

# Vale's performance in 4Q23 and 2023

Rio de Janeiro, February 22<sup>nd</sup>, 2024. *"2023 was a remarkable year for Vale. Our results translated the evolution of our safety-driven cultural transformation and our progress towards operational excellence. Regarding our Safety Journey, in 2023 we recorded the lowest injury frequency rate in our history. Our 2023 iron ore production at 321 Mt exceeded our guidance and provided evidence of increased asset and process reliability. In addition, we started up our 1st briquette plant and entered into a partnership with Anglo American in a world-class operation, important steps to support our strategy to grow with quality. In our path to transform the Energy Transition Metals business, copper production had an impressive 50% growth in the 4th quarter, while nickel production was in line with guidance. Regarding our commitments, 2023 saw a substantial progress in the reparations of Brumadinho and Mariana. Finally, we remain focused on a disciplined capital allocation, consistently returning value to our shareholders, as evidenced by our recent dividend announcement. We have walked the talk, and I am excited that Vale is progressing towards achieving even greater performance levels"*, commented Eduardo Bartolomeo, Chief Executive Officer.

## Selected financial indicators

US\$ million	4Q23	4Q22	3Q23	2023	2022
Net operating revenues	13,054	11,941	10,623	41,784	43,839
Total costs and expenses (ex-Brumadinho and de-characterization of dams) <sup>1</sup>	(7,278)	(7,895)	(6,921)	(26,014)	(26,253)
Expenses related to Brumadinho event and de-characterization of dams	(396)	(375)	(305)	(1,083)	(1,151)
<b>Adjusted EBIT from continuing operations</b>	<b>5,479</b>	<b>3,726</b>	<b>3,397</b>	<b>14,891</b>	<b>16,589</b>
Adjusted EBIT margin (%)	42%	31%	32%	36%	38%
<b>Adjusted EBITDA from continuing operations</b>	<b>6,334</b>	<b>4,626</b>	<b>4,177</b>	<b>17,961</b>	<b>19,760</b>
Adjusted EBITDA margin (%)	49%	39%	39%	43%	45%
<b>Proforma adjusted EBITDA from continuing operations<sup>2</sup></b>	<b>6,730</b>	<b>5,001</b>	<b>4,482</b>	<b>19,044</b>	<b>20,911</b>
Net income from continuing operations attributable to Vale's shareholders	2,418	3,724	2,836	7,983	16,728
Net debt <sup>3</sup>	9,560	7,915	10,009	9,560	7,915
Expanded net debt	16,164	14,140	15,494	16,164	14,140
Capital expenditures	2,118	1,787	1,464	5,920	5,446

<sup>1</sup> Includes adjustment of US\$ 82 million in 4Q23, US\$ 47 million in 3Q23 and US\$ 216 million in 2023, to reflect the performance of the streaming transactions at market price.

<sup>2</sup> Excluding expenses related to Brumadinho.

<sup>3</sup> Including leases (IFRS 16).

## Highlights

### Business Results

- Proforma adjusted EBITDA from continued operations of US\$ 6.7 billion in Q4, up 35% y/y and 50% q/q on the back of better operational performance and strong iron ore prices. Proforma adjusted EBITDA from continued operations of US\$ 19.0 billion in 2023, down 9% mainly due to lower average iron ore, copper, and nickel reference prices in the year.
- Iron ore fines C1 cash cost ex-3<sup>rd</sup> party purchase decreased 5% q/q, reaching US\$ 20.8/t in Q4. In 2023, it reached US\$ 22.3/t, below the US\$ 22.5/t guidance for the year.
- Free Cash Flow from Operations of US\$ 2.5 billion in Q4, representing an EBITDA to cash-conversion of 37%.

### Disciplined capital allocation

- Capital expenditures of US\$ 2.1 billion in Q4, an increase of US\$ 331 million y/y, resulting primarily from increased investments in Iron Ore Solutions projects, particularly Capanema and the Carajás Railway, and higher investments to enhance our Energy Transition Metals mining operations.
- Gross debt and leases of US\$ 13.9 billion as of December 31<sup>st</sup>, 2023, US\$ 113 million lower q/q.

- Expanded net debt of US\$ 16.2 billion as of December 31st, 2023, US\$ 670 million higher q/q, mainly driven by the US\$ 1.2 billion provision increase related to the Renova Foundation and a potential global agreement framework. Vale's expanded net debt target continues to be US\$ 10-20 billion.

## Value creation and distribution

- US\$ 2.4 billion in dividends to be paid in March 2024, considering Vale's ordinary dividend policy applied to 2H23 results.
- US\$ 2.0 billion in dividends and interest on capital paid in December 2023, referring to the anticipated allocation of the 2023 results.
- Allocation of US\$ 44 million as part of the 4<sup>th</sup> buyback program in the quarter. As of the date of this report, the 4<sup>th</sup> buyback program was 15% complete<sup>1</sup>, with 22.6 million shares repurchased.

## Recent developments

- Agreement signed with Anglo American, in February, to acquire a 15% ownership interest and establish a partnership encompassing the Minas-Rio iron ore complex and Vale's Serra da Serpentina resources in Brazil. Following completion of the transaction, Vale will receive its pro-rata share of Minas-Rio production. Minas-Rio has an estimated high-grade pellet feed production capacity of 26.5 Mtpy.
- MoU signed with Hydnum Steel, in February, to jointly evaluate the feasibility of building an iron ore briquette plant in Hydnum Steel's flagship project for green steel in Puertollano, Spain. The plant will begin producing 1.5 Mtpy of rolled steel in 2026, and it is projected to have a 2.6 Mtpy capacity starting from 2030.

---

## 2023 in review

### Focusing and strengthening the core

#### • Gaining momentum on Iron Ore Solutions:

- Several agreements signed with clients and partners, focused on developing solutions for carbon emission reduction and delivering high-quality products. These include agreements to supply high-quality agglomerates, joint studies for implementing green hubs and Mega hubs, and establishing co-located briquetting plants.

#### • Building a unique Energy Transition Metals vehicle:

- Vale Base Metals Limited ("VBM") creation, the holding entity of Vale's Energy Transition Metals business. VBM has a separate corporate structure, with a dedicated Board of Directors.
- Two binding agreements signed in July, one with Manara Minerals and the other with Engine No. 1 under which the companies will separately invest in VBM. The total consideration to be paid to VBM is US\$ 3.4 billion (subject to usual transaction adjustments on closing), for a 13% equity interest, implying a US\$ 26 billion enterprise value.
- Heads of Agreement signed, regarding the divestment obligation of PT Vale Indonesia Tbk ("PTVI"), a significant step towards a mutually beneficial outcome that meets Indonesian divestment obligations and clears the way for renewal of PTVI's mining license beyond 2025.

#### • Advancing our project pipeline:

- The first iron ore briquette plant has started up in November at the Tubarão complex. The second plant is scheduled to start up in 1H24.
- The Torto dam operations at the Brucutu site has started up in July, enabling higher pellet feed availability and an improved product mix.

---

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

- The first throughput test at the Salobo complex was successfully completed in November. The three plants combined throughput capacity now exceeds 32 Mtpa, progressing towards reaching 36-Mtpa in 4Q24. The achieved production levels allowed the receipt of additional US\$ 370 million related to the streaming agreement.
- PTVI and the Chinese company Zhejiang Huayou Cobalt Co. signed a definitive agreement with the global automaker Ford Motor Co. for the development of the Pomalaa project in Indonesia.

### Promoting sustainable mining

- The B3/B4 dam had over 90% of its tailings removed, being reclassified to a level 1 protocol, and its complete decharacterization was brought forward from 2027 to 2024.
- Conformance with the Global Industry Standard on Tailings Management (GISTM) successfully achieved for all prioritized tailings facilities, within the industry's timeframe.
- Sol do Cerrado solar energy complex reached its 766-Megawatt full capacity in July.
- Vale Base Metals and BluestOne signed a long-term agreement in October, aimed at waste reuse of 50 ktpy of slag from the Onça Puma site, promoting circular mining.
- The creation of Agera, a company focused on developing and expanding our sustainable sand business. Agera will market and distribute the sand produced by processing tailings from Vale's iron ore operations in Minas Gerais, Brazil.

### Reparation

- The Brumadinho Integral Reparation Agreement continues to progress with 68% of the agreed-upon commitments completed and in accordance with the settlement deadlines.
- In the Mariana reparation, the Renova Foundation accelerated the restitution of housing rights by delivering 575 housing solutions out of a total 675 forecast.

# Adjusted EBITDA

## Adjusted EBITDA

US\$ million	4Q23	4Q22	3Q23	2023	2022
Net operating revenues	13,054	11,941	10,623	41,784	43,839
COGS	(6,891)	(7,155)	(6,309)	(24,089)	(24,028)
SG&A	(146)	(148)	(150)	(553)	(515)
Research and development	(231)	(218)	(188)	(723)	(660)
Pre-operating and stoppage expenses	(108)	(125)	(115)	(450)	(479)
Expenses related to Brumadinho event & de-characterization of dams	(396)	(375)	(305)	(1,083)	(1,151)
Other operational expenses <sup>1</sup>	98	(249)	(159)	(199)	(571)
Dividends and interests on associates and JVs	99	55	-	204	154
<b>Adjusted EBIT from continuing operations</b>	<b>5,479</b>	<b>3,726</b>	<b>3,397</b>	<b>14,891</b>	<b>16,589</b>
Depreciation, amortization & depletion	855	900	780	3,070	3,171
<b>Adjusted EBITDA from continuing operations</b>	<b>6,334</b>	<b>4,626</b>	<b>4,177</b>	<b>17,961</b>	<b>19,760</b>
<b>Proforma Adjusted EBITDA from continuing operations<sup>2</sup></b>	<b>6,730</b>	<b>5,001</b>	<b>4,482</b>	<b>19,044</b>	<b>20,911</b>

<sup>1</sup> Includes adjustment of US\$ 82 million in 4Q23, US\$ 47 million in 3Q23 and US\$ 216 million in 2023, to reflect the performance of the streaming transactions at market price.

<sup>2</sup> Excluding expenses related to Brumadinho.

## Proforma EBITDA – US\$ million, 4Q23 vs. 4Q22



<sup>1</sup> Excluding Brumadinho expenses. <sup>2</sup> Includes US\$ 44 million related to dividends and US\$ 61 million related to by products revenues.

## Sales & price realization

### Volume sold - Minerals and metals

'000 metric tons	4Q23	4Q22	3Q23	2023	2022
Iron ore fines	77,885	81,202	69,714	256,789	260,663
ROM	2,158	1,963	2,232	8,290	8,216
Pellets	10,285	8,789	8,613	35,840	33,164
Nickel	48	58	39	168	181
Copper <sup>1</sup>	98	72	74	308	244
Gold as by-product ('000 oz) <sup>1</sup>	125	73	104	388	277
Silver as by-product ('000 oz) <sup>1</sup>	513	533	364	1,800	1,611
PGMs ('000 oz)	59	54	41	263	215
Cobalt (metric ton)	492	927	399	2,172	2,361

<sup>1</sup> Including sales originated from both nickel and copper operations.

