

Vale's performance in 1Q24

Rio de Janeiro, April 24th, 2024. *"We got off to a strong start in 2024, fueled by our commitment to operational excellence. In the Iron Ore Solutions business, our iron ore sales have increased by 15% year on year, driven by robust production – the highest Q1 output since 2019. We're also making progress on our growth projects, which will help improve our product portfolio's quality and flexibility. Within the Energy Transition Metals business, improved performance at the Salobo complex, coupled with the Salobo 3 plant ramp-up, drove the increase in copper production and sales volumes. Encouraging results were also seen in our Canadian nickel operations, with higher availability of own sourced ore. Aligned with our commitment to society, we're proud to have achieved 100% renewable energy consumption in Brazil, two years ahead of schedule. As we continue on our journey, we remain committed to building an even greater Vale."*, commented Eduardo Bartolomeo, Chief Executive Officer.

Selected financial indicators

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Net operating revenues	8,459	8,434	0%	13,054	-35%
Total costs and expenses (ex-Brumadinho and de-characterization of dams) ¹	(5,897)	(5,403)	9%	(7,278)	-19%
Expenses related to Brumadinho event and de-characterization of dams	(41)	(111)	-63%	(396)	-90%
Adjusted EBIT	2,724	3,058	-11%	5,599	-51%
Adjusted EBIT margin (%)	32%	36%	-4 p.p.	43%	-11 p.p.
Adjusted EBITDA	3,438	3,714	-7%	6,454	-47%
Adjusted EBITDA margin (%)	41%	44%	-3 p.p.	49%	-8 p.p.
Proforma adjusted EBITDA (incl. associates & JVs EBITDA)^{2,3,4}	3,479	3,825	-9%	6,850	-49%
Proforma adjusted EBITDA (excl. associates & JVs EBITDA)^{2,3,4}	3,279	3,687	-11%	6,730	-51%
Net income attributable to Vale's shareholders	1,679	1,837	-9%	2,418	-31%
Net debt ⁵	10,105	8,226	23%	9,560	6%
Expanded net debt	16,388	14,359	14%	16,164	1%
Capital expenditures	1,395	1,130	23%	2,118	-34%

¹ Includes adjustment of US\$ 67 million in 1Q24, US\$ 35 million in 4Q23 and US\$ 82 million in 4Q23, to reflect the performance of the streaming transactions at market price.

² Excluding expenses related to Brumadinho.

³ Starting from 1Q24 the EBITDA will be reported including the EBITDA proportionate from associates and JVs and the previous periods were restated. Previously, the EBITDA reflected solely the dividends received from associates and JVs. For more information, please refer to the Adjusted EBITDA section.

⁴ Including dividends received from associates & JVs.

⁵ Including leases (IFRS 16).

Highlights

Business Results

- Proforma adjusted EBITDA (including associates and JVs proportionate EBITDA in the amount of US\$ 203 million) of US\$ 3.5 billion in Q1, 9% lower y/y and 49% lower q/q, mainly as a result of weaker iron ore fines realized prices. Q/q variation was also impacted by seasonally lower sales.
- Iron ore sales increased 8.2 Mt (+15%) and while copper sales increased 14.1 kt (+22%) y/y, both supported by continued operational improvements.
- Iron ore fines C1 cash cost ex-3rd party purchases was slightly lower y/y, reaching US\$ 23.5/t in Q1, despite the negative effect of the BRL appreciation.
- Free Cash Flow generation totaled US\$ 2.0 billion in Q1, representing an EBITDA to cash-conversion of 57%, positively impacted by strong collection from Q4 sales.

Disciplined capital allocation

- Capital expenditures of US\$ 1.4 billion in Q1, US\$ 0.3 billion higher y/y, as expected. The Serra Sul 120 Mtpy project estimated CAPEX was revised upwards to US\$ 2.8 billion, primarily driven by higher input and services costs higher input and services sourcing costs driven by a combined effect of the inflationary economic scenario since the project's approval, and the delay of almost 18 months in the issuance of the project's installation license. The project's start-up in 2H26 and Vale's CAPEX guidance for 2024 of around US\$ 6.5 billion remain unchanged.
- Gross debt and leases of US\$ 14.7 billion as of March 31st, 2024, US\$ 0.8 billion higher q/q mainly as a result of new loans raised by Vale S.A. and Vale Base Metals, within our liability management plan.
- Expanded net debt of US\$ 16.4 billion as of March 31st, 2024, US\$ 0.2 billion higher q/q, mainly driven by the increase in net debt. Vale's expanded net debt target remains at US\$ 10-20 billion.

Value creation and distribution

- Allocation of US\$ 275 million as part of the 4th buyback program in the quarter. As of the date of this report, the 4th buyback program was 17% complete¹, with 29.9 million shares repurchased.

Recent developments

- Agreement to acquire the entire 45%-stake held by Cemig Geração e Transmissão S.A. in Aliança Geração de Energia S.A. ("Aliança Energia") for R\$ 2.7 billion. Upon closing, we will hold 100% of Aliança Energia's shares. Aliança Energia's power generation asset portfolio consists of seven hydroelectric power plants and three wind farms in Brazil, comprising an installed capacity of 1,438 MW and an average physical guarantee of 755 MW. This transaction aligns with Vale's strategy to have an energy matrix based on renewable sources in Brazil and supports its commitment to decarbonize operations at competitive costs.

Focusing and strengthening the core

• Gaining momentum on Iron Ore Solutions:

- The US Government's Department of Energy has selected Vale USA to begin award negotiations for Bipartisan Infrastructure Law and Inflation Reduction Act funding. Vale aims for up to US\$ 282.9 million to develop an iron ore briquette plant customized for the direct reduction route in the US, with plans for similar facilities in Brazil and globally. The briquettes technology was developed by Vale in Brazil to the support global steel industry and the first plant in the world was inaugurated in 2023 in Vitória, Brazil.

• Building a unique Energy Transition Metals vehicle:

- Last week, the Committee on Foreign Investment in the United States (CFIUS) granted the final regulatory approval for the Energy Transition Metals partnership. The transaction closing is expected in the upcoming weeks.
- The definitive agreement on the PTVI divestment was signed in February. As per the agreement, Vale Canada Ltd ("VCL") will receive approximately US\$ 160 million² in cash upon closing of the transaction, which is expected to happen before the end of 2024, after the fulfillment of customary closing conditions. Upon completion, VCL will hold 33.9% of PTVI.

Promoting sustainable mining

- Vale has achieved 100% renewable electricity consumption in Brazil two years ahead of schedule, which was 2025. With that, the company has zeroed its indirect CO₂ emissions in the country. Also, it remains committed to achieving 100% renewable electricity consumption in its global operations by 2030, from the current 88.5%.

¹ Related to the October 2023 4th buyback program for a total of 150 million shares.

² Considering IDR 15,600/USD and agreed share price of IDR 3,050/share.

- The Peneirinha dam, located in the Vargem Grande complex, was removed from the emergency level by the National Mining Agency in March. The structure received a positive Declaration of Stability Condition (DCE) certifying its safety. This is the Company's 12th dam to leave the emergency level in the last two years.
- Vale's ESG Risk Rating, assessed by Sustainalytics, improved from 35.3 last year to 31.2 in April, in further recognition of our efforts to build a safer and more sustainable company.

Reparation

- The Brumadinho Integral Reparation Agreement continues to progress with 69% of the agreed-upon commitments completed and in accordance with the settlement deadlines.
- In the Mariana reparation, around R\$ 36 billion has been spent on remediation and compensation, and approximately 85% of resettlement cases are now completed.

Adjusted EBITDA

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Net operating revenues	8,459	8,434	0%	13,054	-35%
COGS	(5,367)	(4,949)	8%	(6,891)	-22%
SG&A	(140)	(118)	19%	(146)	-4%
Research and development	(156)	(139)	12%	(231)	-32%
Pre-operating and stoppage expenses	(92)	(124)	-26%	(108)	-15%
Expenses related to Brumadinho & de-characterization of dams	(41)	(111)	-63%	(396)	-90%
Other operational expenses ¹	(142)	(73)	95%	98	n.a.
EBITDA from associates and JVs	203	138	47%	219	-7%
Adjusted EBIT	2,724	3,058	-11%	5,599	-51%
Depreciation, amortization & depletion	714	656	9%	855	-16%
Adjusted EBITDA	3,438	3,714	-7%	6,454	-47%
Proforma Adjusted EBITDA (incl. associates & JVs EBITDA)^{2,3}	3,479	3,825	-9%	6,850	-49%
Proforma Adjusted EBITDA (excl. associates & JVs EBITDA)^{2,3,4}	3,279	3,687	-11%	6,730	-51%

¹ Includes adjustment of US\$ 67 million in 1Q24, US\$ 35 million in 1Q23 and US\$ 82 million in 4Q23, to reflect the performance of the streaming transactions at market price.

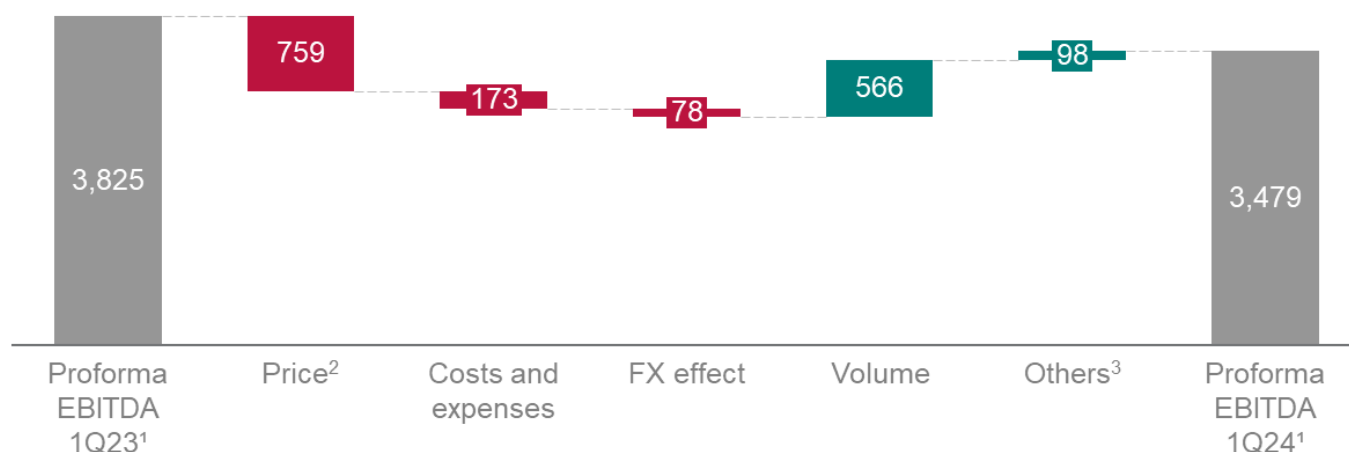
² Excluding expenses related to Brumadinho.

³ Starting from 1Q24 the EBITDA will be reported including the EBITDA proportionate from associates and JVs and the previous periods were restated. Previously, the EBITDA reflected solely the dividends received from associates and JVs.

⁴ Including dividends received from associates & JVs.

Proforma EBITDA (including associates and JVs EBITDA) – US\$ million, 1Q24 vs. 1Q23

US\$ million



¹ Excluding Brumadinho expenses.

² Including adjustments of provisional pricing.

³ Including by-products (US\$ 33 million) and Associates and JV's EBITDA (US\$ 65 million)

Proforma EBITDA - Revised Reporting Practices:

Following international reporting practices, Vale changed its Proforma EBITDA definition to include the “EBITDA from associates and joint ventures”, which is a measure of their “equity results” excluding: (i) net finance costs; (ii) depreciation, depletion, and amortization; (iii) taxation and (iv) impairments. The comparative information in these interim financial statements was restated to reflect this change in the adjusted EBITDA definition.

