	(36,444)	-	34,472	834	35,306
Net income		-	-	-	-	-	-	10,609	10,609	74	10,683
Other comprehensive income		-	-	1,165	-	134	(3,011)	-	(1,712)	(6)	(1,718)
Dividends and interest on capital of Vale's shareholders		-	-	(3,500)	-	-	-	-	(3,500)	-	(3,500)
Dividends of noncontrolling interest		-	-	-	-	-	-	-	-	(5)	(5)
Acquisitions and disposal of noncontrolling interest	15(f)	-	-	-	-	-	-	-	-	585	585
Shares buyback program	28(d)	-	-	-	(4,384)	-	-	-	(4,384)	-	(4,384)
Treasury shares canceled	28(b)	-	-	(2,830)	2,830	-	-	-	-	-	-
Share-based payment programs		-	-	-	19	(4)	-	-	15	-	15
Balance at June 30, 2022		61,614	1,139	10,537	(7,114)	(1,830)	(39,455)	10,609	35,500	1,482	36,982

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

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

1. Corporate information

Vale S.A. (the "Parent Company") is a public company headquartered in the city of Rio de Janeiro, Brazil 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 condensed consolidated interim financial statements of the Company ("interim financial statements") have been prepared and are being presented in accordance with IAS 34 – Interim Financial Reporting, as issued by the International Accounting Standards Board ("IASB"). 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.

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) 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 it is the Brazilian real ("R\$"). For presentation purposes, these interim financial statements are presented in United States dollars ("US\$") as the Company believes that this is how international investors analyze the financial statements.

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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

	Closing rate		Three-month period ended June 30,		Six-month period ended June 30,		Average rate
	December 31,	June 30, 2023	2023	2022	2023	2022	
	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	Cash Flow
Reversal of deferred income tax related to the Renova Foundation	23(c)	(1,078)	-
Notes offering	9(c)	-	1,500
Bond tender offers	9(c)	(22)	(500)

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 US\$1,078, 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 US\$1,500 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 US\$500, and paid a premium of US\$22, 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 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 United States dollar, 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	Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Iron ore		3,087	3,975	5,725	8,909
Iron ore pellets		818	1,140	1,485	1,977
Other ferrous products and services		36	32	51	63
Iron solutions		3,941	5,147	7,261	10,949
Nickel		240	580	593	1,105
Copper		236	23	456	249
Energy Transition Metals		476	603	1,049	1,354
Other		(543)	(496)	(860)	(835)
Adjusted EBITDA from continuing operations		3,874	5,254	7,450	11,468
Depreciation, depletion and amortization	4(c)	(779)	(810)	(1,435)	(1,496)
Impairment reversal (impairment) and results on disposal of non-current assets, net and other (i)	15 and 17	(118)	(82)	(157)	990
Dividends received and interest from associates and joint ventures	14	(105)	(71)	(105)	(71)
Operating income		2,872	4,291	5,753	10,891
Equity results and other results in associates and joint ventures	14	5	(56)	(50)	155
Financial results	6	(157)	821	(687)	579
Income taxes	7	(1,792)	(911)	(2,210)	(3,002)
Net income from continuing operations		928	4,145	2,806	8,623

(i) Includes adjustments of US\$52 and US\$87 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 United States dollar, unless otherwise stated

	Notes	Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Adjusted EBITDA from discontinued operations		-	-	-	171
Impairment and results on disposals of non-current assets, net		-	(429)	-	(589)
Operating loss	15(f)	-	(429)	-	(418)
Financial results		-	3,072	-	3,065
Derecognition of noncontrolling interest		-	(585)	-	(585)
Income taxes		-	-	-	(2)
Net income from discontinued operations	15(f)	-	2,058	-	2,060

b) Net operating revenue by shipment destination

	Three-month period ended June 30, 2023						Total
	Iron Solutions			Energy Transition Metals			
	Iron ore	Iron ore pellets	Other ferrous products and services	Nickel and other products	Copper	Other	
Americas, except United States and Brazil	-	102	-	123	2	-	227
United States of America	-	97	-	334	-	-	431
Germany	47	-	1	123	123	-	294
Europe, except Germany	321	119	-	181	312	-	933
Middle East, Africa, and Oceania	-	507	-	9	-	-	516
Japan	623	54	-	147	-	-	824
China	4,364	2	-	217	55	-	4,638
Asia, except Japan and China	519	67	3	227	-	-	816
Brazil	361	465	124	18	-	26	994
Net operating revenue	6,235	1,413	128	1,379	492	26	9,673

	Three-month period ended June 30, 2022						Total
	Iron Solutions			Energy Transition Metals			
	Iron ore	Iron ore pellets	Other ferrous products and services	Nickel and other products	Copper	Other	
Americas, except United States and Brazil	-	131	5	111	-	76	323
United States of America	-	47	-	427	-	-	474
Germany	92	-	-	140	83	-	315
Europe, except Germany	517	89	-	289	216	-	1,111
Middle East, Africa, and Oceania	-	656	-	6	-	26	688
Japan	718	94	-	199	3	-	1,014
China	4,868	33	1	200	-	-	5,102
Asia, except Japan and China	523	151	3	158	26	47	908
Brazil	395	579	123	17	-	108	1,222
Net operating revenue	7,113	1,780	132	1,547	328	257	11,157

	Six-month period ended June 30, 2023						Total
	Iron Solutions			Energy Transition Metals			
	Iron ore	Iron ore pellets	Other ferrous products and services	Nickel and other products	Copper	Other	
Americas, except United States and Brazil	1	248	-	266	2	-	517
United States of America	-	183	-	759	-	-	942
Germany	138	33	1	297	253	-	722
Europe, except Germany	693	258	-	543	574	-	2,068
Middle East, Africa, and Oceania	-	923	-	18	-	-	941
Japan	1,102	106	-	305	-	-	1,513
China	7,639	2	-	295	109	-	8,045
Asia, except Japan and China	922	108	5	367	44	-	1,446
Brazil	722	874	229	37	-	51	1,913
Net operating revenue	11,217	2,735	235	2,887	982	51	18,107