### Average realized prices

US\$/ton	4Q23	4Q22	3Q23	2023	2022
Iron ore - 62% Fe reference price	128.3	99.0	114.0	119.8	120.2
Iron ore fines Vale CFR/FOB realized price	118.3	95.6	105.1	108.1	108.1
Pellets CFR/FOB (wmt)	163.4	165.6	161.2	161.9	188.6
Nickel	18,420	24,454	21,237	21,830	23,669
Copper <sup>2</sup>	7,867	8,337	7,680	7,902	7,864
Gold (US\$/oz) <sup>12</sup>	2,125	1,677	1,872	1,996	1,785
Silver (US\$/oz) <sup>2</sup>	24.6	21.9	22.8	23.5	20.9
Cobalt (US\$/t) <sup>1</sup>	35,438	44,980	35,222	34,426	58,865

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

<sup>2</sup> Including sales originated from both nickel and copper operations.

## Costs

### COGS by business segment

US\$ million	4Q23	4Q22	3Q23	2023	2022
Iron Ore Solutions	5,092	5,079	4,646	17,310	16,755
Energy Transition Metals	1,735	1,965	1,599	6,571	6,605
Others	64	111	64	208	668
<b>Total COGS of continuing operations<sup>1</sup></b>	<b>6,891</b>	<b>7,155</b>	<b>6,309</b>	<b>24,089</b>	<b>24,028</b>
Depreciation	819	875	747	2,916	3,049
<b>COGS of continuing operations, ex-depreciation</b>	<b>6,072</b>	<b>6,280</b>	<b>5,562</b>	<b>21,173</b>	<b>20,979</b>

<sup>1</sup> COGS currency exposure in 4Q23 was as follows: 42.8% BRL, 51.1% USD, 5.9% CAD and 0.2% Other currencies.

## Expenses

### Operating expenses

US\$ million	4Q23	4Q22	3Q23	2023	2022
SG&A	146	148	150	553	515
Administrative	121	121	124	463	430
Personnel	48	45	52	197	185
Services	41	44	32	131	125
Depreciation	10	9	12	47	41
Others	22	23	28	88	79
Selling	25	27	26	90	85
R&D	231	218	188	723	660
Pre-operating and stoppage expenses	108	125	115	450	479
Expenses related to Brumadinho event and de-characterization of dams	396	375	305	1,083	1,151
Other operating expenses	(16)	249	206	415	571
<b>Total operating expenses</b>	<b>865</b>	<b>1,115</b>	<b>964</b>	<b>3,224</b>	<b>3,376</b>
Depreciation	35	25	34	154	122
<b>Operating expenses, ex-depreciation</b>	<b>830</b>	<b>1,090</b>	<b>930</b>	<b>3,070</b>	<b>3,254</b>

## Brumadinho

### Impact of Brumadinho and De-characterization in 4Q23

US\$ million	Provisions balance as of 3Q23 <sup>2</sup>	EBITDA impact	Payments	FX and other adjustments <sup>3</sup>	Provisions balance as of 4Q23
De-characterization	3,337	153	(145)	106	3,451
Agreements & donations <sup>1</sup>	3,197	137	(417)	143	3,060
<b>Total Provisions</b>	<b>6,534</b>	<b>290</b>	<b>(562)</b>	<b>249</b>	<b>6,511</b>
Incurred Expenses	-	106	(106)	-	-
<b>Total</b>	<b>6,534</b>	<b>396</b>	<b>(668)</b>	<b>249</b>	<b>6,511</b>

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

<sup>2</sup> Adjusted to reflect the reclassification of Pera structure to ARO.

<sup>3</sup> Includes foreign exchange, present value and other adjustments.

### Impact of Brumadinho and De-characterization from 2019 to 4Q23

US\$ million	EBITDA impact	Payments	PV & FX adjust <sup>2</sup>	Provisions balance as of 4Q23
De-characterization	5,191	(1,596)	(144)	3,451
Agreements & donations <sup>1</sup>	9,119	(6,332)	273	3,060
<b>Total Provisions</b>	<b>14,310</b>	<b>(7,928)</b>	<b>129</b>	<b>6,511</b>
Incurred expenses	2,979	(2,979)	-	-
Others	180	(178)	(2)	-
<b>Total</b>	<b>17,469</b>	<b>(11,085)</b>	<b>127</b>	<b>6,511</b>

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

<sup>2</sup> Includes foreign exchange, present value and other adjustments.

### Cash outflow of Brumadinho & De-characterization commitments<sup>1,2</sup>:

US\$ billion	Since 2019 until 4Q23 disbursed	2024	2025	2026	2027	Yearly average 2028-2035 <sup>3</sup>
De-characterization	1.6	0.6	0.6	0.6	0.5	0.3
Integral Reparation Agreement & other reparation provisions	6.3	1.1	1.0	0.7	0.3	0.1 <sup>4</sup>
Incurred expenses	3.0	0.5	0.4	0.4	0.3	0.4 <sup>5</sup>
<b>Total</b>	<b>10.9</b>	<b>2.2</b>	<b>2.0</b>	<b>1.7</b>	<b>1.1</b>	<b>-</b>

<sup>1</sup> Estimate cash outflow for 2023-2035 period, given BRL-USD exchange rates of 4.8413.

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

<sup>3</sup> Estimate annual average cash flow for De-characterization provisions in the 2028-2035 period is US\$ 273 million per year.

<sup>4</sup> Disbursements related to the Integral Reparation Agreement ending in 2029.

<sup>5</sup> Disbursements related to incurred expenses ending in 2028.

# Net income

## Reconciliation of proforma EBITDA to net income

US\$ million	4Q23	4Q22	3Q23	2023	2022
<b>Proforma Adjusted EBITDA from continuing operations</b>	<b>6,730</b>	<b>5,001</b>	<b>4,482</b>	<b>19,044</b>	<b>20,911</b>
Brumadinho event and de-characterization of dams	(396)	(375)	(305)	(1,083)	(1,151)
<b>Adjusted EBITDA from continuing operations</b>	<b>6,334</b>	<b>4,626</b>	<b>4,177</b>	<b>17,961</b>	<b>19,760</b>
Impairment reversal (impairment and disposals) of non-current assets, net <sup>1</sup>	(203)	(177)	(122)	(482)	773
Dividends received	(99)	(55)	-	(204)	(154)
Equity results and net income (loss) attributable to noncontrolling interests	(1,176)	53	73	(1,230)	223
Financial results	(874)	(658)	(385)	(1,946)	2,268
Income taxes	(709)	835	(127)	(3,046)	(2,971)
Depreciation, depletion & amortization	(855)	(900)	(780)	(3,070)	(3,171)
<b>Net income from continuing operations attributable to Vale's shareholders</b>	<b>2,418</b>	<b>3,724</b>	<b>2,836</b>	<b>7,983</b>	<b>16,728</b>

<sup>1</sup> Includes adjustment of US\$ 82 million in 4Q23, US\$ 47 million in 3Q23 and US\$ 216 million in 2023, to reflect the performance of the streaming transactions at market price.

## Financial results

US\$ million	4Q23	4Q22	3Q23	2023	2022
Financial expenses, of which:	(380)	(291)	(362)	(1,459)	(1,179)
Gross interest	(190)	(149)	(192)	(744)	(612)
Capitalization of interest	5	7	5	19	47
Others	(163)	(110)	(137)	(586)	(462)
Financial expenses (REFIS)	(32)	(39)	(38)	(148)	(152)
Financial income	105	92	100	432	520
Shareholder Debentures	(483)	(99)	30	(179)	659
Financial Guarantee	-	2	-	-	481
Derivatives <sup>1</sup>	200	373	(51)	903	1,154
Currency and interest rate swaps	218	323	(92)	900	1,130
Others (commodities, etc)	(18)	50	41	3	24
Foreign exchange and monetary variation	(316)	(735)	(102)	(1,643)	633
<b>Financial result, net</b>	<b>(874)</b>	<b>(658)</b>	<b>(385)</b>	<b>(1,946)</b>	<b>2,268</b>

<sup>1</sup> The cash effect of the derivatives was a gain of US\$ 297 million in 4Q23.

## Main factors that affected net income in 4Q23 vs. 4Q22

US\$ million		
<b>4Q22 Net income from continuing operations attributable to Vale's shareholders</b>	<b>3,724</b>	
<b>Changes to:</b>		
EBITDA proforma	1,729	Mainly due to higher iron ore realized prices and higher copper sales volumes.
Brumadinho and de-characterization of dams	(21)	
Impairment reversal (impairment and disposals) of non-current assets, net <sup>1</sup>	(26)	
Dividends received	(44)	
Equity results and net income (loss) attributable to noncontrolling interests	(1,229)	Mainly due to provision increase related to Samarco's dam failure.
Financial results	(216)	4Q22 impacted by the reduction of the mark-to-market of shareholders' debentures.
Income taxes	(1,544)	Mainly due to an increase in taxable income and higher operational results.
Depreciation, depletion & amortization	45	
<b>4Q23 Net income from continuing operations attributable to Vale's shareholders</b>	<b>2,418</b>	

<sup>1</sup> Includes adjustment of US\$ 82 million in 4Q23, to reflect the performance of the streaming transactions at market price.

# CAPEX

## Growth and sustaining projects execution

US\$ million	4Q23	%	4Q22	%	3Q23	%	2023	%	2022	%
<b>Growth projects</b>	<b>481</b>	<b>22.7</b>	<b>426</b>	<b>23.8</b>	<b>468</b>	<b>32.0</b>	<b>1,651</b>	<b>27.9</b>	<b>1,587</b>	<b>29.1</b>
Iron Ore Solutions	374	17.7	285	15.9	354	24.2	1,219	20.6	866	15.9
Energy Transition Metals	95	4.5	100	5.6	96	6.6	358	6.0	338	6.2
Nickel	84	4.0	16	0.9	67	4.6	235	4.0	49	0.9
Copper	11	0.5	84	4.7	29	2.0	123	2.1	289	5.3
Energy and others	12	0.6	41	2.3	18	1.2	74	1.3	383	7.0
<b>Sustaining projects</b>	<b>1,637</b>	<b>77.3</b>	<b>1,361</b>	<b>76.2</b>	<b>996</b>	<b>68.0</b>	<b>4,269</b>	<b>72.1</b>	<b>3,859</b>	<b>70.9</b>
Iron Ore Solutions	946	44.7	764	42.8	609	41.6	2,539	42.9	2,236	41.1
Energy Transition Metals	664	31.4	567	31.7	357	24.4	1,610	27.2	1,521	27.9
Nickel	520	24.6	480	26.9	298	20.4	1,305	22.0	1,287	23.6
Copper	144	6.8	87	4.9	59	4.0	305	5.2	234	4.3
Energy and others	27	1.3	30	1.7	30	2.0	120	2.0	102	1.9
<b>Total</b>	<b>2,118</b>	<b>100.0</b>	<b>1,787</b>	<b>100.0</b>	<b>1,464</b>	<b>100.0</b>	<b>5,920</b>	<b>100.0</b>	<b>5,446</b>	<b>100.0</b>

## Growth projects

Investments in growth projects under construction totaled US\$ 481 million in Q4, a 13% increase y/y, driven by higher investments in Iron Ore Solutions, mainly in the Capanema project and the Rio Tocantins Bridge duplication, in the Carajás Railway. In Energy Transition Metals, the increase in disbursements for the Onça Puma 2<sup>nd</sup> Furnace and the Bahadopi nickel project were offset by lower disbursements at Salobo III as the ramp-up advances.