Additionally, as a result of the reorganization of assets and the governance established for the Energy Transition Metals segment, the “Other” segment was reorganized for a better allocation of direct effects on the Iron Ore Solutions and Energy Transition Metals businesses. These effects were allocated to each segment starting from the period ended March 31st, 2024.

For more information, access Vale’s 1Q24 Financial Statements on our website.

Sales & price realization

Volume sold - Minerals and metals

'000 metric tons	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Iron ore	63,827	55,659	15%	90,328	-29%
Iron ore fines	52,546	45,861	15%	77,885	-33%
ROM	2,056	1,665	23%	2,158	-5%
Pellets	9,225	8,133	13%	10,285	-10%
Nickel	33	40	-18%	48	-31%
Copper ¹	77	63	22%	98	-21%
Gold as by-product ('000 oz) ¹	97	72	35%	125	-22%
Silver as by-product ('000 oz) ¹	433	406	7%	513	-16%
PGMs ('000 oz)	73	74	-2%	59	24%
Cobalt (metric ton)	465	621	-25%	492	-5%

¹ Including sales originated from both nickel and copper operations.

Average realized prices

US\$/ton	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Iron ore - 62% Fe reference price	123.6	125.5	-2%	128.3	-4%
Iron ore fines Vale CFR/FOB realized price	100.7	108.6	-7%	118.3	-15%
Pellets CFR/FOB (wmt)	171.9	162.5	6%	163.4	5%
Nickel	16,848	25,260	-33%	18,420	-9%
Copper ²	7,632	9,298	-18%	7,867	-3%
Gold (US\$/oz) ¹²	2,079	1,845	13%	2,125	-2%
Silver (US\$/oz) ²	23.0	22.1	4%	24.6	-7%
Cobalt (US\$/t) ¹	30,502	32,830	-7%	35,438	-14%

¹ Prices presented above were adjusted to reflect the market prices of products delivered related to the streaming transactions.

² Including sales originated from both nickel and copper operations.

Costs

COGS by business segment

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Iron Ore Solutions	4,006	3,290	22%	5,092	-21%
Energy Transition Metals	1,360	1,620	-16%	1,735	-22%
Others	-	39	-100%	64	-100%
Total COGS¹	5,367	4,949	8%	6,891	-22%
Depreciation	678	613	11%	819	-17%
COGS, ex-depreciation	4,689	4,336	8%	6,072	-23%

¹ COGS currency exposure in 1Q24 was as follows: 52.0% BRL, 42.0% USD, 5.8% CAD and 0.2% Other currencies.

Expenses

Operating expenses

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
SG&A	140	118	19%	146	-4%
Administrative	120	100	20%	121	-1%
Personnel	56	45	24%	48	17%
Services	32	28	14%	41	-22%
Depreciation	10	11	-9%	10	-
Others	22	16	38%	22	-
Selling	20	18	11%	25	-20%
R&D	156	139	12%	231	-32%
Pre-operating and stoppage expenses	92	124	-26%	108	-15%
Expenses related to Brumadinho and de-characterization of dams	41	111	-63%	396	-90%
Other operating expenses	209	108	94%	(16)	n.a.
Total operating expenses	638	600	6%	865	-26%
Depreciation	36	43	-16%	35	3%
Operating expenses, ex-depreciation	602	557	8%	830	-27%

Brumadinho

Impact of Brumadinho and De-characterization in 1Q24

<i>US\$ million</i>	Provisions balance 31 dec23	EBITDA impact ²	Payments	FX and other adjustments ³	Provisions balance 31 mar24
De-characterization	3,451	(61)	(119)	(60)	3,211
Agreements & donations ¹	3,060	(6)	(135)	(25)	2,894
Total Provisions	6,511	(67)	(254)	(85)	6,105
Incurring Expenses	-	108	(108)	-	-
Total	6,511	41	(362)	(85)	6,105

¹ Includes Integral Reparation Agreement, individual, labor and emergency indemnifications, tailing removal and containment works.

² Includes the revision of estimates for provisions and incurred expenses, including discount rate effect.

³ Includes foreign exchange, present value and other adjustments.

Impact of Brumadinho and De-characterization from 2019 to 1Q24

<i>US\$ million</i>	EBITDA impact	Payments	PV & FX adjust ²	Provisions balance 31 mar24
De-characterization	5,130	(1,715)	(204)	3,211
Agreements & donations ¹	9,113	(6,467)	248	2,894
Total Provisions	14,243	(8,182)	44	6,105
Incurring expenses	3,087	(3,087)	-	-
Others	180	(178)	(2)	-
Total	17,510	(11,447)	42	6,105

¹ Includes Integral Reparation Agreement, individual, labor and emergency indemnifications, tailing removal and containment works.

² Includes foreign exchange, present value and other adjustments.

Cash outflow of Brumadinho & De-characterization commitments^{1,2}:

<i>US\$ billion</i>	Disbursed from 2019 to 1Q24	2Q24 to 4Q24	2025	2026	2027	Yearly average 2028-2035 ³
De-characterization	1.7	0.5	0.6	0.6	0.5	0.3
Integral Reparation Agreement & other reparation provisions	6.4	0.9	1.0	0.7	0.3	0.1 ⁴
Incurring expenses	3.1	0.4	0.4	0.4	0.3	0.4 ⁵
Total	11.2	1.8	2.0	1.7	1.1	-

¹ Estimate cash outflow for 2024-2035 period, given BRL-USD exchange rates of 4.9962.

² Amounts stated without discount to present value, net of judicial deposits and inflation adjustments.

³ Estimate annual average cash flow for De-characterization provisions in the 2028-2035 period is US\$ 265 million per year.

⁴ Disbursements related to the Integral Reparation Agreement ending in 2030.

⁵ Disbursements related to incurred expenses ending in 2028.

Net income

Reconciliation of proforma EBITDA to net income

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Proforma Adjusted EBITDA	3,479	3,825	-9%	6,850	-49%
Brumadinho and de-characterization of dams	(41)	(111)	-63%	(396)	-90%
Adjusted EBITDA	3,438	3,714	-7%	6,454	-47%
Impairment reversal (impairment and disposals) of non-current assets, net ¹	(73)	(39)	87%	(203)	-64%
EBITDA from associates and JVs	(203)	(138)	47%	(219)	-7%
Equity results and net income (loss) attributable to noncontrolling interests	116	(96)	n.a.	(1,176)	n.a.
Financial results	(437)	(530)	-18%	(874)	-50%
Income taxes	(448)	(418)	7%	(709)	-37%
Depreciation, depletion & amortization	(714)	(656)	9%	(855)	-16%
Net income attributable to Vale's shareholders	1,679	1,837	-9%	2,418	-31%

¹ Includes adjustment of US\$ 67 million in 1Q24, US\$ 35 million in 1Q23 and US\$ 82 million in 4Q23, to reflect the performance of the streaming transactions at market price.

Financial results

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Financial expenses, of which:	(339)	(320)	6%	(380)	-11%
Gross interest	(171)	(180)	-5%	(190)	-10%
Capitalization of interest	5	5	-	5	-
Others	(145)	(107)	36%	(163)	-11%
Financial expenses (REFIS)	(28)	(38)	-26%	(32)	-13%
Financial income	109	121	-10%	105	4%
Shareholder Debentures	164	(47)	n.a.	(483)	n.a.
Derivatives ¹	2	192	-99%	200	-99%
Currency and interest rate swaps	(13)	216	n.a.	218	n.a.
Others (commodities, etc)	15	(24)	n.a.	(18)	n.a.
Foreign exchange and monetary variation	(373)	(476)	-22%	(316)	18%
Financial result, net	(437)	(530)	-18%	(874)	-50%

¹ The cash effect of the derivatives was a gain of US\$ 43 million in 1Q24.

Main factors that affected net income in 1Q24 vs. 1Q23

	US\$ million	Comments
1Q23 Net income attributable to Vale's shareholders	1,837	
Changes to:		
Proforma EBITDA	(346)	Mainly due to lower iron ore fines, nickel and copper realized prices, partially offset by higher iron ore and copper sales volumes.
Brumadinho and de-characterization of dams	70	
Impairment & disposal of non-current assets	(34)	
EBITDA from associates and JVs	(65)	
Equity results and net income (loss) attributable to noncontrolling interests	212	Absence of 1Q23 impairment impacts.
Financial results	93	Positive effect from mark-to-market of shareholders' debentures and gain on exchange variation.
Income taxes	(30)	
Depreciation, depletion & amortization	(58)	
1Q24 Net income attributable to Vale's shareholders	1,679	

CAPEX

Growth and sustaining projects execution

US\$ million	1Q24	%	1Q23	%	Δ y/y	4Q23	%	Δ q/q
Growth projects	367	26.3	326	28.8	13%	481	22.7	-24%
Iron Ore Solutions	320	22.9	236	20.9	36%	374	17.7	-14%
Energy Transition Metals	39	2.8	72	6.4	-46%	95	4.5	-59%
Nickel	32	2.3	20	1.8	60%	84	4.0	-62%
Copper	7	0.5	52	4.6	-87%	11	0.5	-36%
Energy and others	8	0.6	18	1.6	-56%	12	0.6	-33%
Sustaining projects	1,028	73.7	804	71.2	28%	1,637	77.3	-37%
Iron Ore Solutions	681	48.8	512	45.3	33%	946	44.7	-28%
Energy Transition Metals	328	23.5	263	23.3	25%	664	31.4	-51%
Nickel	274	19.6	204	18.1	34%	520	24.6	-47%
Copper	54	3.9	59	5.2	-8%	144	6.8	-63%
Energy and others	19	1.4	29	2.6	-34%	27	1.3	-30%
Total	1,395	100.0	1,130	100.0	23%	2,118	100.0	-34%

Growth projects

Investments in growth projects totaled US\$ 367 million in Q1, US\$ 41 million higher y/y, driven by higher expenditures in the execution of Serra Sul 120 Mtpy, Capanema and Onça Puma 2nd Furnace projects, as the construction of these projects advance.

The Serra Sul 120 Mtpy project estimated CAPEX has been revised upwards to US\$ 2.8 billion (from US\$ 1.5 billion) due to: (i) higher input and services sourcing costs, driven by a combined effect of the inflationary economic scenario since the project's approval, and the delay of almost 18 months in the issuance of the installation license, (ii) engineering design changes in the plant's processing lines, and (iii) contingency budget review. The project's start-up by 2H26 and capacity addition of 20 Mtpy are unchanged.

Growth projects progress indicator³

Projects	Capex 1Q24	Financial progress ¹	Physical progress	Comments
Iron Ore Solutions				
Northern System 240 Mtpy				
Capacity: 10 Mtpy Start-up: 1H23 Capex: US\$ 772 MM	30	87%	98% ²	On the railroad, the bridge over the Jacundá river has been completed. At the port, the operating approvals are expected in Q2. Load tests at the loading silo of the mine have been re-programmed for Q2.
Serra Sul 120 Mtpy³				
Capacity: 20 Mtpy Start-up: 2H26 Capex: US\$ 2,844 MM	125	37%	68%	Assembly of the semi-mobile crusher at the mine and the conveyor belts in the West Corridor have started. Civil construction of the long-distance conveyor belt has begun with field assembly in March. At the plant, concrete is being laid according to plan.
Capanema's Maximization				
Capacity: 18 Mtpy Start-up: 1H25 Capex: US\$ 913 MM	89	53%	74%	The assembly of equipment, crushing machinery, structures and conveyor belts is on schedule to be ready by Q3. The project began pre-commissioning activities with the provisional energization of the substation and secondary circuit equipment.
Briquettes Tubarão				
Capacity: 6 Mtpy Start-up: 4Q23 (Plant 1) 2H24 (Plant 2) Capex: Under review ⁴	24	-	98%	Plant 2 is commissioning the drying and mixing processes, 2 of the 8 briquette processing steps and start-up is now expected by mid-year.
Energy Transition Metals				
Onça Puma 2nd Furnace				
Capacity: 12-15 ktpy Start-up: 2H25 Capex: US\$ 555 MM	33	24%	36%	The demolition of older structures was concluded. Assembly of the second furnace, detailed engineering, and procurement of equipment is ongoing.