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

	Six-month period ended June 30, 2022						Total
	Iron Solutions		Energy Transition Metals		Copper	Other	
	Iron ore	Iron ore pellets	Other ferrous products and services	Nickel and other products			
Americas, except United States and Brazil	-	261	5	277	-	125	668
United States of America	-	74	-	713	-	-	787
Germany	221	-	-	311	291	-	823
Europe, except Germany	978	164	-	504	419	-	2,065
Middle East, Africa, and Oceania	-	1,150	-	9	-	26	1,185
Japan	1,334	148	-	388	5	-	1,875
China	9,952	41	8	490	-	-	10,491
Asia, except Japan and China	1,129	174	7	281	87	47	1,725
Brazil	754	1,132	227	32	-	205	2,350
Net operating revenue	14,368	3,144	247	3,005	802	403	21,969

c) Assets by segment

	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	1,310	12	579	1,901	1,296	-	502	1,798
Intangibles	9,054	1,886	61	11,001	8,330	1,847	61	10,238
Property, plant and equipment	27,331	18,577	2,758	48,666	24,718	17,808	2,412	44,938
	2023				2022			
	Iron Solutions	Energy Transition Metals	Other	Total	Iron Solutions	Energy Transition Metals	Other	Total
Depreciation, depletion and amortization	502	262	15	779	497	299	14	810
Capital expenditures								
Sustaining capital (i)	472	326	34	832	477	343	24	844
Project execution	255	95	26	376	199	90	160	449
	727	421	60	1,208	676	433	184	1,293
	2023				2022			
	Iron Solutions	Energy Transition Metals	Other	Total	Iron Solutions	Energy Transition Metals	Other	Total
Depreciation, depletion and amortization	905	503	27	1,435	913	555	28	1,496
Capital expenditures								
Sustaining capital (i)	984	589	63	1,636	976	613	54	1,643
Project execution	491	167	44	702	381	157	248	786
	1,475	756	107	2,338	1,357	770	302	2,429

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

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

d) Assets by geographic area

	June 30, 2023				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	1,889	9,119	31,653	42,661	1,798	8,391	28,210	38,399
Canada	-	1,880	11,526	13,406	-	1,845	11,178	13,023
Americas, except Brazil and Canada	-	-	4	4	-	-	4	4
Europe	-	-	722	722	-	-	747	747
Indonesia	12	1	2,759	2,772	-	1	2,731	2,732
Asia, except Indonesia and China	-	-	760	760	-	-	786	786
China	-	1	16	17	-	1	19	20
Oman	-	-	1,226	1,226	-	-	1,263	1,263
Total	1,901	11,001	48,666	61,568	1,798	10,238	44,938	56,974

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	1,007	855	1,816	1,534
Freight	999	1,175	1,681	2,002
Maintenance	954	806	1,766	1,433
Depreciation, depletion and amortization	737	777	1,350	1,422
Acquisition of products	547	674	1,082	1,135
Personnel	466	457	923	838
Fuel oil and gas	425	353	810	637
Royalties	320	279	552	488
Energy	185	180	352	332
Others	300	394	557	751
Total	5,940	5,950	10,889	10,572
Cost of goods sold	5,805	5,800	10,632	10,289
Cost of services rendered	135	150	257	283
Total	5,940	5,950	10,889	10,572

b) Selling and administrative expenses

	Three-month period ended June 30,		Six-month period ended June 30,	
	2023	2022	2023	2022
Personnel	52	44	97	98
Services	30	30	58	52
Selling	21	24	39	43
Depreciation and amortization	14	12	25	23
Other	22	17	38	32
Total	139	127	257	248

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	271	280	382	403
Expenses related to de-characterization of dam	24(a)	-	-	-	37
Asset retirement obligations	24(b)	13	40	13	40
Provision for litigations	26(a)	52	48	83	64
Profit sharing program		32	19	87	67
Other		20	58	42	100
Total		388	445	607	711

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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		82	121	170	250
Other		24	16	57	37
		106	137	227	287
Financial expenses					
Loans and borrowings gross interest		(185)	(162)	(365)	(323)
Capitalized loans and borrowing costs		5	17	10	31
Interest on REFIS		(38)	(39)	(76)	(71)
Interest on lease liabilities	21	(15)	(16)	(30)	(32)
Bond premium repurchase		(22)	(113)	(22)	(113)
Other		(142)	(59)	(234)	(159)
		(397)	(372)	(717)	(667)
Other financial items, net					
Participative shareholders' debentures	20	321	537	274	288
Financial guarantees	15(a)	-	356	-	479
Derivative financial instruments, net	18(c)	563	(270)	755	591
Foreign exchange and indexation gains (losses), net (i)		(750)	433	(1,226)	(399)
		134	1,056	(197)	959
Total		(157)	821	(687)	579

(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 US\$277 (December 31, 2022: US\$1,522), which the fair value was null as of June 30, 2023 (December 31, 2022: US\$103), as presented in note 13.

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	Three-month period ended June 30,		Six-month period ended June 30,	
		2023	2022	2023	2022
Income before income taxes		2,720	5,056	5,016	11,625
Income taxes at statutory rate (34%)		(925)	(1,719)	(1,705)	(3,953)
Adjustments that affect the taxes basis:					
Tax incentives		497	565	902	1,059
Equity results		33	22	3	30
Addition (reduction) of tax loss carryforward		(172)	211	(243)	(444)
Reversal of deferred income tax related to Renova Foundation	3 and 23(c)	(1,078)	-	(1,078)	-
Other		(147)	10	(89)	306
Income taxes		(1,792)	(911)	(2,210)	(3,002)
Current tax		(404)	(1,181)	(622)	(1,434)
Deferred tax		(1,388)	270	(1,588)	(1,568)
Income taxes		(1,792)	(911)	(2,210)	(3,002)

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

b) Deferred income tax assets and liabilities

	Assets	Liabilities	Deferred taxes, net
Balance at December 31, 2022	10,770	1,413	9,357
Effect in income statement	(1,620)	(32)	(1,588)
Translation adjustment	784	32	752
Other comprehensive income	(30)	(2)	(28)
Balance at June 30, 2023	9,904	1,411	8,493
Balance at December 31, 2021	11,441	1,881	9,560
Effect in income statement	(1,524)	44	(1,568)
Translation adjustment	651	(1)	652
Other comprehensive income	(25)	47	(72)
Transfers between assets and liabilities	(183)	(183)	-
Other	-	(29)	29
Balance at June 30, 2022	10,360	1,759	8,601

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

	June 30, 2023	December 31, 2022
Current liabilities	416	371
Non-current liabilities	1,886	1,869
REFIS liabilities	2,302	2,240
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

	June 30, 2023			December 31, 2022		
	Current assets	Non-current assets	Current liabilities	Current assets	Non-current assets	Current liabilities
Value-added tax (“ICMS”)	279	1	24	261	1	46
Brazilian federal contributions (“PIS” and “COFINS”)	917	855	69	690	740	35
Income taxes	296	373	604	309	369	221
Financial compensation for the exploration of mineral resources (“CFEM”)	-	-	66	-	-	54
Other	10	-	119	12	-	114
Total	1,502	1,229	882	1,272	1,110	470

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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	892	4,093	2,729	8,549
Net income from discontinued operations	-	2,058	-	2,060
Net income	892	6,151	2,729	10,609
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\$)	0.20	0.88	0.62	1.80
Basic and diluted earnings per share from discontinued operations				
Common share (US\$)	-	0.44	-	0.43
Basic and diluted earnings per share				
Common share (US\$)	0.20	1.32	0.62	2.24

9. Cash flows reconciliation

a) Cash flow from operating activities:

	Notes	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		2,720	5,056	5,016	11,625
Adjusted for:					
Equity results and other results in associates and joint ventures	14 and 23	(5)	56	50	(155)
Impairment (impairment reversal) and results on disposal of non-current assets, net	15 and 17	66	82	70	(990)
Provisions related to Brumadinho	22	140	126	140	126
Provision for de-characterization of dams	24	-	-	-	37
Depreciation, depletion and amortization		779	810	1,435	1,496
Financial results, net	6	157	(821)	687	(579)
Changes in assets and liabilities:					
Accounts receivable	10	(247)	902	1,439	1,779
Inventories	11	(157)	(305)	(520)	(609)
Suppliers and contractors	12	570	432	465	(240)
Other assets and liabilities, net		(764)	(600)	(1,243)	(1,221)
Cash flow from operations		3,259	5,738	7,539	11,269

b) Cash flow from investing activities

	Notes	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)	-	-	-	437
Cash received from the sale of Companhia Siderúrgica do Pecém		-	-	1,082	-
Cash contribution to Companhia Siderúrgica do Pecém	15(a)	-	-	(1,149)	-
Proceeds (payments) from disposal of investments, net		-	-	(67)	437

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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

	Quoted in the secondary market	Debt contracts in Brazil	Debt contracts on the international market	Total
December 31, 2022	6,497	280	4,404	11,181
Additions	1,500	-	300	1,800
Payments	(517)	(38)	(65)	(620)
Interest paid (i)	(237)	(16)	(116)	(369)
Cash flow from financing activities	746	(54)	119	811
Effect of exchange rate	7	34	3	44
Interest accretion	234	16	131	381
Non-cash changes	241	50	134	425
June 30, 2023	7,484	276	4,657	12,417

	Quoted in the secondary market	Debt contracts in Brazil	Debt contracts on the international market	Total
December 31, 2021	7,974	380	3,826	12,180
Additions	-	-	625	625
Payments	(1,317)	(174)	(337)	(1,828)
Interest paid (i)	(388)	(37)	(31)	(456)
Cash flow from financing activities	(1,705)	(211)	257	(1,659)
Effect of exchange rate	71	77	(76)	72
Interest accretion	318	89	31	438
Non-cash changes	389	166	(45)	510
June 30, 2022	6,658	335	4,038	11,031

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

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

In June 2023, Vale issued notes of US\$1,500 with a coupon of 6.125% per year, payable semi-annually, and maturing in 2033. 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 US\$425 with The Bank of Nova Scotia, indexed to Libor and maturing in 2027.

In May 2022, the Company contracted a loan of US\$200 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 US\$24.

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

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

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

d) Non-cash transactions

	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	5	17	10	31

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

10. Accounts receivable

	Notes	June 30, 2023	December 31, 2022
Receivables from contracts with customers			
Related parties	29	118	211
Third parties			
Iron Solutions		2,146	3,132
Energy Transition Metals		731	984
Other		16	35
Accounts receivable		3,011	4,362
Expected credit loss		(44)	(43)
Accounts receivable, net		2,967	4,319

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 (US\$ million)
Iron ore	22,564	102	+/- 10%	+/- 230
Copper	77	7,811	+/- 10%	+/- 60

11. Inventories

	June 30, 2023	December 31, 2022
Finished products		
Iron Solutions	2,638	2,126
Energy Transition Metals	638	651
	3,276	2,777
Work in progress	901	800
Consumable inventory	1,157	1,010
Allowance to net realizable value (i)	(141)	(105)
Total of inventories	5,193	4,482

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

12. Suppliers and contractors

	Notes	June 30, 2023	December 31, 2022
Third parties – Brazil		3,318	2,691
Third parties – Abroad		1,753	1,599
Related parties	29	169	171
Total		5,240	4,461

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 US\$1,531 as of June 30, 2023 (December 31, 2022: US\$743), of which US\$314 (December 31, 2022: US\$202) 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.

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

13. Other financial assets and liabilities

	Notes	Current		Non-Current	
		June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022
Other financial assets					
Restricted cash		-	-	108	77
Derivative financial instruments	18	522	342	559	196
Investments in equity securities (i)		-	-	31	7
		522	342	698	280
Other financial liabilities					
Derivative financial instruments	18	47	90	98	186
Other financial liabilities - Related parties	29(b)	187	400	-	-
Financial guarantees provided (ii)	15(a)	-	-	-	103
Liabilities related to the concession grant	13(a)	611	416	2,673	2,554
Contract liability and other financial liabilities (iii)		754	766	-	-
		1,599	1,672	2,771	2,843

(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 – Revenue from Contracts with Customers and other financial liabilities that meets the definition of a financial liability described in IAS 32 – Financial Instruments: Presentation.

a) Liabilities related to the concession grant

	December 31, 2022	Addition	Present value adjustment	Disbursements	June 30, 2023
Payment obligation	954	5	131	(27)	1,063
Infrastructure investment	2,016	77	215	(87)	2,221
	2,970	82	346	(114)	3,284
Current liabilities	416				611
Non-current liabilities	2,554				2,673
Liabilities	2,970				3,284
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 United States dollar, unless otherwise stated

14. Investments in subsidiaries, associates, and joint ventures

	Notes	% ownership	% voting capital	Investments in associates and joint ventures		Equity results				Dividends received			
				June 30, 2023	December 31, 2022	Three-month period ended June 30,		Six-month period ended June 30,		Three-month period ended June 30,		Six-month period ended June 30,	
				2023	2022	2023	2022	2023	2022	2023	2022		
Associates and joint ventures													
Iron Solutions													
Baovale Mineração S.A.		50.00	50.00	28	24	-	-	1	1	-	-	-	-
Companhia Coreano-Brasileira de Pelotização		50.00	50.00	69	80	5	10	9	22	14	10	14	10
Companhia Hispano-Brasileira de Pelotização		50.89	50.00	42	48	1	-	4	-	19	1	19	1
Companhia Ítalo-Brasileira de Pelotização		50.90	50.00	58	62	3	12	7	13	23	19	23	19
Companhia Nipo-Brasileira de Pelotização		51.00	50.00	147	145	8	12	15	22	33	41	33	41
MRS Logística S.A.		48.16	47.09	599	509	41	20	47	30	-	-	-	-
Samarco Mineração S.A.	23	50.00	50.00	-	-	-	-	-	-	-	-	-	-
VLI S.A.		29.60	29.60	366	428	31	(2)	(90)	(20)	-	-	-	-
				1,309	1,296	89	52	(7)	68	89	71	89	71
Energy Transition Metals													
Korea Nickel Corp. (l)		-	-	-	-	-	1	-	3	-	-	-	-
PT Kolaka Nickel Indonesia		20.00	20.00	12	-	-	-	-	-	-	-	-	-
				12	-	-	1	-	3	-	-	-	-
Others													
Aliança Geração de Energia S.A.		55.00	55.00	408	340	9	8	18	16	16	-	16	-
Aliança Norte Energia Participações S.A.		51.00	51.00	112	106	(2)	(1)	(3)	(3)	-	-	-	-
California Steel Industries, Inc.	15(e)	-	-	-	-	-	-	-	-	-	-	-	65
Other				60	56	2	1	2	3	-	-	-	-
				580	502	9	8	17	16	16	-	16	65
Equity results in associates and joint ventures				1,901	1,798	98	61	10	87	105	71	105	136
Other results in associates and joint ventures	15			-	-	(93)	(117)	(60)	68	-	-	-	-
Equity results and other results in associates and joint ventures				1,901	1,798	5	(56)	(50)	155	105	71	105	136