## Growth projects progress indicator<sup>2</sup>

Projects	Capex 4Q23	Financial progress <sup>1</sup>	Physical progress	Comments
<b>Iron Ore Solutions</b>				
<b>Northern System 240 Mtpy</b> Capacity: 10 Mtpy Start-up: 1H23 Capex: US\$ 772 MM	37	83%	94% <sup>2</sup>	Load tests at the mine's loading silo are programmed to start in 1Q24. For the railroad, initial works on the bridge over the Jacundá river have been completed. At the port, the load tests for the entire project route were successfully completed.
<b>Serra Sul 120 Mtpy<sup>3</sup></b> Capacity: 20 Mtpy Start-up: 2H26 Capex: US\$ 1,548 MM <sup>4</sup>	123	58%	61%	Construction of the reinforced earth wall at the mine was completed. The foundations for the conveyor belts in the West Corridor and the CT-05 Transfer House have also been completed. Pre-assembly work on the semi-mobile crusher and modules of the long-distance conveyor belt has begun. At the plant, concrete is being laid according to plan.
<b>Capanema's Maximization</b> Capacity: 18 Mtpy Start-up: 2H25 Capex: US\$ 913 MM	66	43%	68%	Assembly of equipment, crushing machinery, structures and conveyor belts is on schedule to be ready by 3Q24. The assembly of the long-distance conveyor belt galleries is on schedule.
<b>Briquettes Tubarão</b> Capacity: 6 Mtpy Start-up: 4Q23 (Plant 1)   1H24 (Plant 2) Capex: US\$ 256 MM	31	94%	96%	Plant 1 started-up in November. Plant 2 is in the commissioning phase.

contd.

<sup>2</sup> Pre-Operating expenses included in the total estimated capex information, according to the approvals from Vale's Board of Directors



## Growth projects progress indicator<sup>3</sup> *contd.*

Projects	Capex 4Q23	Financial progress <sup>1</sup>	Physical progress	Comments
<b>Energy Transition Materials</b>				
<b>Onça Puma 2<sup>nd</sup> Furnace</b> <i>Capacity: 12-15 ktpy</i> <i>Start-up: 2H25</i> <i>Capex: US\$ 555 MM</i>	36	18%	26%	Assembly of the second furnace, detailed engineering, and equipment and services <sup>1</sup> procurement is underway.

<sup>1</sup> CAPEX disbursement until end of 4Q23 vs. CAPEX expected.

<sup>2</sup> Considering physical progress of mine, plant and logistics.

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

<sup>4</sup> CAPEX adjusted to include Pre-operating Expenses

## Sustaining projects

Investments in sustaining our operations totaled US\$ 1.637 billion in Q4, a 20% increase y/y, with investments in mine equipment, mining fleet and in adjustments to meet Critical Activity Requirements.

## Sustaining projects progress indicator<sup>3</sup>

Projects	Capex 4Q23	Financial progress <sup>1</sup>	Physical progress	Comments
<b>Iron Ore Solutions</b>				
<b>Compact Crushing S11D</b> <i>Capacity: 50 Mtpy</i> <i>Start-up: 2H26</i> <i>Capex: US\$ 755 MM</i>	46	16%	26%	Construction of the primary crushing structures continues according to plan with the walls of the building being built. Work on the Western Corridor conveyor belts is in final stages and is expected to be completed in 1H24.
<b>N3 – Serra Norte</b> <i>Capacity: 6 Mtpy</i> <i>Start-up: 1H26</i> <i>Capex: US\$ 84 MM</i>	1	18%	18%	The Installation License and Vegetation Suppression Authorization are expected to be obtained by the end of 2024. As a result, the start-up has been revised to 1H26.
<b>VGR 1 plant revamp<sup>3</sup></b> <i>Capacity: 17 Mtpy</i> <i>Start-up: 2H24</i> <i>Capex: US\$ 67 MM</i>	10	33%	78%	Civil works on the Sump were completed in Dec/23 and the slurry pumps were assembled. Electromechanical assembly of the slewing cranes has begun. The operational readiness plan is underway.
<b>Energy Transition Materials</b>				
<b>Voisey's Bay Mine Extension</b> <i>Capacity: 45 ktpy (Ni) and 20 ktpy (Cu)</i> <i>Start-up: 1H21<sup>2</sup></i> <i>Capex: US\$ 2,690 MM</i>	120	92%	92%	The main surface assets are completed and already operating. The electromechanical assembly on the remaining surface assets are well advanced (above 60% physical progress). In the underground portion, the scope in Reid Brook is completed and the project is fully focused on Eastern Deeps. The mine development is concluded and construction is ongoing.

<sup>1</sup> CAPEX disbursement until end of 4Q23 vs. CAPEX expected.

<sup>2</sup> 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.

<sup>3</sup> 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 - 4Q23

US\$ million	Iron Ore Solutions	Energy Transition Materials	Energy and others	Total
Enhancement of operations	533	400	2	935
Replacement projects	12	159	-	171
Filtration and dry stacking projects	45	-	-	45
Dam management	48	11	-	59
Other investments in dams and waste dumps	74	23	-	97
Health and Safety	88	59	2	149
Social investments and environmental protection	79	4	-	83
Administrative & Others	67	8	23	98
<b>Total</b>	<b>946</b>	<b>664</b>	<b>27</b>	<b>1,637</b>

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

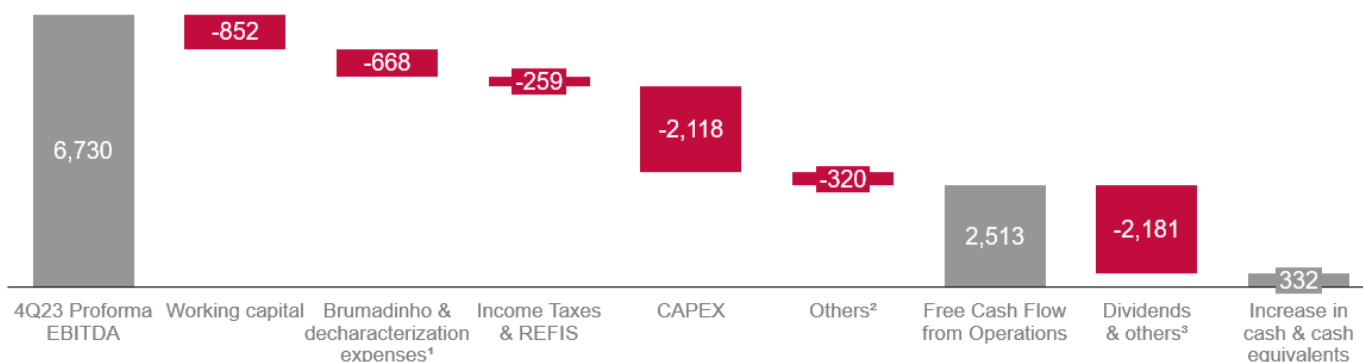
# Free cash flow

Free Cash Flow from Operations reached US\$ 2.513 billion in 4Q23, US\$ 2.526 billion higher y/y, largely explained by US\$ 1.729 billion increase in Proforma EBITDA and US\$ 948 million lower negative working capital impact.

In the quarter, working capital variation is explained by the US\$ 832 million increase in accounts receivable mainly due to the combined effect of (i) expected seasonally higher iron ore accrual sales volume (17.3 Mt in Q4 versus 16.4 Mt in Q3) led by stronger sales at the end of Q4; and (ii) iron ore provisional prices above quarter average (US\$ 139.1/t vs. US\$ 128.3/t, respectively).

Vale's cash generation and position was primarily used to distribute US\$ 2.040 billion to shareholders in dividends and interest on capital.

## Free Cash Flow – US\$ million, 4Q23



<sup>1</sup> Includes US\$ 562 million of disbursement of Brumadinho and de-characterization provisioned expenses and US\$ 106 million of Brumadinho incurred expenses

<sup>2</sup> Includes interest on loans, derivatives, leasing, dividends and interest on capital paid to noncontrolling interest, shareholders debentures, payments related to Samarco dam failure and others.

<sup>3</sup> Includes US\$ 2,040 million of dividends and interest on capital, US\$ 44 million of share buyback and US\$ 25 million debt repayment.

# Debt

## Debt indicators

US\$ million	4Q23	4Q22	3Q23
<b>Gross debt<sup>1</sup></b>	<b>12,471</b>	<b>11,181</b>	<b>12,556</b>
Lease (IFRS 16)	1,452	1,531	1,480
<b>Gross debt and leases</b>	<b>13,923</b>	<b>12,712</b>	<b>14,036</b>
Cash, cash equivalents and short-term investments <sup>2</sup>	(4,363)	(4,797)	(4,027)
<b>Net debt</b>	<b>9,560</b>	<b>7,915</b>	<b>10,009</b>
Currency swaps <sup>3</sup>	(664)	(211)	(722)
Brumadinho provisions	3,060	3,312	3,197
Samarco & Renova Foundation provisions <sup>4</sup>	4,208	3,124	3,010
<b>Expanded net debt</b>	<b>16,164</b>	<b>14,140</b>	<b>15,494</b>
Average debt maturity (years)	7.9	8.7	8.2
Cost of debt after hedge (% pa)	5.6	5.5	5.6
Total debt and leases / adjusted LTM EBITDA (x)	0.8	0.6	0.9
Net debt / adjusted LTM EBITDA (x)	0.5	0.4	0.6
Adjusted LTM EBITDA / LTM gross interest (x)	24.1	32.3	23.0

<sup>1</sup> Does not include leases (IFRS 16).

<sup>2</sup> Includes US\$ 703 million related to non-current assets held for sale in 4Q23 due to the upcoming PTVI divestment.

<sup>3</sup> Includes interest rate swaps.

<sup>4</sup> Does not include provision for de-characterization of Germano dam in the amount of US\$ 219 million in 4Q23, US\$ 209 million in 3Q23 and US\$ 197 million in 4Q22.

Gross debt and leases were US\$ 13.9 billion as of December 31st, 2023, US\$ 113 million lower q/q.

This quarter we recognized a provision increase of US\$1.2 billion related to Samarco's dam failure and a potential settlement with Brazilian authorities. Although still subject to uncertainty, our assessment considers all information available from the status of the potential settlement agreement, the claims related to the Samarco dam failure and the extent to which Samarco may be able to fund any future outflows.

As such, expanded net debt increased in the quarter, totaling US\$ 16.2 billion, nearly US\$ 0.7 billion higher q/q. The higher cash position in December contributed to partially offset the impact of the provision increase. We maintain our US\$ 10-20 billion expanded net debt target range.

The average debt maturity declined slightly to 7.9 years (compared to 8.2 years at the end of 3Q23). The average annual cost of debt after currency and interest rate swaps was 5.6%, flat q/q.