¹ CAPEX disbursement until end of 1Q24 vs. CAPEX expected.

² Considering physical progress of mine, plant and logistics.

³ The project consists of increasing the S11D mine-plant capacity by 20 Mtpy.

⁴ The project scope is being revised in order to improve standards and operational synergies with the existing assets.

³ Pre-Operating expenses included in the total estimated capex information, according to the approvals from Vale's Board of Directors.

Sustaining projects

Investments in sustaining our operations totaled US\$ 1.028 billion in Q1, US\$ 224 million higher y/y, mainly as a result of higher disbursements in the Voisey's Bay Mine Extension (VBME) project and higher investments in the enhancement of operations, including: (i) Compact Crushing at S11D; and (ii) adaptations in Carajás' Plant 1 for 100% dry processing of ROM.

CAPEX for the VBME project increase by US\$ 0.2 billion to its estimated CAPEX mainly to address engineering adjustments and to improve mine development execution. The project is in an advanced stage of execution, with the Reid Brook mine and the main surface facilities fully operational and the full mine assets at Eastern Deeps expected to be in operation by the end of 2024.

Sustaining projects progress indicator⁴

Projects	Capex 1Q24	Financial progress ¹	Physical progress	Comments
Iron Ore Solutions				
Compact Crushing S11D Capacity: 50 Mtpy Start-up: 2H26 Capex: US\$ 755 MM	46	22%	33%	Concrete has been laid for the first floor of the building of the primary crushing structure. Civil construction for the second crusher has started. Work on the conveyor belts of the Western Corridor expected to be completed in 1H24.
N3 – Serra Norte Capacity: 6 Mtpy Start-up: 2H26 Capex: US\$ 84 MM	1	18%	18%	The Installation License and Vegetation Suppression Authorization are pending, and start-up was reviewed from 1H26 to 2H26.
VGR 1 plant revamp³ Capacity: 17 Mtpy Start-up: 2H24 Capex: US\$ 67 MM	10	49%	89%	The Vargem Grande integrated plan (for the 3 projects ³) has been issued. With the completion of all the foundation piles, civil works are almost complete.
Energy Transition Metals				
Voisey's Bay Mine Extension Capacity: 45 ktpy (Ni) and 20 ktpy (Cu) Start-up: 1H21 ² Capex: US\$ 2,940 MM	121	88%	94%	The Reid Brook Powerhouse, the final surface asset to be completed, is 70% complete and is expected to be running by the end of Q3. In the underground portion of the expansion, the scope in Reid Brook is complete. The mine development at Eastern Deeps is concluded. Construction of the Bulk Material Handling system, dewatering and support facilities is ongoing. The full mine assets at Eastern Deeps are expected to be in operation by the end of 2024.

¹ CAPEX disbursement until end of 1Q24 vs. CAPEX expected.

² In 2Q21, Vale achieved the first ore production of Reid Brook deposit, the first of two underground mines to be developed in the project. Eastern Deeps, the second deposit, has started to extract development ore from the deposit and is continuing its scheduled production ramp-up.

³ VGR 1 is a program made up of three simultaneous projects, VGR I Waste Containment System, Water Adequacy and the VGR I Revamp, all aimed at boosting the recovery of production capacity. The progress data provided focuses on the program's main project, the VGR I Waste Containment System.

Sustaining capex by type - 1Q24

US\$ million	Iron Ore Solutions	Energy Transition Materials	Energy and others	Total
Enhancement of operations	366	145	2	513
Replacement projects	9	133	-	142
Filtration and dry stacking projects	28	-	-	28
Dam management	42	5	-	47
Other investments in dams and waste dumps	53	9	-	62
Health and Safety	60	26	3	89
Social investments and environmental protection	65	2	-	68
Administrative & Others	57	8	14	79
Total	681	328	19	1,028

⁴ Pre-Operating expenses included in the total estimated capex information, according to the approvals from Vale's Board of Directors

Free cash flow

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Proforma EBITDA	3,479	3,825	-9%	6,850	-49%
Working capital	1,468	739	99%	(852)	n.a.
Brumadinho and de-characterization expenses	(362)	(313)	16%	(668)	-46%
Income taxes and REFIS	(506)	(337)	50%	(259)	95%
Capex	(1,395)	(1,130)	23%	(2,118)	-34%
associates & JVs	(203)	(138)	47%	(219)	-7%
Others	(481)	(362)	33%	(221)	118%
Free Cash Flow	2,000	2,284	-12%	2,513	-20%
Cash management and others	(1,795)	(2,364)	-24%	(2,181)	-18%
Increase/Decrease in cash & cash equivalents	205	(80)	n.a.	332	-38%

Free Cash Flow generation reached US\$ 2.0 billion in 1Q24, US\$ 284 million lower y/y, mainly explained by a combination of lower Proforma EBITDA (US\$ 346 million lower y/y), higher capex (US\$ 265 million higher y/y) and positive working capital (US\$ 729 million higher y/y).

In the quarter, the positive working capital variation is largely explained by the strong cash collection from 4Q23 sales and extension of supplier payment terms, which were partially offset by inventory build-up after its consumption in the last quarter.

In 1Q24, Vale's cash generation and position was primarily used to distribute US\$ 2.328 billion to shareholders in dividends and the repurchase of US\$ 275 million in shares.

Free Cash Flow – US\$ million, 1Q24



¹ Includes US\$ 254 million of disbursement of Brumadinho and de-characterization provisioned expenses and US\$ 108 million of Brumadinho incurred expenses.

² Related to Associates and Joint Ventures EBITDA that was included in the Proforma EBITDA.

³ Includes interest on loans, derivatives, leasing, payments related to Samarco dam failure and others.

⁴ Includes US\$ 2,328 million of dividends, US\$ 275 million of share buyback and US\$ 62 million debt repayment, partially offset by new loans of US\$ 870 million.

Debt

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Gross debt¹	13,248	11,464	16%	12,471	6%
Lease (IFRS 16)	1,426	1,520	-6%	1,452	-2%
Gross debt and leases	14,674	12,984	13%	13,923	5%
Cash, cash equivalents and short-term investments ²	(4,569)	(4,758)	-4%	(4,363)	5%
Net debt	10,105	8,226	23%	9,560	6%
Currency swaps ³	(589)	(421)	40%	(664)	-11%
Brumadinho provisions	2,894	3,358	-14%	3,060	-5%
Samarco & Renova Foundation provisions ⁴	3,978	3,196	24%	4,208	-5%
Expanded net debt	16,388	14,359	14%	16,164	1%
Average debt maturity (years)	7.5	8.4	-11%	7.9	-5%
Cost of debt after hedge (% pa)	5.7	5.3	8%	5.6	2%
Total debt and leases / adjusted LTM EBITDA (x)	0.8	0.8	2%	0.8	2%
Net debt / adjusted LTM EBITDA (x)	0.6	0.5	14%	0.5	14%
Adjusted LTM EBITDA / LTM gross interest (x)	24.3	27.1	-11%	24.1	1%

¹ Does not include leases (IFRS 16).

² Includes US\$ 735 million related to non-current assets held for sale in 1Q24.

³ Includes interest rate swaps.

⁴ Does not include provision for de-characterization of Germano dam in the amount of US\$ 212 million in 1Q24, US\$ 219 million in 4Q23 and US\$ 203 million in 1Q23.

Gross debt and leases reached US\$ 14.7 billion as of March 31st, 2024, US\$ 751 million higher q/q, mainly as a result of new loans raised by Vale Base Metals Ltd. and Vale S.A., within our liability management plan.

Expanded net debt increased by US\$ 224 million q/q, totaling US\$ 16.4 billion. Vale's expanded net debt target remains at US\$ 10-20 billion.

The average debt maturity declined slightly to 7.5 years (compared to 7.9 years at the end of 4Q23). The average annual cost of debt after currency and interest rate swaps was 5.7%, relatively flat q/q.

Performance of the business segments

Proforma Adjusted EBITDA, by business area

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Iron Ore Solutions	3,459	3,458	0%	6,578	-47%
Iron ore fines	2,507	2,696	-7%	5,535	-55%
Pellets	882	692	27%	936	-6%
Other Ferrous Minerals	70	70	-	107	-35%
Energy Transition Metals¹	257	573	-55%	529	-51%
Nickel	17	328	-95%	152	-89%
Copper	284	220	29%	375	-24%
Other	(44)	25	n.a.	2	n.a.
Others^{2,3}	(237)	(206)	15%	(257)	-8%
Total	3,479	3,825	-9%	6,850	-49%

¹ Includes an adjustment of US\$ 67 million in 1Q24, US\$ 35 million in 1Q23 and US\$ 82 million in 4Q23, to reflect the performance of the streaming transactions at market prices, which will be made until the proceeds received on the streaming transactions are fully recognized in the adjusted EBITDA of the business. Based on the current projections for volumes and commodities prices, it will be fully realized by 2027.

² Including a negative y/y effect of provisions related to communities' programs, reversal of tax credit provisions, and contingency loss.

³ Includes US\$ 47 million in unallocated expenses from Vale Base Metals Ltd ("VBM") in 1Q24. Considering the unallocated expenses, VBM's EBITDA was US\$ 210 million in 1Q24.

Segment information 1Q24

US\$ million	Net operating revenues	Cost ¹	Expenses				Adjusted EBITDA
			SG&A and others ¹	R&D ¹	Pre operating & stoppage ¹	Associates & JVs EBITDA	
Iron Ore Solutions	7,025	(3,552)	(64)	(83)	(64)	197	3,459
Iron ore fines	5,292	(2,703)	(49)	(70)	(51)	88	2,507
Pellets	1,585	(739)	6	(1)	(5)	36	882
Other ferrous	148	(110)	(21)	(12)	(8)	73	70
Energy Transition Metals	1,434	(1,137)	6	(51)	(1)	6	257
Nickel ²	836	(773)	(24)	(21)	(1)	-	17
Copper ³	639	(329)	(3)	(23)	-	-	284
Other Energy Transition Metals ⁴	(41)	(35)	33	(7)	-	6	(44)
Brumadinho and de-characterization of dams	-	-	(41)	-	-	-	(41)
Others⁵	-	-	(214)	(22)	(1)	-	(237)
Total	8,459	(4,689)	(313)	(156)	(66)	203	3,438

¹ Excluding depreciation, depletion and amortization.

² Including copper and by-products from our nickel operations.

³ Including by-products from our copper operations.

⁴ Includes an adjustment of US\$ 67 million increasing the adjusted EBITDA in 1Q24, to reflect the performance of the streaming transactions at market prices, which will be made until the proceeds received on the streaming transactions are fully recognized in the adjusted EBITDA of the business. Based on the current projections for volumes and commodities prices, it will be fully realized by 2027.

⁵ Includes US\$ 47 million in unallocated expenses from Vale Base Metals Ltd ("VBM") in 1Q24. Considering the unallocated expenses, VBM's EBITDA was US\$ 210 million in 1Q24.