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

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

a) Changes in the period

	2023	2022
Balance at January 1,	1,798	1,751
Additions and capitalizations	1	-
Equity results and other results in associates and joint ventures	10	87
Dividends declared	(60)	(48)
Translation adjustment	142	111
Other	10	(110)
Balance at June 30,	1,901	1,791

15. Acquisitions and divestitures

		Three-month period ended June 30, 2023	Six-month period ended June 30, 2023	
	Reference	Impairment reversal (impairment) of non-current assets	Equity results and other results in associates and joint ventures	Impairment reversal (impairment) of non-current assets
Companhia Siderúrgica do Pecém	15(a)	-	-	37
Mineração Rio do Norte	15(c)	-	(93)	(93)
		-	(93)	(56)

		Three-month period ended June 30, 2022	Six-month period ended June 30, 2022	
	Reference	Impairment reversal (impairment) of non-current assets	Equity results and other results in associates and joint ventures	Impairment reversal (impairment) of non-current assets
Midwestern System	15(d)	(30)	-	1,104
California Steel Industries	15(e)	-	(5)	-
Companhia Siderúrgica do Pecém	15(a)	-	(24)	-
		(30)	(29)	1,104
Discontinued operations (Coal)	15(f)	(429)	-	(589)
		(459)	(29)	515

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

In March 2023, the Company completed the sale of its interest in CSP to ArcelorMittal, for US\$2,194 (R\$11,147 million), which was fully used to prepay most of the outstanding net debt of US\$2,296 (R\$11,665 million). The remaining balance was settled by the shareholders and so Vale disbursed US\$67 upon completion of the transaction. The Company also derecognized its financial liability related to the guarantee granted to CSP, leading to a gain of US\$37 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 US\$130, resulting in a gain of US\$3, 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.

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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 US\$93 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 US\$902 that were deemed onerous contracts under the Company’s business model for the Midwestern System, which had negative net assets of US\$892 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 US\$1,104 recorded in the six-month period ended June 30, 2022 as “Impairment reversal (impairment) and result on disposal of non-current assets”, of which US\$202 relates to the impairment reversal of the Property, plant and equipment and US\$902 is due to the remeasurement of the onerous contract liability. The closing was completed in July 2022 and the Company received US\$150.

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 US\$437. In February 2022, the Company concluded the sale and recorded a gain of US\$292 for the three-month period ended March 31, 2022, as “Equity results and other results in associates and joint ventures”, of which US\$142 relates to a gain from the sale and US\$150 is due the reclassification of the cumulative translation adjustments from the shareholders’ equity to the income statement.

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 US\$270 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 US\$2,511 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 US\$2,060 for the six-month period ended June 30, 2022, which was mainly driven by the reclassification of the cumulative translation adjustments of US\$3,072, 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 US\$585 due to the deconsolidation of the coal assets. Additionally, until the closing of the transaction, the Company recorded losses of US\$589 due to the impairment of assets acquired during the period and other working capital adjustments. These effects are presented below:

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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	-	-	-	448
Cost of goods sold and services rendered	-	-	-	(264)
Operating expenses	-	-	-	(13)
Impairment and results on disposals of non-current assets, net	-	(429)	-	(589)
Operating loss	-	(429)	-	(418)
Cumulative translation adjustments	-	3,072	-	3,072
Derecognition of noncontrolling interest	-	(585)	-	(585)
Financial results, net	-	-	-	(7)
Net income before income taxes	-	2,058	-	2,062
Income taxes	-	-	-	(2)
Net income from discontinued operations	-	2,058	-	2,060
Net income attributable to Vale's shareholders	-	2,058	-	2,060

	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	-	2,058	-	2,062
Adjustments:				
Impairment and results on disposals of non-current assets, net	-	429	-	589
Derecognition of noncontrolling interest	-	585	-	585
Financial results, net	-	(3,072)	-	(3,065)
Decrease in assets and liabilities	-	-	-	(130)
Net cash generated by operating activities	-	-	-	41
Investing activities				
Additions to property, plant and equipment	-	-	-	(38)
Disposal of coal, net of cash	-	(65)	-	(65)
Net cash used in investing activities	-	(65)	-	(103)
Financing activities				
Payments	-	-	-	(11)
Net cash used by financing activities	-	-	-	(11)
Net cash used by discontinued operations	-	(65)	-	(73)

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

16. Intangibles

	Goodwill	Concessions	Software	Research and development project	Total
Balance at December 31, 2022	3,189	6,434	87	528	10,238
Additions	-	167	13	3	183
Disposals	-	(7)	-	-	(7)
Amortization	-	(123)	(21)	-	(144)
Translation adjustment	151	530	6	44	731
Balance at June 30, 2023	3,340	7,001	85	575	11,001
Cost	3,340	8,601	600	575	13,116
Accumulated amortization	-	(1,600)	(515)	-	(2,115)
Balance at June 30, 2023	3,340	7,001	85	575	11,001
Balance at December 31, 2021	3,208	5,223	86	494	9,011
Additions	-	132	17	-	149
Disposals	-	(9)	-	-	(9)
Amortization	-	(120)	(22)	-	(142)
Translation adjustment	63	341	2	33	439
Balance at June 30, 2022	3,271	5,567	83	527	9,448
Cost	3,271	6,846	550	527	11,194
Accumulated amortization	-	(1,279)	(467)	-	(1,746)
Balance at June 30, 2022	3,271	5,567	83	527	9,448