# Performance of the business segments

## Proforma Adjusted EBITDA from continuing operations, by business area

US\$ million	4Q23	4Q22	3Q23	2023	2022
<b>Iron Ore Solutions</b>	<b>6,411</b>	<b>4,721</b>	<b>4,455</b>	<b>18,127</b>	<b>19,443</b>
Iron ore fines	5,467	3,955	3,696	14,888	15,670
Pellets	925	743	712	3,122	3,653
Other Ferrous Minerals	19	23	47	117	120
<b>Energy Transition Metals<sup>1</sup></b>	<b>523</b>	<b>775</b>	<b>379</b>	<b>1,951</b>	<b>2,493</b>
Nickel	152	594	100	815	1,857
Copper	375	165	269	1,100	569
Other	(4)	16	10	37	67
<b>Others<sup>2</sup></b>	<b>(204)</b>	<b>(495)</b>	<b>(352)</b>	<b>(1,034)</b>	<b>(1,025)</b>
<b>Total</b>	<b>6,730</b>	<b>5,001</b>	<b>4,482</b>	<b>19,044</b>	<b>20,911</b>

<sup>1</sup> Includes an adjustment of US\$ 82 million in 4Q23 and US\$ 47 million in 3Q23, 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.

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

## Segment information 4Q23

US\$ million	Net operating revenues	Cost <sup>1</sup>	Expenses			Dividends and interest received from associates and JVs	Adjusted EBITDA
			SG&A and others <sup>1</sup>	R&D <sup>1</sup>	Pre operating & stoppage <sup>1</sup>		
<b>Iron Ore Solutions</b>	<b>11,030</b>	<b>(4,568)</b>	<b>87</b>	<b>(104)</b>	<b>(80)</b>	<b>46</b>	<b>6,411</b>
Iron ore fines	9,212	(3,704)	95	(90)	(67)	21	5,467
Pellets	1,680	(768)	(4)	(3)	(5)	25	925
Others ferrous	138	(96)	(4)	(11)	(8)	-	19
<b>Energy Transition Metals</b>	<b>1,982</b>	<b>(1,443)</b>	<b>64</b>	<b>(78)</b>	<b>(2)</b>	<b>-</b>	<b>523</b>
Nickel <sup>2</sup>	1,177	(980)	(9)	(35)	(1)	-	152
Copper <sup>3</sup>	855	(427)	(9)	(43)	(1)	-	375
Others <sup>4</sup>	(50)	(36)	82	-	-	-	(4)
<b>Brumadinho event and de-characterization of dams</b>	<b>-</b>	<b>-</b>	<b>(396)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(396)</b>
<b>Others</b>	<b>42</b>	<b>(61)</b>	<b>(188)</b>	<b>(49)</b>	<b>(1)</b>	<b>53</b>	<b>(204)</b>
<b>Total</b>	<b>13,054</b>	<b>(6,072)</b>	<b>(433)</b>	<b>(231)</b>	<b>(83)</b>	<b>99</b>	<b>6,334</b>

<sup>1</sup> Excluding depreciation, depletion and amortization.

<sup>2</sup> Including copper and by-products from our nickel operations.

<sup>3</sup> Including by-products from our copper operations.

<sup>4</sup> Includes an adjustment of US\$ 82 million increasing the adjusted EBITDA 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.

# Iron Ore Solutions

## Selected financial indicators - Iron Ore Solutions

US\$ million	4Q23	4Q22	3Q23	2023	2022
Net Revenues	11,030	9,330	8,862	34,079	34,916
Costs <sup>1</sup>	(4,568)	(4,561)	(4,164)	(15,451)	(14,946)
SG&A and Other expenses <sup>1</sup>	87	94	(79)	(14)	(51)
Pre-operating and stoppage expenses <sup>1</sup>	(80)	(102)	(89)	(338)	(381)
R&D expenses	(104)	(84)	(75)	(283)	(215)
Dividends and interests on associates and JVs	46	44	-	134	120
<b>Adjusted EBITDA</b>	<b>6,411</b>	<b>4,721</b>	<b>4,455</b>	<b>18,127</b>	<b>19,443</b>
Depreciation and amortization	(549)	(535)	(508)	(1,962)	(1,890)
<b>Adjusted EBIT</b>	<b>5,862</b>	<b>4,186</b>	<b>3,947</b>	<b>16,165</b>	<b>17,553</b>
<b>Adjusted EBIT margin (%)</b>	<b>53.1</b>	<b>44.9</b>	<b>44.5</b>	<b>47.4</b>	<b>50.3</b>

<sup>1</sup> Net of depreciation and amortization.

## Iron Ore Solutions EBITDA Variation 4Q23 vs. 4Q22

US\$ million	4Q22	Drivers			Total variation	4Q23
		Volume	Prices	Others		
Iron ore fines	3,955	(161)	1,763	(90)	1,512	5,467
Pellets	743	109	(2)	75	182	925
Others	23	2	16	(22)	(4)	19
<b>Iron Ore Solutions</b>	<b>4,721</b>	<b>(50)</b>	<b>1,777</b>	<b>(37)</b>	<b>1,690</b>	<b>6,411</b>

The 36% increase in EBITDA y/y is mainly explained by higher iron ore fines realized prices (US\$ 1.777 billion), mainly due to 30% higher average iron ore reference price and the positive effect from forward price adjustments.

## Revenues

### Iron Ore Solutions' volumes, prices, premiums and revenues

	4Q23	4Q22	3Q23	2023	2022
<b>Volume sold ('000 metric tons)</b>					
<b>Iron ore fines</b>	<b>77,885</b>	<b>81,202</b>	<b>69,714</b>	<b>256,789</b>	<b>260,663</b>
IOCJ	13,074	22,605	14,758	52,673	68,027
BRBF	45,199	41,150	36,454	134,333	128,800
Pellet feed – China (PFC1) <sup>1</sup>	3,279	2,758	4,234	13,335	8,887
Lump	1,871	2,212	2,367	7,498	8,406
High-silica products	8,646	6,698	6,131	26,736	26,617
Other fines (60-62% Fe)	5,816	5,779	5,770	22,214	19,926
<b>ROM</b>	<b>2,158</b>	<b>1,963</b>	<b>2,232</b>	<b>8,290</b>	<b>8,216</b>
<b>Pellets</b>	<b>10,285</b>	<b>8,789</b>	<b>8,613</b>	<b>35,840</b>	<b>33,164</b>
<b>Share of premium products<sup>2</sup> (%)</b>	<b>80%</b>	<b>83%</b>	<b>81%</b>	<b>79%</b>	<b>80%</b>
<b>Average prices (US\$/t)</b>					
Iron ore - 62% Fe price	128.3	99.0	114.0	119.8	120.2
Iron ore - 62% Fe low alumina index	128.4	99.8	116.1	121.6	123.0
Iron ore - 65% Fe index	138.8	111.4	125.5	132.2	139.2
Provisional price at the end of the quarter	139.1	116.3	117.0	139.1	116.3
Iron ore fines Vale CFR reference (dmt)	131.6	107.4	116.3	120.5	121.1
Iron ore fines Vale CFR/FOB realized price	118.3	95.6	105.1	108.1	108.1
Pellets CFR/FOB (wmt)	163.4	165.6	161.2	161.9	188.6

contd.

## Iron Ore Solutions' volumes, prices, premiums and revenues *contd.*

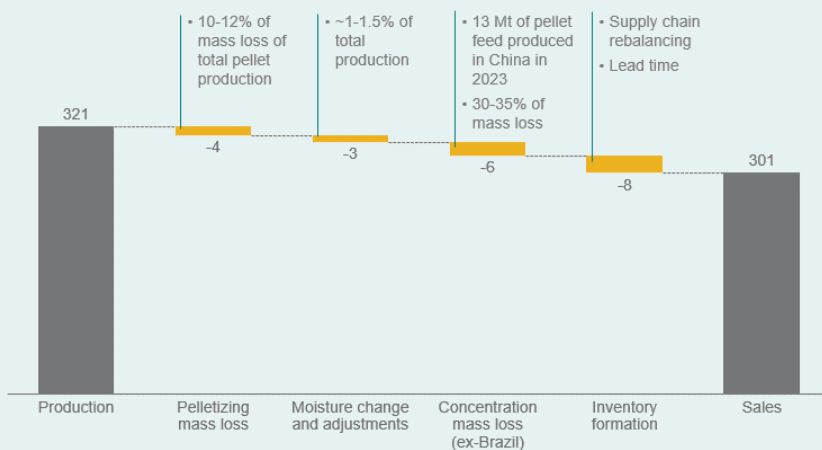
	4Q23	4Q22	3Q23	2023	2022
<b>Iron ore fines and pellets quality premium (US\$/t)</b>					
Iron ore fines quality premium	(1.1)	1.6	0.8	(0.2)	1.8
Pellets weighted average contribution	2.7	3.8	3.0	3.2	5.1
<b>Total</b>	<b>1.6</b>	<b>5.4</b>	<b>3.8</b>	<b>3.0</b>	<b>6.9</b>
<b>Net operating revenue by product (US\$ million)</b>					
Iron ore fines	9,212	7,767	7,331	27,760	28,188
ROM	29	22	33	122	103
Pellets	1,680	1,456	1,388	5,803	6,256
Others	109	85	110	394	369
<b>Total</b>	<b>11,030</b>	<b>9,330</b>	<b>8,862</b>	<b>34,079</b>	<b>34,916</b>

<sup>1</sup> Products concentrated in Chinese facilities.

<sup>2</sup> Pellets, Carajás (IOCJ), Brazilian Blend Fines (BRBF) and pellet feed.

The share of premium products in total sales reached 80% in Q4. The all-in premium totaled US\$ 1.6/t, US\$ 2.2/t lower q/q and US\$ 3.8/t lower y/y. Given market conditions in Q4, with lower discounts for high-silica products as well as lower premiums for high-grade products, Vale decided to increase high silica products' share in the sales mix, while rebalancing premium iron ore inventories, maximizing its product portfolio value.

### Box: Vale's iron ore production-to-sales in 2023 (Mt)



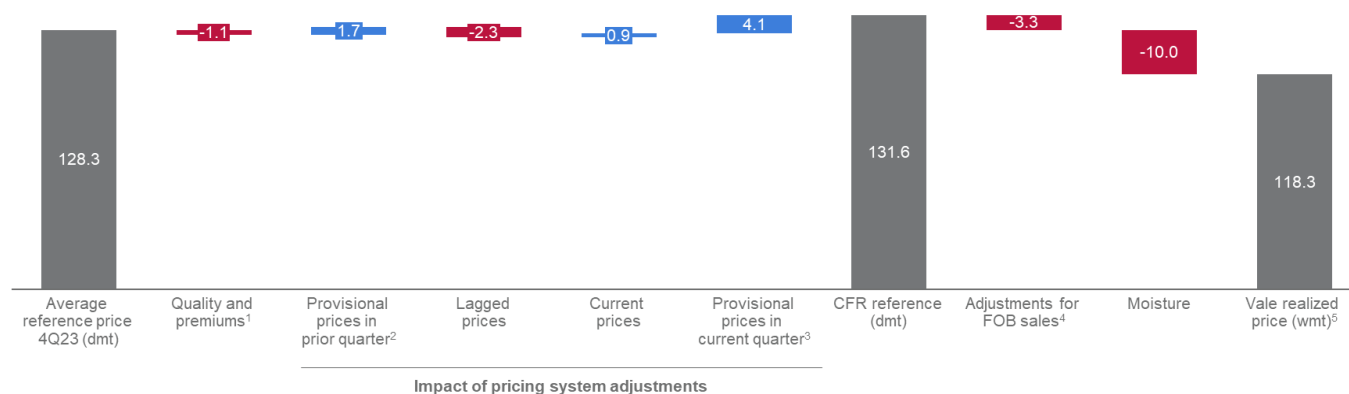
After two years of strong sales and inventory drawdown, and given market conditions, Vale optimized its product portfolio and rebalanced its premium iron ore inventories. This represented a restocking of 8 Mt throughout the chain.