Iron Ore Solutions

Selected financial indicators - Iron Ore Solutions

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Net Revenues	7,025	6,411	10%	11,030	-36%
Costs ¹	(3,552)	(2,918)	22%	(4,568)	-22%
SG&A and Other expenses ¹	(64)	(41)	56%	87	n.a.
Pre-operating and stoppage expenses ¹	(64)	(89)	-28%	(80)	-20%
R&D expenses	(83)	(43)	93%	(104)	-20%
EBITDA associates & JVs	197	138	43%	213	-8%
Adjusted EBITDA	3,459	3,458	0%	6,578	-47%
Depreciation and amortization	(481)	(403)	19%	(549)	-12%
Adjusted EBIT	2,978	3,055	-3%	6,029	-51%
Adjusted EBIT margin (%)	42.4	47.7	-5.3 p.p.	54.7	-12.3 p.p.

¹ Net of depreciation and amortization.

Iron Ore Solutions EBITDA Variation 1Q24 vs. 1Q23

US\$ million	1Q23	Drivers			Total variation	1Q24
		Volume	Prices	Others		
Iron ore fines	2,696	424	(521)	(92)	(189)	2,507
Pellets	692	94	67	29	190	882
Others	70	6	33	(39)	-	70
Iron Ore Solutions	3,458	524	(421)	(102)	1	3,459

Iron Ore Solutions EBITDA of US\$ 3.459 billion was flat y/y, explained by an 8.2 Mt increase in iron ore sales volumes (US\$ 524 million), which was offset by lower iron ore fines realized prices (US\$ 521 million) and a negative effect of higher spot freight rates and exchange rate on costs (included in “Others” – US\$ 102 million negative in the table above).

Revenues

Iron Ore Solutions' volumes, prices, premiums and revenues

	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Volume sold ('000 metric tons)					
Iron ore fines	52,546	45,861	15%	77,885	-33%
IO CJ	9,453	11,215	-16%	13,074	-28%
BRBF	25,715	20,345	26%	45,199	-43%
Pellet feed - China (PFC1) ¹	2,536	2,632	-4%	3,279	-23%
Lump	1,809	1,394	30%	1,871	-3%
High-silica products	8,490	5,536	53%	8,646	-2%
Other fines (60-62% Fe)	4,543	4,739	-4%	5,816	-22%
ROM	2,056	1,665	23%	2,158	-5%
Pellets	9,225	8,133	13%	10,285	-10%
Share of premium products² (%)	74%	76%	-2 p.p.	80%	-6 p.p.
Average prices (US\$/t)					
Iron ore - 62% Fe price	123.6	125.5	-2%	128.3	-4%
Iron ore - 62% Fe low alumina index	124.0	128.7	-4%	128.4	-3%
Iron ore - 65% Fe index	135.7	140.3	-3%	138.8	-2%
Provisional price at the end of the quarter	102.0	126.0	-19%	139.1	-27%
Iron ore fines Vale CFR reference (dmt)	111.9	121.7	-8%	131.6	-15%
Iron ore fines Vale CFR/FOB realized price	100.7	108.6	-7%	118.3	-15%
Pellets CFR/FOB (wmt)	171.9	162.5	6%	163.4	5%
Iron ore fines and pellets quality premium (US\$/t)					
Iron ore fines quality premium / (discount)	(1.6)	(1.4)	14%	(1.1)	45%
Pellets weighted average contribution	3.8	3.8	-	2.7	41%
Total (all-in premium)	2.2	2.4	-8%	1.6	38%
Net operating revenue by product (US\$ million)					
Iron ore fines	5,292	4,982	6%	9,212	-43%
ROM	27	26	4%	29	-7%
Pellets	1,585	1,322	20%	1,680	-6%
Others	121	81	49%	109	11%
Total	7,025	6,411	10%	11,030	-36%

¹ Products concentrated in Chinese facilities.

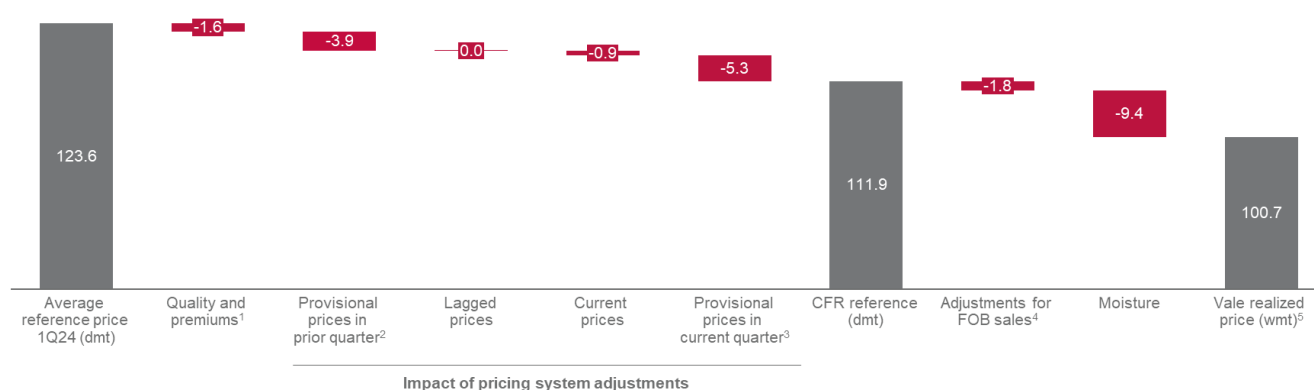
² Pellets, Carajás (IOCJ), Brazilian Blend Fines (BRBF) and pellet feed.

The all-in premium was US\$ 2.2/t, slightly higher q/q and y/y. Given market conditions with a lower price spread for low-grade materials, Vale continued to prioritize the sale of blended and high-silica products in order to maximize its product portfolio value. As a result, the share of premium products in total sales reached 74% in Q1.

Iron ore fines, excluding Pellets and ROM

Revenues & price realization

Price realization iron ore fines – US\$/t, 1Q24



¹ Includes quality (US\$ 0.3/t) and premiums/discounts and commercial conditions (US\$ -1.9/t).

² Adjustment as a result of provisional prices booked in 4Q23 at US\$ 139.1/t.

³ Difference between the weighted average of the prices provisionally set at the end of 1Q24 at US\$ 102.0/t based on forward curves and US\$ 123.6/t from the 1Q24 average reference price.

⁴ Includes freight pricing mechanisms of CFR sales freight recognition.

⁵ Vale's price is net of taxes.

Average realized iron ore fines price was US\$ 100.7/t, US\$ 17.6/t lower q/q, mainly due to: (i) the negative effect of pricing system adjustments (US\$ 14.5 lower q/q), mostly related to provisional prices in the current quarter, with 12.9 Mt of sales booked at an average forward price that was lower than the quarter's average price, and (ii) lower average reference price (US\$ 4.7 lower q/q).

Iron Ore fines pricing system breakdown (%)

	1Q24	1Q23	4Q23
Lagged	14	19	12
Current	61	62	50
Provisional	25	19	38
Total	100	100	100

Costs

Iron ore fines cash cost and freight

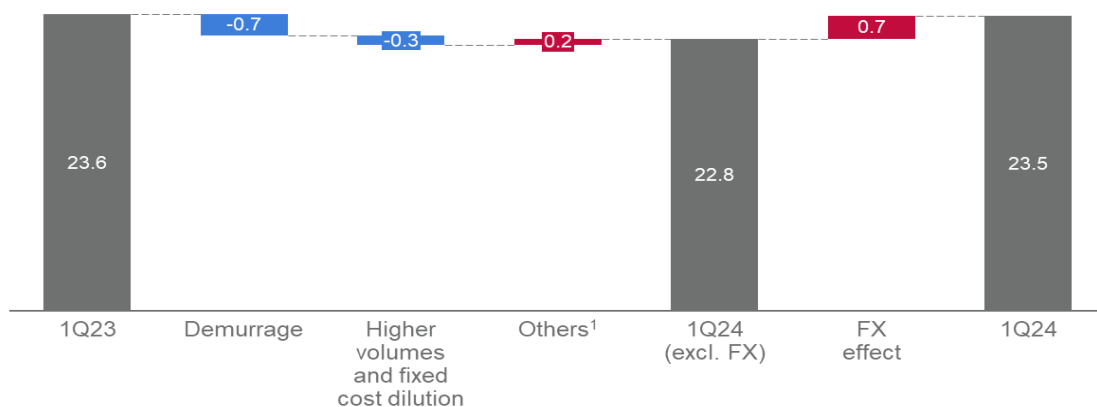
	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Costs (US\$ million)					
Vale's iron ore fines C1 cash cost (A)	1,446	1,222	18%	1,924	-25%
Third-party purchase costs ¹ (B)	347	222	56%	468	-26%
Vale's C1 cash cost ex-third-party volumes (C = A – B)	1,100	1,000	10%	1,456	-24%
Sales Volumes (Mt)					
Volume sold (ex-ROM) (D)	52.5	45.9	15%	77.9	-33%
Volume sold from third-party purchases (E)	5.6	3.5	61%	7.8	-28%
Volume sold from own operations (F = D – E)	46.9	42.3	11%	70.1	-33%
Iron ore fines cash cost (ex-ROM, ex-royalties), FOB (US\$ /t)					
Vale's C1 cash cost ex-third-party purchase cost (C/F)	23.5	23.6	-1%	20.8	13%
Average third-party purchase C1 cash cost (B/E)	61.4	62.8	-2%	59.9	2%
Vale's iron ore cash cost (A/D)	27.5	26.7	3%	24.7	11%
Freight					
Maritime freight costs (G)	860	622	38%	1,258	-32%
% of CFR sales (H)	85%	76%	9 p.p.	86%	-1 p.p.
Volume CFR (Mt) (I = D x H)	44.5	34.9	27%	66.9	-33%
Vale's iron ore unit freight cost (US\$/t) (G/I)	19.3	17.8	9%	18.8	3%

¹ Includes logistics costs related to third-party purchases

Iron ore fines COGS - 1Q24 vs. 1Q23

US\$ million	1Q23	Drivers			Total variation	1Q24
		Volume	Exchange rate	Others		
C1 cash costs	1,222	186	33	5	224	1,446
Freight	622	170	-	68	238	860
Distribution costs	147	21	-	(40)	(19)	128
Royalties & others	206	30	-	33	63	269
Total costs before depreciation and amortization	2,197	407	33	66	506	2,703
Depreciation	245	38	6	4	48	293
Total	2,442	445	39	70	554	2,996

C1 cash cost variation (excluding 3rd party purchases) – US\$/t, 1Q24 vs. 1Q23



¹ Including costs related to energy, diesel, efficiency initiatives, and others.

Despite the negative impact of the BRL appreciation, Vale's C1 cash cost, ex-third-party purchases, was slightly lower y/y, reaching US\$ 23.5/t. The main cost drivers were: (i) lower demurrage costs as a result of improved shipping and more efficient planning of port loading during the rainy season and (ii) higher production volumes, leading to fixed cost dilution.

Vale's maritime freight cost averaged US\$ 19.3/t, US\$ 6.4/t lower than the Brazil-China C3 route average in Q1. The US\$ 0.5/t sequential increase in Vale's freight cost is largely explained by higher spot affreightment rates (US\$ 0.6/t higher q/q). CFR sales totaled 44.5 Mt in Q1, representing 85% of total iron ore fines sales.