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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		8,913	8,042	4,984	7,112	2,475	1,455	2,632	9,325	44,938
Additions (i)		-	-	-	-	-	19	-	2,430	2,449
Disposals		(8)	(8)	(5)	-	(5)	-	(1)	(53)	(80)
Assets retirement obligation	24(b)	-	-	-	99	-	-	-	-	99
Depreciation, depletion and amortization		(224)	(250)	(364)	(241)	(81)	(91)	(163)	-	(1,414)
Translation adjustment		607	608	229	302	198	31	153	546	2,674
Transfers		772	586	371	46	47	-	166	(1,988)	-
Balance at June 30, 2023		10,060	8,978	5,215	7,318	2,634	1,414	2,787	10,260	48,666
Cost		17,700	14,330	12,418	16,285	4,455	2,196	5,903	10,260	83,547
Accumulated depreciation		(7,640)	(5,352)	(7,203)	(8,967)	(1,821)	(782)	(3,116)	-	(34,881)
Balance at June 30, 2023		10,060	8,978	5,215	7,318	2,634	1,414	2,787	10,260	48,666
Balance at December 31, 2021		8,137	7,232	4,743	7,742	2,334	1,537	2,484	7,722	41,931
Additions (i)		-	-	-	-	-	29	-	2,343	2,372
Disposals		(14)	(8)	(4)	-	(5)	-	(1)	(45)	(77)
Assets retirement obligation	24(b)	-	-	-	(1,077)	-	-	-	-	(1,077)
Depreciation, depletion and amortization		(205)	(245)	(351)	(236)	(82)	(94)	(147)	-	(1,360)
Impairment reversal		56	34	64	39	-	-	21	-	214
Transfer to asset held for sale - Midwestern System		(56)	(34)	(64)	(39)	-	-	(21)	-	(214)
Translation adjustment		348	370	128	75	151	26	78	201	1,377
Transfers		240	297	303	347	73	-	207	(1,467)	-
Balance at June 30, 2022		8,506	7,646	4,819	6,851	2,471	1,498	2,621	8,754	43,166
Cost		15,612	12,369	11,291	16,317	4,021	2,062	5,802	8,754	76,228
Accumulated depreciation		(7,106)	(4,723)	(6,472)	(9,466)	(1,550)	(564)	(3,181)	-	(33,062)
Balance at June 30, 2022		8,506	7,646	4,819	6,851	2,471	1,498	2,621	8,754	43,166

(i) Includes capitalized interest.

Right-of-use assets (leases)

	December 31, 2022	Additions and contract modifications	Depreciation	Translation adjustment	June 30, 2023
Ports	657	-	(27)	6	636
Vessels	453	5	(21)	-	437
Pelletizing plants	204	12	(25)	17	208
Properties	87	-	(13)	7	81
Energy plants	39	-	(3)	1	37
Mining equipment	15	2	(2)	-	15
Total	1,455	19	(91)	31	1,414

Lease liabilities are presented in note 21.

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

18. Financial and capital risk management

a) Effects of derivatives on the statement of financial position

	June 30, 2023		December 31, 2022	
	Assets	Liabilities	Assets	Liabilities
Foreign exchange and interest rate risk				
CDI & TJLP vs. US\$ fixed and floating rate swap	90	30	11	144
IPCA swap	-	41	-	63
Dollar swap and forward transactions	868	-	407	7
LIBOR swap	8	-	7	-
	966	71	425	214
Commodities price risk				
Gasoil, Brent and freight	70	71	78	56
Energy Transition Metals	45	-	35	1
	115	71	113	57
Other	-	3	-	5
Total	1,081	145	538	276

b) Net exposure

	June 30, 2023	December 31, 2022
	Foreign exchange and interest rate risk	
CDI & TJLP vs. US\$ fixed and floating rate swap	60	(133)
IPCA swap	(41)	(63)
Dollar swap and forward transactions	868	400
LIBOR swap (i)	8	7
	895	211
Commodities price risk		
Gasoil, Brent and freight	(1)	22
Energy Transition Metals	45	34
	44	56
Other	(3)	(5)
Total	936	262

(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.

c) Effects of derivatives on the income statement

	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	144	(121)	188	269
IPCA swap	23	(11)	30	66
Dollar swap and forward operations	376	(163)	538	198
LIBOR swap	2	7	5	42
Forwards	13	-	13	-
	558	(288)	774	575
Commodities price risk				
Gasoil, Brent and freight	4	10	(20)	25
Energy Transition Metals	-	16	(1)	9
	4	26	(21)	34
Other	1	(8)	2	(18)
Total	563	(270)	755	591

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

d) Effects of derivatives on the cash flows

	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	(4)	(17)	(8)	(43)
IPCA swap	2	8	3	11
Dollar swap and forward operations	98	54	118	84
LIBOR swap	4	-	4	(1)
Forwards	13	-	13	-
	113	45	130	51
Commodities price risk				
Gasoil, Brent and freight	1	6	3	9
Energy Transition Metals	20	(93)	39	(178)
	21	(87)	42	(169)
Total	134	(42)	172	(118)

e) Market risk - Foreign exchange and interest rates

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

Flow	Notional		Index	Average rate	Fair value		Financial Settlement Inflows (Outflows)	Value at Risk	Fair value by year				
	June 30, 2023	December 31, 2022			June 30, 2023	December 31, 2022			June 30, 2023	June 30, 2023	2023	2024	2025+
CDI vs. US\$ fixed rate swap					88	(83)	(7)	23	8	16	64		
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					(28)	(50)	(1)	3	(1)	(3)	(24)		
Receivable	R\$ 743	R\$ 814	TJLP +	1.05%									
Payable	US\$ 186	US\$ 204	Fix	3.45%									
					60	(133)	(8)	26	7	13	40		
IPCA swap vs. US\$ fixed rate swap					(41)	(63)	3	5	-	(6)	(35)		
Receivable	R\$ 1,186	R\$ 1,294	IPCA +	4.54%									
Payable	US\$ 293	US\$ 320	Fix	3.88%									
					(41)	(63)	3	5	-	(6)	(35)		
R\$ fixed rate vs. US\$ fixed rate swap					791	318	43	64	265	291	235		
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	77	82	75	6	33	34	10		
					868	400	118	70	298	325	245		

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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	88	(229)	(546)
	US\$ interest rate inside Brazil decrease	88	46	-
	Brazilian interest rate increase	88	56	24
Protected item: R\$ denominated liabilities	R\$ depreciation	n.a.	-	-
TJLP vs. US\$ fixed rate swap	R\$ depreciation	(28)	(72)	(116)
	US\$ interest rate inside Brazil decrease	(28)	(33)	(40)
	Brazilian interest rate increase	(28)	(36)	(43)
	TJLP interest rate decrease	(28)	(34)	(40)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
IPCA swap vs. US\$ fixed rate swap	R\$ depreciation	(41)	(112)	(183)
	US\$ interest rate inside Brazil decrease	(41)	(50)	(60)
	Brazilian interest rate increase	(41)	(54)	(67)
	IPCA index decrease	(41)	(47)	(53)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
R\$ fixed rate vs. US\$ fixed rate swap	R\$ depreciation	791	(57)	(906)
	US\$ interest rate inside Brazil decrease	791	728	663
	Brazilian interest rate increase	791	666	548
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
Forward	R\$ depreciation	77	(8)	(93)
	US\$ interest rate inside Brazil decrease	77	73	68
	Brazilian interest rate increase	77	68	60
Protected item: R\$ denominated liabilities	R\$ depreciation	n.a.	-	-