The remaining difference is explained by three effects from Vale's supply chain: (i) the pelletizing process; (ii) the moisture effect; and (iii) the concentration in China.

# Iron ore fines, excluding Pellets and ROM

## Revenues & price realization

### Price realization iron ore fines – US\$/t, 4Q23



<sup>1</sup> Includes quality (US\$ 0.6/t) and premiums/discounts and commercial conditions (US\$ -1.6/t).

<sup>2</sup> Adjustment as a result of provisional prices booked in 3Q23 at US\$ 117.0/t.

<sup>3</sup> Difference between the weighted average of the prices provisionally set at the end of 4Q23 at US\$ 139.1/t based on forward curves and US\$ 128.3/t from the 4Q23 average reference price.

<sup>4</sup> Includes freight pricing mechanisms of CFR sales freight recognition.

<sup>5</sup> Vale's price is net of taxes.

The average realized iron ore fines price was US\$ 118.3/t, US\$ 13.2/t higher q/q, largely attributed to higher benchmark iron ore prices (US\$ 14.3/t higher y/y), and a positive impact from forward price adjustments (US\$ 4.0/t higher y/y).

### Iron Ore fines pricing system breakdown (%)

	4Q23	4Q22	3Q23
Lagged	12	12	13
Current	50	57	44
Provisional	38	31	43
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

## Costs

### Iron ore fines cash cost and freight

	4Q23	4Q22	3Q23	2023	2022
<b>Costs (US\$ million)</b>					
Vale's iron ore fines C1 cash cost (A)	1,924	1,759	1,784	6,606	5,856
Third-party purchase costs <sup>1</sup> (B)	468	274	402	1,412	1,100
Vale's C1 cash cost ex-third-party volumes (C = A – B)	1,456	1,485	1,383	5,194	4,756
<b>Sales Volumes (Mt)</b>					
Volume sold (ex-ROM) (D)	77.9	81.2	69.7	256.8	260.7
Volume sold from third-party purchases (E)	7.8	5.1	6.6	23.6	18.5
Volume sold from own operations (F = D – E)	70.1	76.2	63.1	233.2	242.2

contd.

## Iron ore fines cash cost and freight *contd.*

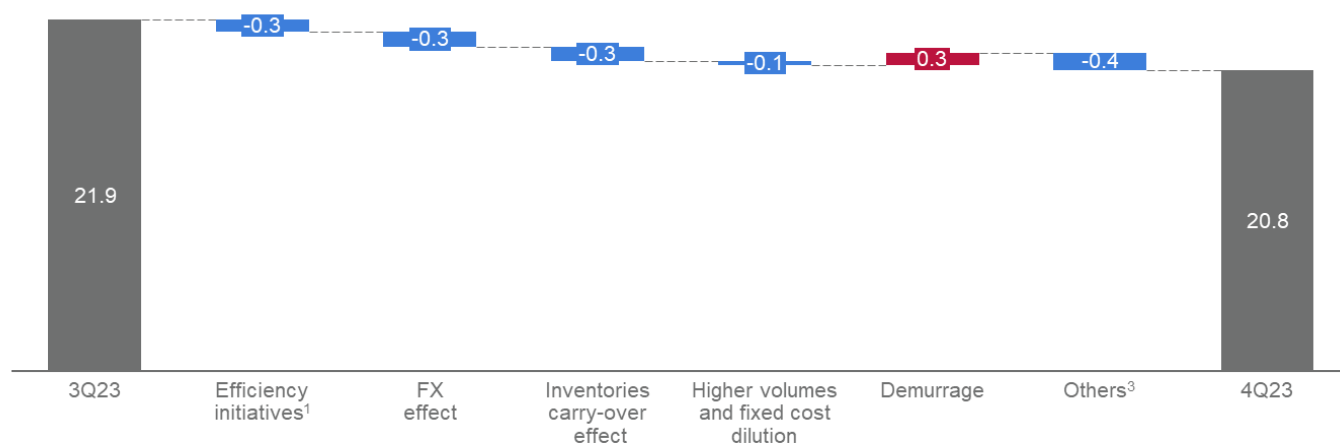
	4Q23	4Q22	3Q23	2023	2022
<b>Iron ore fines cash cost (ex-ROM, ex-royalties), FOB (US\$ /t)</b>					
Vale's C1 cash cost ex-third-party purchase cost (C/F)	20.8	19.5	21.9	22.3	19.6
Average third-party purchase C1 cash cost (B/E)	59.9	54.2	60.5	59.9	59.5
Vale's iron ore cash cost (A/D)	24.7	21.7	25.6	25.7	22.5
<b>Freight</b>					
Maritime freight costs (G)	1,258	1,312	1,129	3,929	4,328
% of CFR sales (H)	86%	86%	86%	83%	82%
Volume CFR (Mt) (I = D x H)	66.9	69.8	59.8	213.9	214.5
Vale's iron ore unit freight cost (US\$/t) (G/I)	18.8	18.8	18.9	18.4	20.2

<sup>1</sup> Includes logistics costs related to third-party purchases

## Iron ore fines COGS - 4Q22 vs. 4Q23

US\$ million	4Q22	Drivers			Total variation	4Q23
		Volume	Exchange rate	Others		
C1 cash costs	1,759	(75)	60	180	165	1,924
Freight	1,312	(55)	-	1	(54)	1,258
Distribution costs	153	(6)	-	6	-	153
Royalties & others	520	(21)	-	(130)	(151)	369
<b>Total costs before depreciation and amortization</b>	<b>3,744</b>	<b>(157)</b>	<b>60</b>	<b>57</b>	<b>(40)</b>	<b>3,704</b>
Depreciation	382	(16)	13	(2)	(5)	377
<b>Total</b>	<b>4,126</b>	<b>(173)</b>	<b>73</b>	<b>55</b>	<b>(45)</b>	<b>4,081</b>

## C1 cash cost variation (excluding 3<sup>rd</sup>-party purchases) – US\$/t, 4Q23 vs. 3Q23



<sup>1</sup> Including costs related to material, personal, services, and maintenance.

<sup>2</sup> Including, one-off fiscal credits, diesel costs, energy costs, and others.

Vale's C1 cash cost, ex-third-party purchases, totaled US\$ 22.3/t in 2023, below the US\$ 22.5/t guidance for the year. In Q4, the C1 cash cost decreased US\$ 1.1/t q/q, reaching US\$ 20.8/t. The main cost reduction drivers were (i) continued effort to improve efficiency across the business; (ii) positive effect of exchange rate; (iii) inventory carry-over effect; and (iv) slightly higher volumes diluting fixed costs.

Vale's maritime freight cost was slightly lower q/q, reaching US\$ 18.8/t, driven by a lower exposure to spot freight. CFR sales totaled 66.9 Mt in Q4, reflecting 86% of total iron ore fines sales.



## Expenses

### Expenses - Iron Ore fines

US\$ millions	4Q23	4Q22	3Q23	2023	2022
SG&A	17	21	21	70	64
R&D	90	83	70	256	208
Pre-operating and stoppage expenses	67	92	78	293	342
Other expenses <sup>1</sup>	(112)	(114)	58	(83)	(10)
<b>Total expenses</b>	<b>62</b>	<b>82</b>	<b>227</b>	<b>536</b>	<b>604</b>

<sup>1</sup> Including a positive tax recovery effect.

## Iron ore pellets

### Pellets – EBITDA

US\$ million	4Q23	4Q22	3Q23	Comments
Net revenues / Realized prices	1,680	1,456	1,388	Driven by higher sales volumes (1.5 Mt higher y/y and 1.7 Mt higher q/q).
Dividends from leased pelletizing plants	25	30	-	
Cash costs (Iron ore, leasing, freight, overhead, energy and other)	(768)	(735)	(669)	Flat unitary cash costs.
Pre-operational & stoppage expenses	(5)	(5)	(6)	
Expenses (Selling, R&D and other)	(7)	(3)	(1)	
<b>EBITDA</b>	<b>925</b>	<b>743</b>	<b>712</b>	
<b>EBITDA/t</b>	<b>90</b>	<b>85</b>	<b>83</b>	

## Iron ore fines and pellets cash break-even landed in China<sup>4</sup>

### Iron ore fines and pellets cash break-even landed in China

US\$/t	4Q23	4Q22	3Q23	2023	2022
Vale's C1 cash cost ex-third-party purchase cost	20.8	19.5	21.9	22.3	19.6
Third party purchases cost adjustments	3.9	2.2	3.7	3.4	2.8
Vale's iron ore cash cost (ex-ROM, ex-royalties), FOB (US\$ /t)	24.7	21.7	25.6	25.7	22.5
Iron ore fines freight cost (ex-bunker oil hedge)	18.8	18.8	18.9	18.4	20.2
Iron ore fines distribution cost	2.0	1.9	2.6	2.5	2.0
Iron ore fines expenses <sup>1</sup> & royalties	5.2	7.2	7.7	6.6	6.9
Iron ore fines moisture adjustment	4.2	4.3	4.7	4.6	4.6
Iron ore fines quality adjustment	1.1	(1.6)	(0.8)	0.2	(1.8)
<b>Iron ore fines EBITDA break-even (US\$/dmt)</b>	<b>56.0</b>	<b>52.3</b>	<b>58.7</b>	<b>58.0</b>	<b>54.4</b>
Iron ore fines pellet adjustment	(2.7)	(3.8)	(3.0)	(3.2)	(5.1)
<b>Iron ore fines and pellets EBITDA break-even (US\$/dmt)</b>	<b>53.3</b>	<b>48.5</b>	<b>55.7</b>	<b>54.8</b>	<b>49.3</b>
Iron ore fines sustaining investments	10.9	8.7	7.8	8.8	7.8
<b>Iron ore fines and pellets cash break-even landed in China (US\$/dmt)</b>	<b>64.2</b>	<b>57.2</b>	<b>63.5</b>	<b>63.6</b>	<b>57.1</b>

<sup>1</sup> Net of depreciation and includes dividends received. Including stoppage expenses.