Expenses

Expenses - Iron Ore fines

US\$ millions	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
SG&A	14	15	-7%	17	-18%
R&D	70	39	79%	90	-22%
Pre-operating and stoppage expenses	51	79	-35%	67	-24%
Other expenses	35	14	150%	(112)	n.a.
Total expenses	170	147	16%	62	174%

Iron ore pellets

Pellets – EBITDA

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q	Comments
Net revenues / Realized prices	1,585	1,322	20%	1,680	-6%	Realized prices averaged US\$171.9/t in Q1 driven by rising contractual premiums; and (ii) higher average benchmark prices.
Leased pelletizing plants EBITDA	36	25	44%	36	0%	
Cash costs (Iron ore, leasing, freight, overhead, energy and other)	(739)	(648)	14%	(768)	-4%	FOB sales were 62% of total sales
Pre-operational & stoppage expenses	(5)	(5)	0%	(5)	0%	
Expenses (Selling, R&D and other)	5	(2)	n.a.	(7)	n.a.	
EBITDA	882	692	27%	936	-6%	
EBITDA/t	96	85	12%	91	5%	

Iron ore fines and pellets cash break-even landed in China⁵

Iron ore fines and pellets cash break-even landed in China (“all-in costs”)

US\$/t	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Vale's C1 cash cost ex-third-party purchase cost	23.5	23.6	-1%	20.8	13%
Third party purchases cost adjustments	4.0	3.1	32%	3.9	4%
Vale's iron ore cash cost (ex-ROM, ex-royalties), FOB (US\$ /t)	27.5	26.7	3%	24.7	11%
Iron ore fines freight cost (ex-bunker oil hedge)	19.3	17.8	9%	18.8	3%
Iron ore fines distribution cost	2.4	3.2	-24%	2.0	20%
Iron ore fines expenses ¹ & royalties	6.7	6.3	5%	4.4	52%
Iron ore fines moisture adjustment	4.9	4.9	-	4.1	20%
Iron ore fines quality adjustment	1.6	1.4	14%	1.1	45%
Iron ore fines EBITDA break-even (US\$/dmt)	62.4	60.3	3%	55.1	13%
Iron ore fines pellet adjustment	(3.8)	(3.8)	1%	(2.7)	41%
Iron ore fines and pellets EBITDA break-even (US\$/dmt)	58.6	56.5	4%	52.4	12%
Iron ore fines sustaining investments	11.2	9.4	19%	10.9	3%
Iron ore fines and pellets cash break-even landed in China (US\$/dmt)	69.9	65.9	6%	63.3	11%

¹ Net of depreciation and includes EBITDA Associates & JVs. Including stoppage expenses.

⁵ Measured by unit cost + expenses + sustaining investment adjusted for quality. Does not include the impact from the iron ore fines and pellets pricing system mechanism.

Energy Transition Metals

As previously outlined in the Adjusted EBITDA chapter, additional changes to the reporting practices for the Energy Transition Metals (ETM) segment, effective from the first quarter of 2024 (1Q24), were implemented, please see “Annexes” for detailed information.

Energy Transition Metals EBITDA overview – 1Q24

US\$ million	Sudbury	Voisey's Bay & Long Harbour	PTVI (site)	Standalone Refineries	Onça Puma	Sossego	Salobo	Others	Copper & Nickel	Other ETM ¹	Total Energy Transition Metals
Net Revenues	477	146	230	228	-	112	502	(220)	1,475	(41)	1,434
Costs	(397)	(172)	(170)	(234)	(40)	(91)	(238)	240	(1,102)	(35)	(1,137)
Selling and other expenses	(5)	(4)	-	-	(4)	(1)	(2)	(11)	(27)	33	6
Pre-operating and stoppage expenses	-	-	-	-	(1)	-	-	-	(1)	-	(1)
R&D	(12)	(4)	(2)	-	(1)	(3)	(2)	(20)	(44)	(7)	(51)
associates and JVs	-	-	-	-	-	-	-	-	-	6	6
EBITDA	63	(34)	58	(6)	(46)	17	260	(11)	301	(44)	257

¹ Includes an adjustment of US\$ 67 million increasing the adjusted EBITDA in 1Q24, to reflect the performance of the streaming transactions at market prices, which will be made until the proceeds received on the streaming transactions are fully recognized in the adjusted EBITDA of the business. Based on the current projections for volumes and commodities prices, it will be fully realized by 2027.

Nickel

Selected financial indicators

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Net Revenues	836	1,321	-37%	1,177	-29%
Costs ¹	(773)	(949)	-19%	(980)	-21%
Selling and other expenses ¹	(24)	(17)	41%	(9)	167%
Pre-operating and stoppage expenses ¹	(1)	-	n.a.	(1)	0%
R&D expenses	(21)	(27)	-22%	(35)	-40%
Adjusted EBITDA	17	328	-95%	152	-89%
Depreciation and amortization	(184)	(203)	-9%	(236)	-22%
Adjusted EBIT	(167)	125	n.a.	(84)	98%
Adjusted EBIT margin (%)	-20.0%	9.5%	29.5 p.p.	-7.2%	-12.8 p.p.

¹ Net of depreciation and amortization.

EBITDA variation – US\$ million (1Q24 vs. 1Q23)

US\$ million	Drivers						1Q24
	1Q23	Volume	Prices	By-products	Others ¹	Total variation	
Nickel	328	(12)	(278)	(33)	12	(311)	17

¹ Includes variations of (i) US\$ 14 million in PPA; (ii) negative US\$ 35 million in inventory write-down and (iii) positive US\$ 33 million in others.

EBITDA decreased 95% y/y largely explained by a 33% decrease in nickel realized prices (negative US\$ 278 million), and the negative effects of inventory write-down (negative US\$ 35 million – included in “Others” in the table above) and maintenance and other fixed costs incurred at Onça Puma in the quarter, as the operations were halted for the furnace rebuild (US\$ 39 million – included in “Others” above).

EBITDA by operations

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q	1Q24 vs. 1Q23 Comments
Sudbury ¹	63	206	-69%	88	-29%	Lower nickel prices partially offset by lower costs.
Voisey's Bay & Long Harbour	(34)	25	n.a.	(34)	0%	Lower nickel prices partially offset by lower costs.
Standalone Refineries ²	(6)	47	n.a.	(19)	-68%	Lower nickel prices partially offset by lower costs.
PTVI	58	173	-66%	100	-42%	Lower nickel prices partially offset by lower costs.
Onça Puma	(46)	19	n.a.	(24)	92%	Higher maintenance costs and lower sales volumes due to the furnace rebuild works.
Others ²	(18)	(142)	-87%	41	n.a.	
Total	17	328	-95%	152	-89%	

¹ Includes the Thompson operations.

² Comprises the sales results for Clydach and Matsusaka refineries.

³ Includes intercompany eliminations, unrealized provisional price adjustments and inventory write-down. Hedge results have been relocated to each nickel business operation.

Revenues & price realization

Sales volumes, revenues & price realization

	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Volume sold ('000 metric tons)					
Nickel	33	40	-18%	48	-31%
Copper	20	20	5%	21	-4%
Gold as by-product ('000 oz)	12	11	9%	11	9%
Silver as by-product ('000 oz)	245	236	4%	227	8%
PGMs ('000 oz)	73	74	-1%	59	24%
Cobalt (metric ton)	465	621	-25%	492	-5%
Average realized prices (US\$/t)					
Nickel	16,848	25,260	-33%	18,420	-9%
Copper	7,482	8,928	-16%	7,602	-2%
Gold (US\$/oz)	2,051	1,915	7%	2,065	-1%
Silver (US\$/oz)	22.6	22.4	1%	25.2	-10%
Cobalt	30,500	32,830	-7%	35,438	-14%
Net revenue by product (US\$ million)					
Nickel	558	1,013	-45%	888	-37%
Copper	153	174	-12%	162	-6%
Gold as by-product ¹	24	21	14%	23	4%
Silver as by-product	6	5	20%	6	-
PGMs	68	75	-9%	71	-4%
Cobalt ¹	14	20	-30%	18	-22%
Others	10	12	-17%	9	11%
Total	833	1,321	-37%	1,177	-29%
PPA adjustments ²	3	-	n.a.	-	n.a.
Net revenue after PPA adjustments	836	1,321	-37%	1,177	-29%

¹ Revenues presented above were adjusted to reflect the market prices of products delivered related to the streaming transactions.

² PPA adjustments started to be disclosed separately in 1Q24.

Breakdown of nickel volumes sold, realized price and premium

	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Volumes (kt)					
Upper Class I nickel	20.8	23.9	-13%	25.7	-19%
- of which: EV Battery	0.8	1.6	-50%	0.6	33%
Lower Class I nickel	3.5	4.1	-15%	7.2	-51%
Class II nickel	4.4	8.1	-46%	9.9	-56%
Intermediates	4.5	4.1	10%	5.4	-17%
Total	33.1	40.1	-18%	47.9	-31%
Nickel realized price (US\$/t)					
LME average nickel price	16,589	25,983	-36%	17,247	-4%
Average nickel realized price	16,848	25,260	-33%	18,420	-9%
Contribution to the nickel realized price by category:					
Nickel average aggregate (premium/discount)	515	(60)	n.a.	215	140%
Other timing and pricing adjustments contributions ¹	(256)	(663)	-61%	958	-127%
Premium/discount by product (US\$/t)					
Upper Class I nickel	1,210	1,550	-22%	1,430	-15%
Lower Class I nickel	650	1,340	-51%	980	-34%
Class II nickel	750	(2,770)	n.a.	(1,690)	n.a.
Intermediates	(3,060)	5,560	n.a.	(3,100)	-1%

¹ Comprises (i) the realized quotational period effects (based on sales distribution in the prior three months, as well as the differences between the LME price at the moment of sale and the LME average price), with a negative impact of US\$ 405/t and (ii) fixed-price sales, with a positive impact of US\$ 150/t.

Note: The hedge position was completely settled by December 2023.

The average realized nickel price was US\$ 16,848/t, down 33% y/y, mainly due to 36% lower LME nickel average price (from US\$ 25,983/t to US\$ 16,589/t). On a sequential basis, the realized nickel price was down 8.5% mainly as a result of 3.8% lower LME prices (from US\$ 17,247/t to US\$ 16,589/t). In 1Q24, the average realized nickel price was 1.6% higher than the LME average, mainly due to the 73% share of Class I products in the mix, with average US\$ 1,129/t premiums.

Product type by operation

% of sales	North Atlantic ¹	Matsusaka	PTVI	Onça Puma	Total 1Q24	Total 1Q23	Total 4Q23
Upper Class I	84.0	-	-	-	62.7	59.5	53.4
Lower Class I	14.0	-	-	-	10.5	10.1	14.9
Class II	1.4	98.4	-	100	13.4	20.3	20.6
Intermediates	0.7	1.6	100	-	13.5	10.1	11.2

¹ Comprises Sudbury, Clydach and Long Harbour refineries

Costs

Nickel COGS – 1Q24 vs. 1Q23

US\$ million	1Q23	Drivers			Total variation	1Q24
		Volume	Exchange rate	Others		
Nickel operations	949	(165)	(1)	(10)	(176)	773
Depreciation	203	(34)	-	14	(20)	183
Total	1,152	(199)	(1)	4	(196)	956

Unit cash cost of sales by operation, net of by-product credits

US\$/t	1Q24	1Q23	Δ y/y	4Q23	Δ q/q	1Q24 vs. 1Q23 Comments
Sudbury ^{1,2}	10,638	14,321	-26%	12,891	-17%	Higher availability of own source feed: lower purchase costs
Voisey's Bay & Long Harbour ²	21,323	23,593	-10%	21,656	-2%	Lower third-party purchase costs.
Standalone refineries ^{2,3}	18,617	20,499	-9%	19,509	-5%	Lower matte prices and higher fixed cost dilution.
PTVI ⁴	9,371	11,030	-15%	9,116	3%	Lower maintenance costs and higher fixed cost dilution.
Onça Puma	n.a	12,284	n.a	17,430	n.a	No production and sale in the quarter

¹ Sudbury costs include Thompson costs.