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

Flow	Notional		Average rate	Fair value		Financial Settlement Inflows (Outflows)	Value at Risk	Fair value by year	
	June 30, 2023	December 31, 2022		June 30, 2023	December 31, 2022			June 30, 2023	June 30, 2023
LIBOR vs. US\$ fixed rate swap									
Receivable	US\$ 150	US\$ 150	LIBOR 0.85%	8	7	4	-	4	4
Payable	US\$ 150	US\$ 150	Fix 0.85%						
				8	7	4	-	4	4

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	8	7	6
Protected item: LIBOR US\$ indexed debt	US\$ LIBOR decrease	n.a.	(7)	(6)

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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	-	-	-	13	-	-

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	68	74	-	15	6	62
Put options	31,139,250	22,600,500	S	62	(71)	(51)	-	16	(23)	(48)
Forward Freight Agreement (days)										
Freight forwards	960	2,085	B	13,791	2	(1)	3	1	2	-
					(1)	22	3	32	(15)	14

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	(3)	(288)	(759)
Protected item: Part of costs linked to fuel oil prices	Price input decrease	n.a.	288	759
Forward Freight Agreement (days)				
Forwards	Freight price decrease	2	(2)	(5)
Protected item: Part of costs linked to maritime freight prices	Freight price decrease	n.a.	2	5

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+
Fixed price nickel sales protection (ton)									
Nickel forwards	2,580	766	B	20,842	-	7	3	3	-
Hedge program for products acquisition for resale (ton)									
Nickel forwards	-	384	S	-	-	(1)	2	-	-
					-	6	5	3	-
Embedded derivative (pellet price) in natural gas purchase (volume/month)									
Call options	746,667	746,667	S	233	(3)	(5)	-	2	(3)
					(3)	(5)	-	2	(3)

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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	-	(14)	(27)
Protected item: Part of nickel revenues with fixed prices	Nickel price decrease	-	14	27
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	(3)	(8)	(16)

h) Hedge accounting

	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	96	(145)	145	74
Cash flow hedge	(5)	312	14	8

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	45	28	34	4	45
					45	28	34	4	45

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	45	29	13
Protected item: Part of nickel revenues with fixed sales prices	Nickel price increase	n.a.	(29)	(13)

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.

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

	June 30, 2023		December 31, 2022	
	Cash and cash equivalents and investment	Derivatives	Cash and cash equivalents and investment	Derivatives
Aa1	36	-	32	-
Aa2	726	-	342	5
Aa3	190	-	239	-
A1	1,602	139	1,746	97
A2	736	296	938	145
A3	713	52	918	62
Baa1	-	-	-	-
Baa2	51	-	7	-
Ba2 (i)	798	426	411	174
Ba3 (i)	177	168	164	54
	5,029	1,081	4,797	538

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

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:

	Notes	June 30, 2023				December 31, 2022			
		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	4,983	-	-	4,983	4,736	-	-	4,736
Short-term investments	21	-	-	46	46	-	-	61	61
Derivative financial instruments	18	-	-	522	522	-	-	342	342
Accounts receivable	10	424	-	2,543	2,967	538	-	3,781	4,319
		5,407	-	3,111	8,518	5,274	-	4,184	9,458
Non-current									
Judicial deposits	26(c)	1,326	-	-	1,326	1,215	-	-	1,215
Restricted cash		108	-	-	108	77	-	-	77
Derivative financial instruments	18	-	-	559	559	-	-	196	196
Investments in equity securities	13	-	31	-	31	-	7	-	7
		1,434	31	559	2,024	1,292	7	196	1,495
Total of financial assets		6,841	31	3,670	10,542	6,566	7	4,380	10,953
Financial liabilities									
Current									
Suppliers and contractors	12	5,240	-	-	5,240	4,461	-	-	4,461
Derivative financial instruments	18	-	-	47	47	-	-	90	90
Loans, borrowings and leases	21	912	-	-	912	489	-	-	489
Liabilities related to the concession grant	13(a)	611	-	-	611	416	-	-	416
Other financial liabilities - Related parties	29	187	-	-	187	400	-	-	400
Contract liability and other financial liabilities		754	-	-	754	766	-	-	766
		7,704	-	47	7,751	6,532	-	90	6,622
Non-current									
Derivative financial instruments	18	-	-	98	98	-	-	186	186
Loans, borrowings and leases	21	13,025	-	-	13,025	12,223	-	-	12,223
Participative shareholders' debentures	20	-	-	2,528	2,528	-	-	2,725	2,725
Liabilities related to the concession grant	13(a)	2,673	-	-	2,673	2,554	-	-	2,554
Financial guarantees		-	-	-	-	-	-	103	103
		15,698	-	2,626	18,324	14,777	-	3,014	17,791
Total of financial liabilities		23,402	-	2,673	26,075	21,309	-	3,104	24,413

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

a) Hierarchy of fair value

	Notes	June 30, 2023				December 31, 2022			
		Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Financial assets									
Short-term investments	21	46	-	-	46	61	-	-	61
Derivative financial instruments	18	-	1,081	-	1,081	-	538	-	538
Accounts receivable	10	-	2,543	-	2,543	-	3,781	-	3,781
Investments in equity securities	13	-	31	-	31	-	7	-	7
		46	3,655	-	3,701	61	4,326	-	4,387
Financial liabilities									
Derivative financial instruments	18	-	145	-	145	-	276	-	276
Participative shareholders' debentures	20	-	2,528	-	2,528	-	2,725	-	2,725
Financial guarantees		-	-	-	-	-	103	-	103
		-	2,673	-	2,673	-	3,104	-	3,104

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

b) Fair value of loans and borrowings

	June 30, 2023		December 31, 2022	
	Carrying amount	Fair value	Carrying amount	Fair value
Quoted in the secondary market:				
Bonds		7,157	6,157	6,253
Debentures		227	233	225
Debt contracts in Brazil in:				
R\$, indexed to TJLP, TR, IPCA, IGP-M and CDI		276	278	278
R\$, with fixed interest		-	2	2
Debt contracts in the international market in:				
US\$, with variable and fixed interest		4,512	4,266	4,391
Other currencies, with variable interest		9	9	9
Other currencies, with fixed interest		80	89	91
		12,261	11,034	11,249

20. Participative shareholders' debentures

	Financial results						Liabilities December 31, 2022
	Average price (R\$)		Three-month period ended June 30,		Six-month period ended June 30,		
	2023	2022	2023	2022	2023	2022	
Participative shareholders' debentures	31.35	43.39	321	288	274	288	2,528

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

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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.