<sup>4</sup> 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

## Energy Transition Metals EBITDA overview – 4Q23

US\$ million	Sudbury	Voisey's Bay & Long Harbour	PTVI (site)	Onça Puma	Sossego	Salobo	Others	Subtotal Energy Transition Metals	Marketing activities and others <sup>1</sup>	Total Energy Transition Metals
Net Revenues	763	170	294	69	198	657	(119)	2,032	(50)	1,982
Costs	(698)	(196)	(188)	(87)	(113)	(314)	189	(1,407)	(36)	(1,443)
Selling and other expenses	8	3	(4)	(5)	(1)	(3)	(16)	(18)	82	64
Pre-operating and stoppage expenses	-	-	-	(1)	-	(1)	-	(2)	-	(2)
R&D	(19)	(9)	(2)	-	(5)	(13)	(30)	(78)	-	(78)
<b>EBITDA</b>	<b>54</b>	<b>(32)</b>	<b>100</b>	<b>(24)</b>	<b>79</b>	<b>326</b>	<b>24</b>	<b>527</b>	<b>(4)</b>	<b>523</b>

<sup>1</sup> Includes an adjustment of US\$ 82 million increasing the adjusted EBITDA 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.

## Nickel operations

### Selected financial indicators, ex- marketing activities

US\$ million	4Q23	4Q22	3Q23	2023	2022
Net Revenues	1,177	1,795	1,023	4,742	5,509
Costs <sup>1</sup>	(980)	(1,138)	(925)	(3,739)	(3,498)
SG&A and other expenses <sup>1</sup>	(9)	(20)	31	(67)	(38)
Pre-operating and stoppage expenses <sup>1</sup>	(1)	(1)	(1)	(2)	(1)
R&D expenses	(35)	(42)	(28)	(119)	(115)
Adjusted EBITDA	152	594	100	815	1,857
Depreciation and amortization	(236)	(272)	(208)	(876)	(883)
Adjusted EBIT	(84)	322	(108)	(61)	974
Adjusted EBIT margin (%)	(7.1)	17.9	(10.5)	(1.3)	17.7

<sup>1</sup> Net of depreciation and amortization.

### EBITDA variation - US\$ million (4Q23 vs. 4Q22), ex-marketing activities

US\$ million	Drivers					Total variation	4Q23
	4Q22	Volume	Prices	By-products	Others		
Nickel excl. marketing	594	(24)	(291)	(82)	(45)	(442)	152

### EBITDA by operations, ex-marketing activities

US\$ million	4Q23	4Q22	3Q23	4Q23 vs. 4Q22 Comments
Sudbury <sup>1</sup>	54	192	(22)	Lower nickel prices.
Voisey's Bay & Long Harbour	(32)	65	(67)	Lower nickel prices and higher consumption of external feed.
PTVI	100	95	104	Lower fixed costs alongside lower fuel prices and increase in sales volume, which have offset the lower nickel price.
Onça Puma	(24)	101	15	Lower sales volumes and increased fixed cost due to scheduled maintenance on the furnace.
Others <sup>2</sup>	54	141	70	Lower nickel sales volumes directly sold by Matsusaka.
<b>Total</b>	<b>152</b>	<b>594</b>	<b>100</b>	

<sup>1</sup> Includes the Thompson operations and Clydach refinery.

<sup>2</sup> Includes Japanese operations, intercompany eliminations, purchase of finished nickel. Hedge results have been relocated to each nickel business operation.

## Revenues & price realization

### Revenues & price realization

	4Q23	4Q22	3Q23	2023	2022
<b>Volume sold ('000 metric tons)</b>					
Nickel	48	58	39	168	181
Copper	21	27	12	74	78
Gold as by-product ('000 oz)	11	11	9	42	40
Silver as by-product ('000 oz)	227	355	122	861	919
PGMs ('000 oz)	59	54	41	263	215
Cobalt (metric ton)	492	927	399	2,172	2,361
<b>Average realized prices (US\$/t)</b>					
Nickel	18,420	24,454	21,237	21,830	23,669
Copper	7,602	7,610	7,423	7,720	7,459
Gold (US\$/oz)	2,065	1,750	1,851	1,946	1,713
Silver (US\$/oz)	25.2	23.6	22.5	23.1	21.1
Cobalt	35,438	44,980	35,222	34,426	58,865
<b>Net revenue by product - ex marketing activities (US\$ million)</b>					
Nickel	888	1,422	833	3,664	4,279
Copper	162	205	89	570	578
Gold as by-product <sup>1</sup>	23	20	17	82	68
Silver as by-product	6	9	3	20	20
PGMs	71	87	54	285	390
Cobalt <sup>1</sup>	18	42	14	75	139
Others	9	10	13	46	35
<b>Total</b>	<b>1,177</b>	<b>1,795</b>	<b>1,023</b>	<b>4,742</b>	<b>5,509</b>

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

### Breakdown of nickel volumes sold, realized price and premium

	4Q23	4Q22	3Q23	2023	2022
<b>Volumes (kt)</b>					
Upper Class I nickel	25.7	28.9	21.7	93.9	93.4
- of which: EV Battery	0.6	1.8	0.2	3.6	5.7
Lower Class I nickel	7.2	7.0	4.6	20.3	24.2
Class II nickel	9.9	17.8	9.4	36.8	46.6
Intermediates	5.4	4.5	3.6	16.9	16.5
<b>Nickel realized price (US\$/t)</b>					
LME average nickel price	17,247	25,292	20,344	21,474	25,605
Average nickel realized price	18,420	24,454	21,237	21,830	23,669
Contribution to the nickel realized price by category:					
Nickel average aggregate (premium/discount)	215	(250)	123	117	(40)
Other timing and pricing adjustments contributions <sup>1</sup>	958	(588)	770	239	(1,895)
<b>Premium/discount by product (US\$/t)</b>					
Upper Class I nickel	1,430	1,520	1,755	1,630	1,530
Lower Class I nickel	980	670	1,368	1,200	690
Class II nickel	(1,690)	(2,370)	(2,542)	(2,340)	(1,690)
Intermediates	(3,100)	(4,750)	(4,361)	(4,260)	(5,270)

<sup>1</sup> Comprises (i) the 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 positive impact of US\$ 214/t, (ii) fixed-price sales, with a positive impact of US\$ 187/t and (iii) the effect of the hedging on Vale's nickel price realization, with a positive impact of US\$ 579/t in the quarter and (iv) other effects with a negative impact of US\$ 22/t.

Note: The nickel realized price for 4Q23 was impacted by a settlement price in the quarter of circa US\$ 20,342/t. The average strike price for the complete hedge position was flat at US\$ 34,928/t.

The average nickel realized price was US\$ 18,420/t, down 13.3% q/q, mainly due to 15.2% lower LME reference prices q/q. The average realized nickel price in Q4 was 7% higher than the LME reference price, mainly due to the impact of positive hedging results and the higher share of Class I products in sales mix, sold at higher premiums.

### Product type by operation

% of source sales	North Atlantic	PTVI & Matsusaka	Onça Puma	Total 4Q23	Total 4Q22
Upper Class I	75.6	-	-	53.4	49.7
Lower Class I	21.0	-	-	14.9	12.0
Class II	1.8	46.9	100.0	20.6	30.5
Intermediates	1.6	53.1	-	11.2	7.7

## Costs

### Nickel COGS, excluding marketing activities - 4Q23 vs. 4Q22

US\$ million	4Q22	Drivers			Total variation	4Q23
		Volume	Exchange rate	Others		
Nickel operations	1,138	(195)	2	35	(158)	980
Depreciation	272	(46)	1	9	(35)	236
<b>Total</b>	<b>1,410</b>	<b>(241)</b>	<b>3</b>	<b>44</b>	<b>(194)</b>	<b>1,216</b>

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

US\$/t	4Q23	4Q22	3Q23	4Q23 vs. 4Q22 Comments
Sudbury <sup>1,2</sup>	16,007	16,435	21,645	Higher fixed cost dilution in Clydach.
Voisey's Bay & Long Harbour <sup>2</sup>	21,392	17,797	30,316	Higher consumption of external feed.
PTVI	9,116	12,150	9,915	Higher dilution of fixed costs and lower fuel costs.
Onça Puma	17,430	10,412	11,543	Lower dilution of fixed costs and higher maintenance costs due to furnace rebuild.

<sup>1</sup> Sudbury figures include Thompson and Clydach costs.

<sup>2</sup> A large portion of Sudbury, including Clydach, 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.

## EBITDA break-even – nickel operations

### EBITDA break-even

US\$/t	4Q23	4Q22	3Q23	2023	2022
COGS ex. 3rd-party feed	19,329	18,660	23,039	21,268	18,346
COGS <sup>1</sup>	20,320	19,577	23,581	22,274	19,351
By-product revenues <sup>1</sup>	(6,003)	(6,390)	(4,807)	(6,421)	(6,798)
COGS after by-product revenues	14,317	13,187	18,774	15,853	12,553
Other expenses <sup>2</sup>	919	1,017	(81)	1,117	847
<b>Total Costs</b>	<b>15,236</b>	<b>14,204</b>	<b>18,693</b>	<b>16,970</b>	<b>13,400</b>
<b>Nickel average aggregate (premium) discount</b>	<b>(215)</b>	<b>250</b>	<b>(123)</b>	<b>(117)</b>	<b>40</b>
<b>EBITDA breakeven<sup>3</sup></b>	<b>15,021</b>	<b>14,454</b>	<b>18,570</b>	<b>16,854</b>	<b>13,440</b>

<sup>1</sup> Excluding marketing activities.

<sup>2</sup> Includes R&D, sales expenses and pre-operating & stoppage.

<sup>3</sup> Considering only the cash effect of streaming transactions, nickel operations EBITDA break-even would increase to US\$ 15,297/t in 4Q23.

Unit COGS, excluding 3rd-party feed purchases, have increased by US\$ 669 y/y mainly due to costs associated with the Onça Puma furnace rebuild and lower own source volumes in Voisey's Bay.

All-in costs have increased by US\$ 567 y/y, primarily due to: (i) higher unit COGS, as mentioned above, and (ii) lower by-products revenues especially resulting from lower copper volumes.

## Copper operations – Salobo and Sossego

### Selected financial indicators - Copper operations, ex-marketing activities

US\$ million	4Q23	4Q22	3Q23	2023	2022
Net Revenues	855	498	660	2,577	1,779
Costs <sup>1</sup>	(427)	(279)	(341)	(1,357)	(1,049)
SG&A and other expenses <sup>1</sup>	(9)	(16)	(3)	31	(21)
Pre-operating and stoppage expenses <sup>1</sup>	(1)	(5)	-	(5)	(13)
R&D expenses	(43)	(33)	(47)	(146)	(127)
Adjusted EBITDA	375	165	269	1,100	569
Depreciation and amortization	(56)	(34)	(49)	(176)	(132)
Adjusted EBIT	319	131	220	924	437
Adjusted EBIT margin (%)	37.3	26.3	33.3	35.9	24.6

<sup>1</sup> Net of depreciation and amortization

### EBITDA variation - US\$ million (4Q23 vs. 4Q22)

US\$ million	Drivers					Total variation	4Q23
	4Q22	Volume	Prices	By-products	Others		
Copper	165	55	(43)	143	55	210	375

### EBITDA by operation

US\$ million	4Q23	4Q22	3Q23	4Q23 vs. 4Q22 Comments
Salobo	326	142	251	Higher copper sales volumes and by-products revenues as Salobo III ramps up.
Sossego	79	51	59	Higher copper sales volumes and by-products revenues.
Others copper <sup>1</sup>	(30)	(28)	(41)	
<b>Total</b>	<b>375</b>	<b>165</b>	<b>269</b>	

<sup>1</sup> Includes R&D expenses of US\$ 30 million related to the Hu'u project in 4Q23.