² A large portion of Sudbury, Clydach, Matsusaka and Long Harbour finished nickel production is derived from intercompany transfers, as well as from the purchase of ore or nickel intermediates from third parties. These transactions are valued at fair market value.

³ Comprises the unit cash costs for Clydach and Matsusaka refineries.

⁴ Refers to nickel matte production cost.

EBITDA break-even (“all-in costs”)

EBITDA break-even

US\$/t	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
COGS ex. 3 rd -party feed	22,418	22,434	0%	19,329	16%
COGS ¹	22,291	23,653	-6%	20,320	10%
By-product revenues ¹	(8,304)	(7,687)	8%	(6,003)	38%
COGS after by-product revenues	13,987	15,966	-12%	14,317	-2%
Other expenses ²	1,306	1,117	17%	919	42%
Total Costs	15,293	17,083	-10%	15,236	0%
Nickel average aggregate (premium) discount	(515)	60	n.a.	(215)	140%
EBITDA breakeven³	14,778	17,143	-14%	15,021	-2%

¹ Excluding marketing activities and inventory write-down.

² Includes R&D associated to operational sites, sales expenses and pre-operating & stoppage.

³ Considering only the cash effect of streaming transactions, nickel operations EBITDA break-even would increase to US\$ 15,108/t in 1Q24.

Unit COGS, excluding 3rd-party feed purchases, was flat y/y as higher own source production volumes were offset by the negative impact of the Onça Puma furnace rebuild.

All-in costs have decreased by 14% y/y, primarily due to: (i) lower 3rd-party feed purchase costs driven by lower nickel prices; (ii) higher unit by-products driven by copper to nickel sales ratio; and (iii) nickel aggregate price premium.

Copper

Selected financial indicators - Copper operations

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Net Revenues	639	524	22%	855	-25%
Costs ¹	(329)	(270)	22%	(427)	-23%
Selling and other expenses ¹	(3)	(6)	-50%	(9)	-67%
Pre-operating and stoppage expenses ¹	-	(3)	n.a.	(1)	n.a.
R&D expenses	(23)	(25)	-8%	(43)	-47%
Adjusted EBITDA	284	220	29%	375	-24%
Depreciation and amortization	(40)	(38)	5%	(56)	-29%
Adjusted EBIT	244	183	33%	319	-24%
Adjusted EBIT margin (%)	38.2%	34.9%	3.3 p.p.	37.3%	0.9 p.p.

¹ Net of depreciation and amortization

EBITDA variation - US\$ million (1Q24 vs. 1Q23)

US\$ million	Drivers					Total variation	1Q24
	1Q23	Volume	Prices	By-products	Others ¹		
Copper	220	41	(98)	66	55	64	284

¹ Includes variations of (i) positive US\$ 24 million in PPA, (ii) positive US\$ 40 million in costs and expenses and (iii) negative US\$ 9 million in currency variation.

EBITDA increased 29% y/y largely explained by the increase in copper and by-products sales volumes attributed to the ramp-up of Salobo 3 and better operational performance at Salobo 1 & 2.

EBITDA by operation

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q	1Q24 vs. 1Q23 Comments
Salobo	261	186	40%	326	-20%	Higher sales volumes.
Sossego	17	52	-67%	79	-78%	Lower copper realized prices.
Others copper ¹	6	(18)	n.a.	(30)	n.a.	
Total	284	220	29%	375	-24%	

¹ Includes US\$ 18 million in R&D expenses related to the Hu'u project in 1Q24 and the unrealized provisional price adjustments.

Revenues & price realization

Sales volumes, revenues & price realization

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Volume sold ('000 metric tons)					
Copper	56	43	31%	76	-26%
Gold as by-product ('000 oz)	85	61	39%	114	-26%
Silver as by-product ('000 oz)	188	170	11%	286	-34%
Average prices (US\$/t)					
Average LME copper price	8,438	8,927	-5%	8,159	3%
Average copper realized price	7,687	9,465	-19%	7,941	-3%
Gold (US\$/oz) ¹	2,083	1,832	14%	2,131	-2%
Silver (US\$/oz)	24	22	9%	24	-2%
Net revenue (US\$ million)					
Copper	434	409	6%	605	-28%
Gold as by-product ¹	176	111	59%	243	-27%
Silver as by-product	4	4	0%	7	-43%
Total	615	524	17%	855	-28%
PPA adjustments ²	24	-	n.a.	-	n.a.
Net revenue after PPA adjustments	639	524	22%	855	-25%

¹ Revenues presented above were adjusted to reflect the market prices of products delivered related to the streaming transactions.

² PPA adjustments to be disclosed separately from 1Q24 onwards. On March 31st, 2024, Vale had provisionally priced copper sales from Sossego and Salobo totaling 26,876 tons valued at weighted average LME forward price of US\$ 8,773/t, subject to final pricing over the following months.

Price realization – copper operations

US\$/t	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Average LME copper price	8,438	8,927	-5%	8,159	3%
Current period price adjustments ¹	(20)	228	n.a.	546	n.a.
Copper gross realized price	8,418	9,155	-8%	8,705	-3%
Prior period price adjustments ²	(210)	829	n.a.	(201)	4%
Copper realized price before discounts	8,208	9,983	-18%	8,504	-3%
TC/RCs, penalties, premiums and discounts ³	(522)	(518)	1%	(563)	-7%
Average copper realized price	7,687	9,465	-19%	7,941	-3%

Note: Vale's copper products are sold on a provisional pricing basis, with final prices determined in a future period. The average copper realized price excludes the mark-to-market of open invoices based on the copper price forward curve (unrealized provisional price adjustments) and includes the prior and current period price adjustments (realized provisional price adjustments).

¹ Current-period price adjustments: Final invoices that were provisionally priced and settled within the quarter.

² Prior-period price adjustment: Final invoices of sales provisionally priced in prior quarters.

³ TC/RCs, penalties, premiums, and discounts for intermediate products.

The average realized copper price was down 19% y/y and 3% q/q mainly due to the positive impact of PPA in 1Q23 and 4Q23, respectively.

Costs

COGS - 1Q24 vs. 1Q23

US\$ million	1Q23	Drivers			Total variation	1Q24
		Volume	Exchange rate	Others		
Copper operations	270	82	8	(31)	59	329
Depreciation	35	10	1	(6)	5	40
Total	305	92	9	(37)	64	369

Copper operations – unit cash cost of sales, net of by-product credits

US\$/t	1Q24	1Q23	Δ y/y	4Q23	Δ q/q	1Q24 vs. 1Q23 Comments
Salobo	1,738	2,856	-39%	1,783	-3%	Higher fixed costs dilution and higher unit by-products revenues.
Sossego	5,844	5,233	12%	3,822	53%	Lower fixed cost dilution and higher maintenance costs.

EBITDA break-even (“all-in costs”)

US\$/t	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
COGS	5,829	6,256	-7%	5,613	4%
By-product revenues	(3,207)	(2,664)	20%	(3,269)	-2%
COGS after by-product revenues	2,622	3,592	-27%	2,344	12%
Other expenses ¹	149	354	-58%	305	-51%
Total costs	2,771	3,946	-30%	2,649	5%
TC/RCs penalties, premiums and discounts	522	518	1%	563	-7%
EBITDA breakeven^{2,3}	3,293	4,464	-26%	3,212	3%

¹ Includes sales expenses, R&D associated with Salobo and Sossego, pre-operating and stoppage expenses and other expenses. From 1Q24 onwards, excludes Hu'u – historical figures were restated to reflect this change.

² Considering only the cash effect of streaming transactions, copper operations EBITDA break-even would increase to US\$ 4,937/t.

³ The realized price to be compared to the EBITDA break-even should be the copper realized price before discounts (US\$ 8,208/t), given that TC/RCs, penalties, and other discounts are already part of the EBITDA break-even build-up.

Unit COGS have decreased by 7% y/y mainly reflecting lower unit costs at Salobo.

All-in costs have decreased by 26%, primarily due to: (i) decrease in unit COGS; and (ii) higher unit by-products revenues, reflecting a higher proportion of Salobo copper concentrates sales in the mix.

WEBCAST INFORMATION

Vale will host a webcast on Thursday April 25th, 2024, at 11:00 a.m. Brasilia time (10:00 a.m. New York time; 3:00 p.m. London time). Internet access to the webcast and presentation materials will be available on Vale website at www.vale.com/investors. A webcast replay will be accessible at www.vale.com beginning shortly after the completion of the call.

Further information on Vale can be found at: vale.com

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Except where otherwise indicated, the operational and financial information in this release is based on the consolidated figures in accordance with IFRS. Our quarterly financial statements are reviewed by the company's independent auditors. The main subsidiaries that are consolidated are the following: Companhia Portuária da Baía de Sepetiba, Vale Manganês S.A., Minerações Brasileiras Reunidas S.A., Salobo Metais S.A, Tecnoed Desenvolvimento Tecnológico S.A., PT Vale Indonesia Tbk, Vale Holdings B.V, Vale Canada Limited, Vale International S.A., Vale Malaysia Minerals Sdn. Bhd., Vale Oman Pelletizing Company LLC e Vale Oman Distribution Center LLC.

This press release may include statements about Vale's current expectations about future events or results (forward-looking statements). Many of those forward-looking statements can be identified by the use of forward-looking words such as „anticipate,” „believe,” „could,” „expect,” „should,” „plan,” „intend,” „estimate” “will” and „potential,” among others. All forward-looking statements involve various risks and uncertainties. Vale cannot guarantee that these statements will prove correct. These risks and uncertainties include, among others, factors related to: (a) the countries where Vale operates, especially Brazil and Canada; (b) the global economy; (c) the capital markets; (d) the mining and metals prices and their dependence on global industrial production, which is cyclical by nature; and (e) global competition in the markets in which Vale operates. Vale cautions you that actual results may differ materially from the plans, objectives, expectations, estimates and intentions expressed in this presentation. Vale undertakes no obligation to publicly update or revise any forward-looking statement, whether as a result of new information or future events or for any other reason. To obtain further information on factors that may lead to results different from those forecast by Vale, please consult the reports that Vale files with the U.S. Securities and Exchange Commission (SEC), the Brazilian Comissão de Valores Mobiliários (CVM) and, in particular, the factors discussed under “Forward-Looking Statements” and “Risk Factors” in Vale's annual report on Form 20-F.

The information contained in this press release includes financial measures that are not prepared in accordance with IFRS. These non-IFRS measures differ from the most directly comparable measures determined under IFRS, but we have not presented a reconciliation to the most directly comparable IFRS measures, because the non-IFRS measures are forward-looking and a reconciliation cannot be prepared without unreasonable effort.