	June 30, 2023	December 31, 2022
Debt contracts	12,417	11,181
Leases	1,520	1,531
Total of loans, borrowings and leases	13,937	12,712
(-) Cash and cash equivalents	4,983	4,736
(-) Short-term investments (i)	46	61
Net debt	8,908	7,915

(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

	June 30, 2023	December 31, 2022
R\$	1,147	1,770
US\$	3,598	2,798
Other currencies	238	168
	4,983	4,736

c) Loans, borrowings, and leases

i) Total debt

	Average interest rate (i)	Current liabilities		Non-current liabilities	
		June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022
Quoted in the secondary market:					
US\$ Bonds	6.02%	-	-	7,157	6,157
R\$ Debentures (ii)	10.07%	95	47	132	186
Debt contracts in Brazil in (iii):					
R\$, indexed to TJLP, TR, IPCA, IGP-M and CDI	10.62%	50	46	226	232
R\$, with fixed interest	3.04%	-	2	-	-
Debt contracts in the international market in:					
US\$, with variable and fixed interest	5.37%	400	54	4,112	4,212
Other currencies, with variable interest	4.10%	-	-	9	9
Other currencies, with fixed interest	3.87%	12	11	68	78
Accrued charges		156	147	-	-
		713	307	11,704	10,874

(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

	Principal	Estimated future interest payments (i)
2023	39	387
2024	657	759
2025	451	733
2026	572	702
2027	1,700	609
Between 2028 and 2030	3,125	1,519
2031 onwards	5,717	2,173
Total	12,261	6,882

(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.

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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.

ii) Lease liabilities

	December 31, 2022	Additions and contract modifications	Payments (i)	Interest	Translation adjustment	June 30, 2023
Ports	690	-	(34)	12	6	674
Vessels	441	5	(32)	8	(2)	420
Pelletizing plants	222	12	(2)	5	18	255
Properties	105	-	(19)	2	8	96
Energy plants	52	-	(2)	2	-	52
Mining equipment	21	2	(3)	1	2	23
Total	1,531	19	(92)	30	32	1,520
Current liabilities	182					199
Non-current liabilities	1,349					1,321
Total	1,531					1,520

(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 US\$74 (2022: US\$143).

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.

	2023	2024	2025	2026	2027 onwards	Total	Average remaining term (years)	Discount rate
Ports	49	66	65	52	697	929	3 to 20	3% to 5%
Vessels	46	60	59	54	292	511	2 to 10	3% to 4%
Pelletizing plants	59	50	47	17	115	288	1 to 10	2% to 5%
Properties	25	28	18	16	38	125	1 to 10	1% to 6%
Energy plants	5	7	7	6	46	71	1 to 7	5% to 6%
Mining equipment	6	6	6	5	2	25	1 to 5	2% to 6%
Total	190	217	202	150	1,190	1,949		

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:

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

	December 31, 2022	Operating expense	Monetary and present value adjustments	Disbursements	Translation adjustment	June 30, 2023
Global Settlement for Brumadinho						
Payment obligations	882	-	42	(243)	67	748
Provision for socio-economic reparation and others	867	-	62	(238)	63	754
Provision for social and environmental reparation	777	-	51	(25)	65	868
	2,526	-	155	(506)	195	2,370
Commitments						
Tailings containment and geotechnical safety	559	-	30	(67)	45	567
Individual indemnification	45	82	2	(32)	3	100
Other commitments	182	58	1	(16)	14	239
	786	140	33	(115)	62	906
Liability	3,312	140	188	(621)	257	3,276
Current liability	944					1,201
Non-current liability	2,368					2,075
Liability	3,312					3,276
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 US\$242 (2022: US\$277).

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.

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

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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 US\$208 thousand (R\$1 million) 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 US\$374 (R\$1,800 million). In another proceeding filed by foreign funds, the Claimants initially estimated the amount of the alleged losses would be approximately US\$809 (R\$3,900 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 US\$56, 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.

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.

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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 US\$18 (R\$86 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 US\$11 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.

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

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

b) Changes on the provisions in the period

	December 31, 2022	Monetary and present value adjustments	Disbursements	Translation adjustments	June 30, 2023
Renova Foundation reparation and compensation programs	3,124	128	(108)	257	3,401
De-characterization of the Germano dam	197	5	-	16	218
Liabilities	3,321	133	(108)	273	3,619
Current liabilities	1,911				1,044
Non-current liabilities	1,410				2,575
Liabilities	3,321				3,619
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 US\$1,078 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 US\$699 (R\$3,371 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 US\$32 billion (R\$155 billion) (the effect for Vale would be 50% of this amount), which has been suspended from the date of ratification of the TacGov Agreement.

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 US\$32 billion (R\$155 billion) claim.

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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 US\$32 billion (R\$155 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.

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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 US\$37 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.

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:

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

	2023	2022
Balance at January 1,	3,378	3,523
Additional provision	-	37
Disbursements	(173)	(152)
Present value valuation	179	(104)
Translation adjustment	277	240
Balance at June 30,	3,661	3,544

	June 30, 2023	December 31, 2022
Current liabilities	502	357
Non-current liabilities	3,159	3,021
Liabilities	3,661	3,378

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 US\$50 for the period ended June 30, 2023 (2022: US\$161). The Company is working on legal and technical measures to resume all operations at full capacity.

b) Asset retirement obligations and environmental obligations

Liability by geographical area	Liability		Discount rate		Cash flow maturity	
	June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022
Brazil	2,035	1,788	5.46%	6.20%	2096	2096
Canada	1,649	1,683	1.35% - 1.61%	1.11%	2151	2148
Oman	114	114	3.25%	3.90%	2035	2035
Indonesia	87	73	3.76%	4.33%	2062	2061
Other regions	139	145	1.70% - 2.45%	1.84% - 2.00%	-	-
	4,024	3,803				

Provision changes during the period

	2023			2022		
	Asset retirement obligations	Environmental obligations	Total	Asset retirement obligations	Environmental obligations	Total
Balance on January 1,	3,466	337	3,803	4,283	297	4,580
Adjustment to present value	64	1	65	26	1	27
Disbursements	(61)	(51)	(112)	(42)	(28)	(70)
Revisions on projected cash flows	(7)	80	73	(1,145)	(6)	(1,151)
Transfer to assets held for sale	-	-	-	(49)	(2)	(51)
Translation adjustment	168	27	195	33	18	51
Balance on June 30,	3,630	394	4,024	3,106	280	3,386

	June 30, 2023			December 31, 2022		
	Asset retirement obligations	Environmental obligations	Total	Asset retirement obligations	Environmental obligations	Total
Current	243	154	397	210	94	304
Non-current	3,387	240	3,627	3,256	243	3,499
Liability	3,630	394	4,024	3,466	337	3,803

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

Financial guarantees

The Company has issued letters of credit and surety bonds for US\$891 as of June 30, 2023 (December 31, 2022: US\$644), 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		Non-current liabilities	
		June 30, 2023	December 31, 2022	June 30, 2023	December 31, 2022
Provisions for litigation	26	121	106	1,347	1,186
Employee post retirement obligation	27	68	66	1,353	1,260
Payroll, related charges and other remunerations		660	864	-	-
		849	1,036	2,700	2,446

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 US\$555 (2022: US\$498). 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.

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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.