## Revenues & price realization

### Revenues & price realization

US\$ million	4Q23	4Q22	3Q23	2023	2022
<b>Volume sold ('000 metric tons)</b>					
Copper	76	45	62	234	166
Gold as by-product ('000 oz)	114	62	95	346	237
Silver as by-product ('000 oz)	286	178	242	939	692
<b>Average prices (US\$/t)</b>					
Average LME copper price	8,159	8,001	8,356	8,478	8,797
Average copper realized price	7,941	8,774	7,731	7,960	8,052
Gold (US\$/oz) <sup>1</sup>	2,131	1,663	1,874	2,002	1,797
Silver (US\$/oz)	24	18	23	24	21
<b>Revenue (US\$ million)</b>					
Copper	605	392	478	1,862	1,339
Gold as by-product <sup>1</sup>	243	103	177	693	426
Silver as by-product	7	3	5	22	14
<b>Total</b>	<b>855</b>	<b>498</b>	<b>660</b>	<b>2,577</b>	<b>1,779</b>

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

## Price realization – copper operations

US\$/t	4Q23	4Q22	3Q23	2023	2022
Average LME copper price	8,159	8,001	8,356	8,478	8,797
Current period price adjustments <sup>1</sup>	546	514	(189)	56	(259)
Copper gross realized price	8,705	8,514	8,167	8,533	8,538
Prior period price adjustments <sup>2</sup>	(201)	736	125	(24)	(25)
<b>Copper realized price before discounts</b>	<b>8,504</b>	<b>9,250</b>	<b>8,292</b>	<b>8,510</b>	<b>8,513</b>
TC/RCs, penalties, premiums and discounts <sup>3</sup>	(563)	(476)	(560)	(550)	(461)
<b>Average copper realized price</b>	<b>7,941</b>	<b>8,774</b>	<b>7,731</b>	<b>7,960</b>	<b>8,052</b>

Note: Vale's copper products are sold on a provisional pricing basis during the quarter, with final prices determined in a future period.

<sup>1</sup> Current-period price adjustments: at the end of the quarter, mark-to-market of open invoices based on the copper price forward curve. Includes a small number of final invoices that were provisionally priced and settled within the quarter.

<sup>2</sup> Prior-period price adjustment: based on the difference between the price used in final invoices (and in the mark-to-market of invoices from previous quarters still open at the end of the quarter) and the provisional prices used for sales in prior quarters

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

Average copper realized price was down 10% y/y in 2023, mainly due to the increase in TC/RCs and decrease in Purchase Price Adjustments (PPA). The negative effect of the PPA was the result of the lower forward curve<sup>5</sup>.

In the quarter, average copper realized price was US\$ 7,941/t, 2.7% higher q/q, mainly resulting from positive provisional price adjustments, as the average LME reference price was lower than the average forward curve at the end of the quarter.

## Costs

### COGS - 4Q23 vs. 4Q22

US\$ million	Drivers					4Q23
	4Q22	Volume	Exchange rate	Others	Total variation	
Copper operations	279	202	11	(65)	148	427
Depreciation	34	26	1	(6)	21	55
<b>Total</b>	<b>313</b>	<b>228</b>	<b>12</b>	<b>(71)</b>	<b>169</b>	<b>482</b>

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

US\$/t	4Q23	4Q22	3Q23	4Q23 vs. 4Q22 Comments
Salobo	1,783	3,644	2,130	Higher fixed costs dilution and higher by-products credits as Salobo III plant ramps up.
Sossego	3,822	4,409	3,751	Higher fixed costs dilution and higher by-products credits.

## EBITDA break-even – copper operations

US\$/t	4Q23	4Q22	3Q23	2023	2022
COGS	5,613	6,264	5,512	5,803	6,304
By-product revenues	(3,269)	(2,372)	(2,960)	(3,055)	(2,644)
<b>COGS after by-product revenues</b>	<b>2,344</b>	<b>3,892</b>	<b>2,552</b>	<b>2,747</b>	<b>3,660</b>
Other expenses <sup>1</sup>	693	1,201	812	514	970
<b>Total costs</b>	<b>3,037</b>	<b>5,093</b>	<b>3,364</b>	<b>3,261</b>	<b>4,630</b>
TC/RCs penalties, premiums and discounts	563	476	560	550	461
<b>EBITDA breakeven<sup>2</sup></b>	<b>3,600</b>	<b>5,569</b>	<b>3,924</b>	<b>3,811</b>	<b>5,091</b>
<b>EBITDA breakeven ex-Hu'u</b>	<b>3,212</b>	<b>4,938</b>	<b>3,264</b>	<b>3,437</b>	<b>4,502</b>

<sup>1</sup> Includes sales expenses, R&D, pre-operating and stoppage expenses and other expenses

<sup>2</sup> Considering only the cash effect of streaming transactions, copper operations EBITDA break-even would increase to US\$ 5,162/t.

The realized price to be compared to the EBITDA break-even should be the copper realized price before discounts (US\$ 8,504/t), given that TC/RCs, penalties, and other discounts are already part of the EBITDA break-even build-up.

<sup>5</sup> On December 31st, 2023, Vale had provisionally priced copper sales from Sossego and Salobo totaling 68,476 tons valued at weighted average LME forward price of US\$ 8,597/t, subject to final pricing over the following months.

## WEBCAST INFORMATION

Vale will host a webcast on Friday, February 23<sup>rd</sup>, 2024, at 11:00 a.m. Brasilia time (09:00 a.m. New York time; 2:00 p.m. London time). Internet access to the webcast and presentation materials will be available on Vale website at [www.vale.com/investors](http://www.vale.com/investors). A webcast replay will be accessible at [www.vale.com](http://www.vale.com) beginning shortly after the completion of the call.

**Further information on Vale can be found at: [vale.com](http://vale.com)**

### Investor Relations

Vale.RI@vale.com

Thiago Lofiego: [thiago.lofiego@vale.com](mailto:thiago.lofiego@vale.com)

Luciana Oliveti: [luciana.oliveti@vale.com](mailto:luciana.oliveti@vale.com)

Mariana Rocha: [mariana.rocha@vale.com](mailto:mariana.rocha@vale.com)

Pedro Terra: [pedro.terra@vale.com](mailto:pedro.terra@vale.com)

---

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

US\$ million	4Q23	4Q22	3Q23	2023	2022
<b>Net operating revenue</b>	<b>13,054</b>	<b>11,941</b>	<b>10,623</b>	<b>41,784</b>	<b>43,839</b>
Cost of goods sold and services rendered	(6,891)	(7,155)	(6,309)	(24,089)	(24,028)
<b>Gross profit</b>	<b>6,163</b>	<b>4,786</b>	<b>4,314</b>	<b>17,695</b>	<b>19,811</b>
Gross margin (%)	47.2	40.1	40.6	42.3	45.2
Selling and administrative expenses	(146)	(148)	(150)	(553)	(515)
Research and development expenses	(231)	(218)	(188)	(723)	(660)
Pre-operating and operational stoppage	(108)	(125)	(115)	(450)	(479)
Other operational expenses, net	(380)	(624)	(511)	(1,498)	(1,722)
Impairment reversal (impairment and disposals) of non-current assets, net	(121)	(177)	(75)	(266)	773
<b>Operating income</b>	<b>5,177</b>	<b>3,494</b>	<b>3,275</b>	<b>14,205</b>	<b>17,208</b>
Financial income	105	92	100	432	520
Financial expenses	(380)	(291)	(362)	(1,459)	(1,179)
Other financial items, net	(599)	(459)	(123)	(919)	2,927
Equity results and other results in associates and joint ventures	(1,152)	72	94	(1,108)	305
<b>Income before income taxes</b>	<b>3,151</b>	<b>2,908</b>	<b>2,984</b>	<b>11,151</b>	<b>19,781</b>
Current tax	(475)	(72)	(278)	(1,375)	(2,020)
Deferred tax	(234)	907	151	(1,671)	(951)
<b>Net income from continuing operations</b>	<b>2,442</b>	<b>3,743</b>	<b>2,857</b>	<b>8,105</b>	<b>16,810</b>
Net income (loss) attributable to noncontrolling interests	24	19	21	122	82
<b>Net income from continuing operations attributable to Vale's shareholders</b>	<b>2,418</b>	<b>3,724</b>	<b>2,836</b>	<b>7,983</b>	<b>16,728</b>
<b>Discontinued operations</b>					
Net income (Loss) from discontinued operations	-	-	-	-	2,060
Net income from discontinued operations attributable to noncontrolling interests	-	-	-	-	-
<b>Net income (Loss) from discontinued operations attributable to Vale's shareholders</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,060</b>
<b>Net income</b>	<b>2,442</b>	<b>3,743</b>	<b>2,857</b>	<b>8,105</b>	<b>18,870</b>
Net income (Loss) attributable to Vale's to noncontrolling interests	24	19	21	122	82
<b>Net income attributable to Vale's shareholders</b>	<b>2,418</b>	<b>3,724</b>	<b>2,836</b>	<b>7,983</b>	<b>18,788</b>
Earnings per share (attributable to the Company's shareholders - US\$):					
Basic and diluted earnings per share (attributable to the Company's shareholders - US\$)	0.56	0.82	0.66	1.83	4.05

### Equity income (loss) by business segment

US\$ million	4Q23	%	4Q22	%	3Q23	%	2023	%	2022	%
Iron Ore Solutions	21	53	65	90	87	93	101	70	213	87
Energy Transition Metals	-	-	-	-	-	-	-	-	3	1
Others	19	47	7	10	7	7	43	30	30	12
<b>Total</b>	<b>40</b>	<b>100</b>	<b>72</b>	<b>100</b>	<b>94</b>	<b>100</b>	<b>144</b>	<b>100</b>	<b>246</b>	<b>100</b>