Annexes

Simplified financial statements

Income Statement

<i>US\$ million</i>	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Net operating revenue	8,459	8,434	0%	13,054	-35%
Cost of goods sold and services rendered	(5,367)	(4,949)	8%	(6,891)	-22%
Gross profit	3,092	3,485	-11%	6,163	-50%
Gross margin (%)	36.6	41.3	-4.7 p.p.	47.2	-10.6 p.p.
Selling and administrative expenses	(140)	(118)	19%	(146)	-4%
Research and development expenses	(156)	(139)	12%	(231)	-32%
Pre-operating and operational stoppage	(92)	(124)	-26%	(108)	-15%
Other operational expenses, net	(250)	(219)	14%	(380)	-34%
Impairment reversal (impairment and disposals) of non-current assets, net	(6)	(4)	50%	(121)	-95%
Operating income	2,448	2,881	-15%	5,177	-53%
Financial income	109	121	-10%	105	4%
Financial expenses	(339)	(320)	6%	(380)	-11%
Other financial items, net	(207)	(331)	-37%	(599)	-65%
Equity results and other results in associates and joint ventures	124	(55)	n.a.	(1,152)	n.a.
Income before income taxes	2,135	2,296	-7%	3,151	-32%
Current tax	(734)	(218)	237%	(475)	55%
Deferred tax	286	(200)	n.a.	(234)	n.a.
Net income	1,687	1,878	-10%	2,442	-31%
Net income (loss) attributable to noncontrolling interests	8	41	-80%	24	-67%
Net income attributable to Vale's shareholders	1,679	1,837	-9%	2,418	-31%
Net income	1,687	1,878	-10%	2,442	-31%
Net income (Loss) attributable to Vale's to noncontrolling interests	8	41	-80%	24	-67%
Net income attributable to Vale's shareholders	1,679	1,837	-9%	2,418	-31%
Earnings per share (attributable to the Company's shareholders - US\$):					
Basic and diluted earnings per share (attributable to the Company's shareholders - US\$)	0.39	0.41	-5%	0.56	-30%

Equity income (loss) by business segment

<i>US\$ million</i>	1Q24	%	1Q23	%	Δ y/y	4Q23	%	Δ q/q
Iron Ore Solutions	58	89	(96)	109	n.a.	21	53	176%
Energy Transition Metals	-	-	-	-	-	-	-	-
Others	7	11	8	(9)	n.a.	19	47	-63%
Total	65	100	(88)	100	-174%	40	100	63%

Balance sheet

US\$ million	3/31/2024	3/31/2022	Δ y/y	12/31/2023	Δ q/q
Assets					
Current assets	17,528	14,508	21%	18,700	-6%
Cash and cash equivalents	3,790	4,705	-19%	3,609	5%
Short term investments	44	53	-17%	51	-14%
Accounts receivable	2,233	2,687	-17%	4,197	-47%
Other financial assets	420	381	10%	271	55%
Inventories	5,195	4,992	4%	4,684	11%
Recoverable taxes	840	1,345	-38%	900	-7%
Judicial deposits	672	-	n.a.	611	10%
Other	364	345	6%	444	-18%
Non-current assets held for sale	3,970	-	n.a.	3,933	1%
Non-current assets	13,446	14,785	-9%	13,587	-1%
Judicial deposits	669	1,255	-47%	798	-16%
Other financial assets	336	393	-15%	593	-43%
Recoverable taxes	1,384	1,143	21%	1,374	1%
Deferred income taxes	9,699	10,799	-10%	9,565	1%
Other	1,358	1,195	14%	1,257	8%
Fixed assets	60,703	58,254	4%	61,899	-2%
Total assets	91,677	87,547	5%	94,186	-3%
Liabilities					
Current liabilities	15,676	12,977	21%	14,655	7%
Suppliers and contractors	5,546	4,464	24%	5,272	5%
Loans, borrowings and leases	1,286	354	263%	824	56%
Leases	192	189	2%	197	-3%
Other financial liabilities	1,708	1,581	8%	1,676	2%
Taxes payable	1,698	672	153%	1,314	29%
Settlement program ("REFIS")	492	388	27%	428	15%
Provisions for litigation	117	112	4%	114	3%
Employee benefits	602	610	-1%	964	-38%
Liabilities related to associates and joint ventures	923	2,133	-57%	837	10%
Liabilities related to Brumadinho	1,063	1,122	-5%	1,057	1%
De-characterization of dams and asset retirement obligations	1,045	785	33%	1,035	1%
Dividends payable	-	-	n.a.	-	n.a.
Other	464	567	-18%	376	23%
Liabilities associated with non-current assets held for sale	540	-	n.a.	561	-4%
Non-current liabilities	36,988	35,689	4%	38,550	-4%
Loans, borrowings and leases	11,962	11,110	8%	11,647	3%
Leases	1,234	1,331	-7%	1,255	-2%
Participative shareholders' debentures	2,621	2,846	-8%	2,874	-9%
Other financial liabilities	3,043	2,805	8%	3,373	-10%
Settlement program (REFIS)	1,515	1,856	-18%	1,723	-12%
Deferred income taxes	848	1,379	-39%	870	-3%
Provisions for litigation	885	1,244	-29%	885	0%
Employee benefits	1,288	1,304	-1%	1,381	-7%
Liabilities related to associates and joint ventures	3,267	1,266	158%	3,590	-9%
Liabilities related to Brumadinho	1,831	2,236	-18%	2,003	-9%
De-characterization of dams and asset retirement obligations	6,261	6,462	-3%	6,694	-6%
Streaming transactions	1,956	1,636	20%	1,962	0%
Others	277	214	29%	293	-5%
Total liabilities	52,664	48,666	8%	53,205	-1%
Shareholders' equity	39,013	38,881	0%	40,981	-5%
Total liabilities and shareholders' equity	91,677	87,547	5%	94,186	-3%

Cash flow

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Cash flow from operations	4,479	4,280	5%	5,591	-20%
Interest on loans and borrowings paid	(186)	(169)	10%	(200)	-7%
Cash received on settlement of Derivatives, net	43	38	13%	325	-87%
Payments related to Brumadinho	(135)	(124)	9%	(417)	-68%
Payments related to de-characterization of dams	(119)	(78)	53%	(145)	-18%
Interest on participative shareholders debentures paid	-	-	n.a.	(106)	n.a.
Income taxes (including settlement program) paid	(506)	(337)	50%	(259)	95%
Net cash generated by operating activities	3,576	3,610	-1%	4,789	-25%
Cash flow from investing activities					
Short-term investment	(44)	(55)	-20%	47	-194%
Capital expenditures	(1,395)	(1,130)	23%	(2,118)	-34%
Additions to investment	-	(7)	n.a.	(11)	n.a.
Payments related to Samarco dam failure	(86)	(77)	12%	(128)	-33%
Dividends received from joint ventures and associates	3	-	n.a.	99	-97%
Payments from disposal of investments, net	-	(67)	n.a.	(72)	n.a.
Other investment activities, net	3	10	-70%	(44)	n.a.
Net cash used in investing activities	(1,519)	(1,326)	15%	(2,227)	-32%
Cash flow from financing activities					
Loans and financing:					
Loans and borrowings from third parties	870	300	190%	-	n.a.
Payments of loans and borrowings from third parties	(62)	(39)	59%	(25)	148%
Payments of leasing	(41)	(47)	-13%	(94)	-56%
Payments to shareholders:					
Dividends and interest on capital paid to Vale's shareholders	(2,328)	(1,795)	30%	(2,040)	14%
Dividends and interest on capital paid to noncontrolling interest	-	(3)	n.a.	(33)	n.a.
Share buyback program	(275)	(763)	-64%	(44)	525%
Net cash used in financing activities	(1,836)	(2,347)	-22%	(2,236)	-18%
Net increase (decrease) in cash and cash equivalents	221	(63)	n.a.	326	-32%
Cash and cash equivalents in the beginning of the period	3,609	4,736	-24%	3,967	-9%
Effect of exchange rate changes on cash and cash equivalents	(40)	32	n.a.	19	n.a.
Effect of transfer to assets held for sale	-	-	n.a.	(703)	n.a.
Cash and cash equivalents at the end of period	3,790	4,705	-19%	3,609	5%
Non-cash transactions:					
Additions to property, plant and equipment - capitalized loans and borrowing costs	5	5	0%	4	25%
Cash flow from operating activities					
Income before income taxes	2,135	2,296	-7%	3,151	-32%
Adjusted for:					
Provisions (Review of estimates) related to Brumadinho	(6)	-	n.a.	137	n.a.
Provision (Review of estimates) related to de-characterization of dams	(61)	-	-	153	n.a.
Equity results and other results in associates and joint ventures	(124)	55	n.a.	1,152	n.a.
Impairment (impairment reversal) and results on disposal of non-current assets, net	6	4	50%	121	-95%
Depreciation, depletion and amortization	714	656	9%	855	-16%
Financial results, net	437	530	-18%	874	-50%
Change in assets and liabilities					
Accounts receivable	1,935	1,686	15%	(832)	n.a.
Inventories	(626)	(363)	72%	403	n.a.
Suppliers and contractors	378	(105)	n.a.	(308)	n.a.
Other assets and liabilities, net	(309)	(479)	-35%	(115)	169%
Cash flow from operations	4,479	4,280	5%	5,591	-20%

Reconciliation of IFRS and “non-GAAP” information

(a) Adjusted EBIT

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Net operating revenues	8,459	8,434	0%	13,054	-35%
COGS	(5,367)	(4,949)	8%	(6,891)	-22%
Sales and administrative expenses	(140)	(118)	19%	(146)	-4%
Research and development expenses	(156)	(139)	12%	(231)	-32%
Pre-operating and stoppage expenses	(92)	(124)	-26%	(108)	-15%
Brumadinho event and dam de-characterization of dams	(41)	(111)	-63%	(396)	-90%
Other operational expenses, net ¹	(142)	(73)	95%	98	n.a.
EBITDA from associates and JVs	203	138	47%	219	-7%
Adjusted EBIT	2,724	3,058	-11%	5,599	-51%

¹ Includes adjustment of US\$ 67 million in 1Q24, US\$ 35 million in 1Q23 and US\$ 82 million in 4Q23, to reflect the performance of the streaming transactions at market price.

(b) Adjusted EBITDA

EBITDA defines profit or loss before interest, tax, depreciation, depletion and amortization. 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 disposals) of non-current assets. However, our adjusted EBITDA is not the measure defined as EBITDA under IFRS and may possibly not be comparable with indicators with the same name reported by other companies. Adjusted EBITDA should not be considered as a substitute for operational profit or as a better measure of liquidity than operational cash flow, which are calculated in accordance with IFRS. Vale provides its adjusted EBITDA to give additional information about its capacity to pay debt, carry out investments and cover working capital needs. The following tables shows the reconciliation between adjusted EBITDA and operational cash flow and adjusted EBITDA and net income, in accordance with its statement of changes in financial position.

The definition of Adjusted EBIT is Adjusted EBITDA plus depreciation, depletion and amortization.

Reconciliation between adjusted EBITDA and operational cash flow

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Adjusted EBITDA	3,438	3,714	-7%	6,454	-47%
Working capital:					
Accounts receivable	1,935	1,686	15%	(832)	n.a.
Inventories	(626)	(363)	72%	403	n.a.
Suppliers and contractors	378	(105)	n.a.	(308)	n.a.
Provisions (Review of estimates) related to Brumadinho	(6)	-	n.a.	137	n.a.
Provisions (Review of estimates) related to de-characterization of dams	(61)	-	n.a.	153	n.a.
Others	(579)	(652)	-11%	(416)	39%
Cash flow	4,479	4,280	5%	5,591	-20%
Income taxes (including settlement program) paid	(506)	(337)	50%	(259)	95%
Interest on loans and borrowings paid	(186)	(169)	10%	(200)	-7%
Payments related to Brumadinho event	(135)	(124)	9%	(417)	-68%
Payments related to de-characterization of dams	(119)	(78)	53%	(145)	-18%
Interest on participative shareholders' debentures paid	-	-	n.a.	(106)	n.a.
Cash received on settlement of Derivatives, net	43	38	13%	325	-87%
Net cash generated by operating activities	3,576	3,610	-1%	4,789	-25%

Reconciliation between adjusted EBITDA and net income (loss)

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Adjusted EBITDA	3,438	3,714	-7%	6,454	-47%
Depreciation, depletion and amortization	(714)	(656)	9%	(855)	-16%
EBITDA from associates and joint ventures	(203)	(138)	47%	(219)	-7%
Impairment reversal (impairment) and results on disposals of non-current assets, net ¹	(73)	(39)	87%	(203)	-64%
Operating income	2,448	2,881	-15%	5,177	-53%
Financial results	(437)	(530)	-18%	(874)	-50%
Equity results and other results in associates and joint ventures	124	(55)	n.a.	(1,152)	-111%
Income taxes	(448)	(418)	7%	(709)	-37%
Net income	1,687	1,878	-10%	2,442	-31%
Net income (loss) attributable to noncontrolling interests	8	41	-80%	24	-67%
Net income attributable to Vale's shareholders	1,679	1,837	-9%	2,418	-31%

¹ Includes adjustment of US\$ 67 million in 1Q24, US\$ 35 million in 1Q23 and US\$ 82 million in 4Q23 to reflect the performance of the streaming transactions at market price.