	Tax litigation	Civil litigation	Labor litigation	Environmental litigation	Total of litigation provision
Balance at December 31, 2022	576	291	411	14	1,292
Additions and reversals, net	3	27	51	2	83
Payments	(3)	(23)	(39)	(3)	(68)
Indexation and interest	18	20	11	2	51
Translation adjustment	49	23	37	1	110
Balance at June 30, 2023	643	338	471	16	1,468
Current liabilities	20	24	75	2	121
Non-current liabilities	623	314	396	14	1,347
Balance at June 30, 2023	643	338	471	16	1,468
Balance at December 31, 2021	456	284	358	7	1,105
Additions and reversals, net	2	24	32	6	64
Payments	(1)	(26)	(25)	-	(52)
Indexation and interest	14	28	14	-	56
Translation adjustment	29	15	25	1	70
Discontinued operations	(1)	(7)	(2)	-	(10)
Balance at June 30, 2022	499	318	402	14	1,233
Current liabilities	15	23	64	6	108
Non-current liabilities	484	295	338	8	1,125
Balance at June 30, 2022	499	318	402	14	1,233

b) Contingent liabilities

	June 30, 2023	December 31, 2022
Tax litigations	6,892	6,590
Civil litigations	1,289	1,270
Labor litigations	492	569
Environmental litigations	1,269	1,102
Total	9,942	9,531

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

c) Judicial deposits

	June 30, 2023	December 31, 2022
Tax litigations	1,052	945
Civil litigations	116	123
Labor litigations	142	134
Environmental litigations	16	13
Total	1,326	1,215

d) Guarantees contracted for legal proceedings

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

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

27. Employee benefits

a) Employee post retirement obligation

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

	June 30, 2023			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	1,114	-	-	919	-	-
Interest income	53	-	-	84	-	-
Changes on asset ceiling	350	-	-	65	-	-
Translation adjustment	85	-	-	46	-	-
Balance at end of the period	1,602	-	-	1,114	-	-
Amount recognized in the statement of financial position						
Present value of actuarial liabilities	(5,406)	(643)	(1,132)	(5,142)	(608)	(1,057)
Fair value of assets	7,103	354	-	6,340	339	-
Effect of the asset ceiling	(1,602)	-	-	(1,114)	-	-
Assets (liabilities)	95	(289)	(1,132)	84	(269)	(1,057)
Current liabilities	-	(13)	(55)	-	(10)	(56)
Non-current assets (liabilities)	95	(276)	(1,077)	84	(259)	(1,001)
Assets (liabilities)	95	(289)	(1,132)	84	(269)	(1,057)

(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.

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

28. Equity

a) Share capital

As at June 30, 2023, the share capital was US\$61,614 corresponding to 4,539,007,580 shares issued and fully paid without par value. The Board of Directors may, regardless of changes to by-laws, approve the issue and 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

b) Cancelation of treasury shares

	Number of canceled shares	Carrying amount
Cancelation approved on March 2, 2023 (i)	239,881,683	4,164
Six-month period ended June 30, 2023	239,881,683	4,164
Cancelation approved on February 24, 2022 (i)	133,418,347	2,830
Six-month period ended June 30, 2022	133,418,347	2,830

(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 US\$1,569, of which US\$1,132 is part of the minimum mandatory remuneration, recorded as a liability for the year ended December 31, 2022, and US\$437 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 US\$1,744, 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 US\$254, 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 US\$3,500 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.

Notes to the Interim Financial Statements

Expressed in millions of United States dollar, unless otherwise stated

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	1,102	527
Acquired by wholly owned subsidiaries	67,979,481	38,027,798	1,022	606
	141,158,533	70,443,798	2,124	1,133
Shares buyback program for 470,000,000 shares (ii)				
Acquired by Parent	-	81,855,600	-	1,501
Acquired by wholly owned subsidiaries	-	96,959,900	-	1,750
	-	178,815,500	-	3,251
Shares buyback program	141,158,533	249,259,298	2,124	4,384

(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.

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.

a) Transactions with related parties

	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	-	-	-	126	-	4
Aliança Geração de Energia S.A.	-	(26)	-	-	(28)	-
Pelletizing companies (i)	-	(45)	(11)	-	(98)	(11)
MRS Logística S.A.	-	(114)	-	(5)	(111)	-
Norte Energia S.A.	-	(33)	-	-	(32)	-
Other	11	(2)	-	19	-	(1)
	11	(220)	(11)	140	(269)	(8)
Associates						
VLI	76	(5)	-	83	(7)	-
Other	-	-	-	-	-	2
	76	(5)	-	83	(7)	2
Major shareholders						
Bradesco	-	-	197	-	-	(103)
Mitsui	85	-	-	79	-	-
	85	-	197	79	-	(103)
Total	172	(225)	186	302	(276)	(109)

(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 United States dollar, unless otherwise stated

	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	93	-	-	255	-	(2)
Aliança Geração de Energia S.A.	-	(52)	-	-	(53)	-
Pelletizing companies (i)	-	(88)	(25)	-	(168)	(20)
MRS Logística S.A.	-	(178)	-	1	(178)	-
Norte Energia S.A.	-	(60)	-	-	(63)	-
Other	16	(5)	-	19	(3)	(1)
	109	(383)	(25)	275	(465)	(23)
Associates						
VLI	145	(11)	(1)	146	(12)	(1)
	145	(11)	(1)	146	(12)	(1)
Major shareholders						
Bradesco	-	-	269	-	-	182
Mitsui	130	-	-	157	-	-
	130	-	269	157	-	182
Total	384	(394)	243	578	(477)	158

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

b) Outstanding balances with related parties

	June 30, 2023			December 31, 2022		
	Cash and cash equivalents	Accounts receivable	Dividends receivable and other assets	Cash and cash equivalents	Accounts receivable	Dividends receivable and other assets
Joint Ventures						
Companhia Siderúrgica do Pecém	-	-	-	-	91	17
Pelletizing companies (i)	-	-	18	-	-	25
MRS Logística S.A.	-	-	26	-	-	25
Other	-	5	15	-	4	50
	-	5	59	-	95	117
Associates						
VLI	-	94	-	-	14	-
Other	-	-	2	-	-	1
	-	94	2	-	14	1
Major shareholders						
Bradesco	387	-	385	335	-	154
Banco do Brasil	35	-	-	30	-	-
Mitsui	-	3	-	-	89	-
	422	3	385	365	89	154
Pension plan	-	16	-	-	13	-
Total	422	118	446	365	211	272

(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 United States dollar, unless otherwise stated

	June 30, 2023		Liabilities December 31, 2022	
	Supplier and contractors	Financial instruments and other liabilities	Supplier and contractors	Financial instruments and other liabilities
Joint Ventures				
Pelletizing companies (i)	81	187	63	400
MRS Logística S.A.	34	-	57	-
Other	34	-	31	-
	149	187	151	400
Associates				
VLI	6	156	5	53
Other	1	-	3	-
	7	156	8	53
Major shareholders				
Bradesco	-	23	-	75
Mitsui	-	-	1	-
	-	23	1	75
Pension plan	13	-	11	-
Total	169	366	171	528

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