(c) Net debt

US\$ million	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Gross debt	13,248	11,464	16%	12,471	6%
Leases	1,426	1,520	-6%	1,452	-2%
Cash and cash equivalents ¹	(4,569)	(4,758)	-4%	(4,363)	5%
Net debt	10,105	8,226	23%	9,560	6%

¹ Includes US\$ 735 million related to non-current assets held for sale in 1Q24 due to the PTVI divestment and US\$ 703 million in 4Q23.

(d) Gross debt / LTM Adjusted EBITDA

<i>US\$ million</i>	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Gross debt and leases / LTM Adjusted EBITDA (x)	0.8	0.8	2%	0.8	2%
Gross debt and leases / LTM operational cash flow (x)	0.9	0.7	21%	0.8	6%

(e) LTM Adjusted EBITDA / LTM interest payments

<i>US\$ million</i>	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Adjusted LTM EBITDA / LTM gross interest (x)	24.3	27.1	-11%	24.1	1%
LTM adjusted EBITDA / LTM interest payments (x)	23.5	22.1	6%	24.2	-3%

(f) US dollar exchange rates

<i>R\$/US\$</i>	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Average	4.9515	5.1963	-5%	4.9553	0%
End of period	4.9962	5.0804	-2%	4.8413	3%

Revenues and volumes

Net operating revenue by destination

US\$ million	1Q24	%	1Q23	%	Δ y/y	4Q23	%	Δ q/q
North America	427	5.0	653	7.7	-35%	473	3.6	-10%
USA	243	2.9	511	6.1	-52%	358	2.7	-32%
Canada	184	2.2	142	1.7	30%	115	0.9	60%
South America	1,128	13.3	1,067	12.7	6%	1,014	7.8	11%
Brazil	1,006	11.9	919	10.9	9%	927	7.1	9%
Others	122	1.4	148	1.8	-18%	87	0.7	40%
Asia	5,170	61.1	4,726	56.0	9%	9,497	72.8	-46%
China	3,674	43.4	3,407	40.4	8%	7,672	58.8	-52%
Japan	682	8.1	689	8.2	-1%	863	6.6	-21%
South Korea	206	2.4	312	3.7	-34%	390	3.0	-47%
Others	608	7.2	318	3.8	91%	572	4.4	6%
Europe	1,008	11.9	1,563	18.5	-36%	1,282	9.8	-21%
Germany	326	3.9	428	5.1	-24%	368	2.8	-11%
Italy	19	0.2	183	2.2	-90%	96	0.7	-80%
Others	663	7.8	952	11.3	-30%	818	6.3	-19%
Middle East	266	3.1	238	2.8	12%	343	2.6	-22%
Rest of the World	460	5.4	187	2.2	146%	445	3.4	3%
Total	8,459	100.0	8,434	100.0	0%	13,054	100.0	-35%

Volume sold by destination – Iron ore and pellets

'000 metric tons	1Q24	1Q23	Δ y/y	4Q23	Δ q/q
Americas	9,785	10,151	-4%	9,667	1%
Brazil	8,762	8,749	0%	8,912	-2%
Others	1,023	1,402	-27%	755	35%
Asia	46,872	38,058	23%	73,341	-36%
China	36,309	28,295	28%	60,180	-40%
Japan	5,065	5,545	-9%	6,825	-26%
Others	5,498	4,218	30%	6,336	-13%
Europe	3,317	5,168	-36%	2,941	13%
Germany	776	964	-20%	654	19%
France	589	1,080	-45%	685	-14%
Others	1,952	3,124	-38%	1,602	22%
Middle East	1,407	1,240	13%	1,815	-22%
Rest of the World	2,446	1,042	135%	2,564	-5%
Total	63,827	55,659	15%	90,328	-29%

Net operating revenue by business area

US\$ million	1Q24	%	1Q23	%	Δ y/y	4Q23	%	Δ q/q
Iron Ore Solutions	7,025	83%	6,411	76%	10%	11,030	84%	-36%
Iron ore fines	5,292	63%	4,982	59%	6%	9,212	71%	-43%
ROM	27	0%	26	0%	4%	29	0%	-7%
Pellets	1,585	19%	1,322	16%	20%	1,680	13%	-6%
Others	121	1%	81	1%	49%	109	1%	11%
Energy Transition Metals	1,434	17%	1,998	24%	-28%	1,982	15%	-28%
Nickel	558	7%	1,013	12%	-45%	888	7%	-37%
Copper	587	7%	583	7%	1%	767	6%	-24%
PGMs	68	1%	75	1%	-9%	71	1%	-4%
Gold as by-product ¹	137	2%	97	1%	42%	185	1%	-25%
Silver as by-product	10	0%	9	0%	11%	13	0%	-23%
Cobalt ¹	10	0%	21	0%	-48%	16	0%	-31%
Others ²	64	1%	200	2%	-69%	42	0%	50%
Others	-	0%	25	0%	-100%	42	0%	-100%
Total of continuing operations	8,459	100%	8,434	100%	0%	13,054	100%	-35%

¹ Exclude the adjustment of US\$ 67 million in 1Q24, US\$ 35 million in 1Q23 and US\$ 82 million in 4Q23, related to the performance of streaming transactions at market price.

² Includes marketing activities.

Projects under evaluation and growth options

Copper		
Alemão	Capacity: 60 ktpy	Stage: FEL3
Carajás, Brazil	Growth project	Investment decision: 2025
Vale's ownership: 100%	Underground mine	115 kozpy Au as byproduct
South Hub extension (Bacaba)	Capacity: 60-80 ktpy	Stage: FEL3¹
Carajás, Brazil	Replacement project	Investment decision: 4Q24
Vale's ownership: 100%	Open pit	Development of mines to feed Sossego mill
Victor	Capacity: 20 ktpy	Stage: FEL3
Ontario, Canada	Replacement project	Investment decision: 2025
Vale's ownership: N/A	Underground mine	5 ktpy Ni as co-product; JV partnership under discussion
Hu'u	Capacity: 300-350 ktpy	Stage: FEL2
Dompu, Indonesia	Growth project	200 kozpy Au as byproduct
Vale's ownership: 80%	Underground block cave	
North Hub	Capacity: 70-100 ktpy	Stage: FEL1
Carajás, Brazil	Growth project	
Vale's ownership: 100%	Mines and processing plant	
Nickel		
Sorowako Limonite	Capacity: 60 ktpy	Stage: FEL3
Sorowako, Indonesia	Growth project	Investment decision: 2Q24
Vale's ownership: N/A ²	Mine + HPAL plant	8 ktpy Co as by-product
Creighton Ph. 5	Capacity: 15-20 ktpy	Stage: FEL3
Ontario, Canada	Replacement project	Investment decision: 2025
Vale's ownership: 100%	Underground mine	10-16 ktpy Cu as by-product
CCM Pit	Capacity: 12-15 ktpy	Stage: FEL3
Ontario, Canada	Replacement project	Investment decision: 2024-2025
Vale's ownership: 100%	Open pit mine	7-9 ktpy Cu as by-product
CCM Ph. 3	Capacity: 5-10 ktpy	Stage: FEL3
Ontario, Canada	Replacement project	Investment decision: 2025
Vale's ownership: 100%	Underground mine	7-13 ktpy Cu as by-product
CCM Ph. 4	Capacity: 7-12 ktpy	Stage: FEL2
Ontario, Canada	Replacement project	7-12 ktpy Cu as by-product
Vale's ownership: 100%	Underground mine	
Nickel Sulphate Plant	Capacity: ~25 ktpy	Stage: FEL3
Quebec, Canada	Growth project	Investment decision: 2024-2025
Vale's ownership: N/A		
Iron ore		
Concentration Plant	Capacity: 12-15 Mtpy pellet feed	Stage: FEL3
Sohar, Oman	Asset-light partnership	Investment decision: 2024
Vale's ownership: N/A	Located next to Oman's pellet plant	
Green briquette plants	Capacity: Under evaluation	Stage: FEL3 (two plants)
Brazil and other regions	Growth project	Investment decision: 2024-2029
Vale's ownership: N/A	Cold agglomeration plant	8 plants under engineering stage, including co-located plants in clients' facilities
Serra Leste expansion	Capacity: +4 Mtpy (10 Mtpy total)	Stage: FEL2
Northern System (Brazil)	Growth project	
Vale's ownership: 100%	Open pit mine	
S11C	Capacity: Under evaluation	Stage: FEL2
Northern System (Brazil)	Growth project	
Vale's ownership: 100%	Open pit mine	
Serra Norte N1/N2³	Capacity: Under evaluation	Stage: FEL1
Northern System (Brazil)	Replacement project	
Vale's ownership: 100%	Open pit mine	
Mega Hubs	Capacity: Under evaluation	Stage: Prefeasibility Study
Middle East	Growth project	
Vale's ownership: N/A	Industrial complexes for iron ore concentration and agglomeration and production of direct reduction metallics	Vale signed three agreements with Middle East local authorities and clients to jointly study the development of Mega Hubs

¹ Refers to the most advanced projects (Bacaba and Cristalino).

² Indirect ownership through Vale's 44.34% equity in PTVI. PTVI will own 100% of the mine and has the option to acquire up to 30% of the plant as part of the JV agreement.

³ Project scope is under review given permitting constraints.

Revised Reporting Practices for the Energy Transition Metals (ETM) Segment

As previously outlined in the Adjusted EBITDA chapter, additional changes to the reporting practices for the Energy Transition Metals (ETM) segment, effective from the first quarter of 2024 (1Q24), were implemented. These changes are part of the ongoing efforts to enhance financial transparency and provide stakeholders with a more accurate and detailed view of the segment's underlying economic performance. These adjustments will make the financial reporting more reflective of the true operational results and support better-informed decision-making. These changes are detailed below:

Operational Results Reporting: The operational results for each business unit (e.g. Sudbury, Salobo, etc.) within the copper and nickel segments will now be reported excluding certain accounting remeasurements and other non-operational impacts. Specifically, remeasurements such as the non-realized effect of provisional price adjustment (PPA), inventory write-downs, and other non-operational transactions not directly associated with each business unit. Instead, these items will be grouped and reported under a separate category labelled "Others" within the copper and nickel segments.

Marketing results: All marketing-related results will now be consolidated and reported under the "Other ETM" category.

General and Administrative Costs: General and Administrative (G&A) expenses related to the administration of Vale Base Metals will no longer be included in the Adjusted EBITDA as non-allocated. These costs will now be reported separately under the "Other ETM" category to provide clearer visibility into the core performance of the segment.

These changes are intended to streamline reporting and improve the transparency of operational cost structures within the ETM segment. The ETM segment results from previous quarters have not been restated to reflect these new reporting practices.