## Balance sheet

US\$ million	12/31/2023	9/30/2023	12/31/2022
<b>Assets</b>			
<b>Current assets</b>	<b>18,700</b>	<b>14,673</b>	<b>15,526</b>
Cash and cash equivalents	3,609	3,967	4,736
Short term investments	51	60	61
Accounts receivable	4,197	3,348	4,319
Other financial assets	271	426	342
Inventories	4,684	5,114	4,482
Recoverable taxes	900	1,355	1,272
Judicial deposits	611	-	-
Other	444	403	314
Non-current assets held for sale	3,933	-	-
<b>Non-current assets</b>	<b>13,587</b>	<b>14,060</b>	<b>14,394</b>
Judicial deposits	798	1,296	1,215
Other financial assets	593	586	280
Recoverable taxes	1,374	1,264	1,110
Deferred income taxes	9,565	9,682	10,770
Other	1,257	1,232	1,019
<b>Fixed assets</b>	<b>61,899</b>	<b>60,256</b>	<b>56,974</b>
<b>Total assets</b>	<b>94,186</b>	<b>88,989</b>	<b>86,894</b>
<b>Liabilities</b>			
<b>Current liabilities</b>	<b>14,655</b>	<b>13,644</b>	<b>13,891</b>
Suppliers and contractors	5,272	5,582	4,461
Loans and borrowings	824	779	307
Leases	197	197	182
Other financial liabilities	1,676	1,538	1,672
Taxes payable	1,314	630	470
Settlement program ("REFIS")	428	407	371
Provisions for litigation	114	119	106
Employee benefits	964	824	930
Liabilities related to associates and joint ventures	837	899	1,911
Liabilities related to Brumadinho	1,057	1,324	944
De-characterization of dams and asset retirement obligations	1,035	845	661
Dividends payable	-	-	1,383
Other	376	500	493
Liabilities associated with non-current assets held for sale	561	-	-
<b>Non-current liabilities</b>	<b>38,550</b>	<b>35,858</b>	<b>35,645</b>
Loans and borrowings	11,647	11,777	10,874
Leases	1,255	1,283	1,349
Participative shareholders' debentures	2,874	2,405	2,725
Other financial liabilities	3,373	2,583	2,843
Settlement program (REFIS)	1,723	1,744	1,869
Deferred income taxes	870	1,343	1,413
Provisions for litigation	885	1,341	1,186
Employee benefits	1,381	1,231	1,260
Liabilities related to associates and joint ventures	3,590	2,320	1,410
Liabilities related to Brumadinho	2,003	1,873	2,368
De-characterization of dams and asset retirement obligations	6,694	6,111	6,520
Streaming transactions	1,962	1,621	1,612
Others	293	226	216
<b>Total liabilities</b>	<b>53,205</b>	<b>49,502</b>	<b>49,536</b>
<b>Shareholders' equity</b>	<b>40,981</b>	<b>39,487</b>	<b>37,358</b>
<b>Total liabilities and shareholders' equity</b>	<b>94,186</b>	<b>88,989</b>	<b>86,894</b>

## Cash flow

US\$ million	4Q23	4Q22	3Q23	2023	2022
<b>Cash flow from operations</b>	<b>5,591</b>	<b>2,902</b>	<b>4,128</b>	<b>17,252</b>	<b>18,762</b>
Interest on loans and borrowings paid	(200)	(135)	(174)	(743)	(785)
Cash received (paid) on settlement of Derivatives, net	325	(65)	70	567	(83)
Payments related to Brumadinho event	(417)	(287)	(292)	(1,330)	(1,093)
Payments related to de-characterization of dams	(145)	(102)	(146)	(458)	(349)
Interest on participative shareholders debentures paid	(106)	(136)	-	(233)	(371)
Income taxes (including settlement program) paid	(259)	(265)	(720)	(1,890)	(4,637)
<b>Net cash generated by operating activities from continuing operations</b>	<b>4,789</b>	<b>1,912</b>	<b>2,866</b>	<b>13,165</b>	<b>11,444</b>
Net cash generated by operating activities from discontinued operations	-	-	-	-	41
<b>Net cash generated by operating activities</b>	<b>4,789</b>	<b>1,912</b>	<b>2,866</b>	<b>13,165</b>	<b>11,485</b>
<b>Cash flow from investing activities</b>					
Capital expenditures	(2,118)	(1,787)	(1,464)	(5,920)	(5,446)
Additions to investment	(11)	-	-	(19)	-
Dividends received from joint ventures and associates	99	55	-	204	219
Short-term investment	47	39	68	127	260
Payments related to Samarco dam failure	(128)	(224)	(317)	(553)	(338)
Proceeds (payments) from disposal of investments, net	(72)	-	-	(139)	577
Other investment activities, net	(44)	53	14	(19)	145
<b>Net cash used in investing activities from continuing operations</b>	<b>(2,227)</b>	<b>(1,864)</b>	<b>(1,699)</b>	<b>(6,319)</b>	<b>(4,583)</b>
Net cash used in investing activities from discontinued operations	-	-	-	-	(103)
<b>Net cash used in investing activities</b>	<b>(2,227)</b>	<b>(1,864)</b>	<b>(1,699)</b>	<b>(6,319)</b>	<b>(4,686)</b>
<b>Cash flow from financing activities</b>					
Loans and financing:					
Loans and borrowings from third parties	-	500	150	1,950	1,275
Payments of loans and borrowings from third parties	(25)	(24)	(13)	(658)	(2,300)
Payments of leasing	(94)	(78)	(47)	(233)	(224)
Payments to shareholders:					
Dividends and interest on capital paid to Vale's shareholders	(2,040)	-	(1,678)	(5,513)	(6,603)
Dividends and interest on capital paid to noncontrolling interest	(33)	(2)	-	(41)	(12)
Share buyback program	(44)	(966)	(546)	(2,714)	(6,036)
Acquisition of stake in VOPC	-	-	-	(130)	-
<b>Net cash used in financing activities from continuing operations</b>	<b>(2,236)</b>	<b>(570)</b>	<b>(2,134)</b>	<b>(7,339)</b>	<b>(13,900)</b>
Net cash used in financing activities from discontinued operations	-	-	-	-	(11)
<b>Net cash used in financing activities</b>	<b>(2,236)</b>	<b>(570)</b>	<b>(2,134)</b>	<b>(7,339)</b>	<b>(13,911)</b>
<b>Net increase (decrease) in cash and cash equivalents</b>	<b>326</b>	<b>(522)</b>	<b>(967)</b>	<b>(493)</b>	<b>(7,112)</b>
Cash and cash equivalents in the beginning of the period	3,967	5,182	4,983	4,736	11,721
Effect of exchange rate changes on cash and cash equivalents	19	76	(49)	69	138
Effect of transfer PTVI to non-current assets held for sale	(703)	-	-	(703)	-
Cash and cash equivalents from subsidiaries sold, net	-	-	-	-	(11)
<b>Cash and cash equivalents at the end of period</b>	<b>3,609</b>	<b>4,736</b>	<b>3,967</b>	<b>3,609</b>	<b>4,736</b>
<b>Non-cash transactions:</b>					
Additions to property, plant and equipment - capitalized loans and borrowing costs	4	7	5	19	47
<b>Cash flow from operating activities</b>					
<b>Income before income taxes</b>	<b>3,151</b>	<b>2,908</b>	<b>2,984</b>	<b>11,151</b>	<b>19,781</b>
<b>Adjusted for:</b>					
Provisions related to Brumadinho event	137	133	184	461	400
Provision for de-characterization of dams	153	-	-	153	72
Equity results and other results in associates and joint ventures	1,152	(72)	(94)	1,108	(305)
Impairment (impairment reversal) and results on disposal of non-current assets, net	121	177	75	266	(773)
Depreciation, depletion and amortization	855	900	780	3,070	3,171
Financial results, net	874	658	385	1,946	(2,268)
<b>Change in assets and liabilities</b>					
Accounts receivable	(832)	(2,107)	(410)	197	(325)
Inventories	403	940	(97)	(214)	45
Suppliers and contractors	(308)	(435)	480	637	495
Other assets and liabilities, net	(115)	(200)	(159)	(1,523)	(1,531)
<b>Cash flow from operations</b>	<b>5,591</b>	<b>2,902</b>	<b>4,128</b>	<b>17,252</b>	<b>18,762</b>

## Reconciliation of IFRS and “non-GAAP” information

### (a) Adjusted EBIT

US\$ million	4Q23	4Q22	3Q23
Net operating revenues	13,054	11,941	10,623
COGS	(6,891)	(7,155)	(6,309)
Sales and administrative expenses	(146)	(148)	(150)
Research and development expenses	(231)	(218)	(188)
Pre-operating and stoppage expenses	(108)	(125)	(115)
Brumadinho event and dam de-characterization of dams	(396)	(375)	(305)
Other operational expenses, net <sup>1</sup>	98	(249)	(159)
Dividends received and interests from associates and JVs	99	55	-
<b>Adjusted EBIT from continuing operations</b>	<b>5,479</b>	<b>3,726</b>	<b>3,397</b>

<sup>1</sup> Includes adjustment of US\$ 82 million in 4Q23 and US\$ 47 million in 3Q23, 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	4Q23	4Q22	3Q23
<b>Adjusted EBITDA from continuing operations</b>	<b>6,334</b>	<b>4,626</b>	<b>4,177</b>
<b>Working capital:</b>			
Accounts receivable	(832)	(2,107)	(410)
Inventories	403	940	(97)
Suppliers and contractors	(308)	(435)	480
Provisions related to Brumadinho event	137	133	184
Provisions related to de-characterization of dams	153	-	-
Others	(296)	(255)	(206)
<b>Cash flow from continuing operations</b>	<b>5,591</b>	<b>2,902</b>	<b>4,128</b>
Income taxes paid (including settlement program)	(259)	(265)	(720)
Interest on loans and borrowings paid	(200)	(135)	(174)
Payments related to Brumadinho event	(417)	(287)	(292)
Payments related to de-characterization of dams	(145)	(102)	(146)
Interest on participative shareholders' debentures paid	(106)	(136)	-
Cash received (paid) on settlement of Derivatives, net	325	(65)	70
<b>Net cash generated by operating activities from continuing operations</b>	<b>4,789</b>	<b>1,912</b>	<b>2,866</b>
<b>Net cash generated by operating activities from discontinued operations</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Net cash generated by operating activities</b>	<b>4,789</b>	<b>1,912</b>	<b>2,866</b>

### Reconciliation between adjusted EBITDA and net income (loss)

US\$ million	4Q23	4Q22	3Q23
<b>Adjusted EBITDA from continuing operations</b>	<b>6,334</b>	<b>4,626</b>	<b>4,177</b>
Depreciation, depletion and amortization	(855)	(900)	(780)
Dividends received and interest from associates and joint ventures	(99)	(55)	-
Impairment reversal (impairment) and results on disposals of non-current assets, net <sup>1</sup>	(203)	(177)	(122)
<b>Operating income</b>	<b>5,177</b>	<b>3,494</b>	<b>3,275</b>
Financial results	(874)	(658)	(385)
Equity results and other results in associates and joint ventures	(1,152)	72	94
Income taxes	(709)	835	(127)
<b>Net income from continuing operations</b>	<b>2,442</b>	<b>3,743</b>	<b>2,857</b>
Net income (loss) attributable to noncontrolling interests	24	19	21
<b>Net income attributable to Vale's shareholders</b>	<b>2,418</b>	<b>3,724</b>	<b>2,836</b>

<sup>1</sup> Includes adjustment of US\$ 82 million in 4Q23 and US\$ 47 million in 3Q23 to reflect the performance of the streaming transactions at market price.

**(c) Net debt**

<i>US\$ million</i>	<b>4Q23</b>	<b>4Q22</b>	<b>3Q23</b>
Gross debt	12,471	11,181	12,556
Leases	1,452	1,531	1,480
Cash and cash equivalents <sup>1</sup>	(4,363)	(4,797)	(4,027)
<b>Net debt</b>	<b>9,560</b>	<b>7,915</b>	<b>10,009</b>

<sup>1</sup> Including financial investments and includes US\$ 703 million related to non-current assets held for sale in 4Q23.

**(d) Gross debt / LTM Adjusted EBITDA**

<i>US\$ million</i>	<b>4Q23</b>	<b>4Q22</b>	<b>3Q23</b>
Gross debt and leases / LTM Adjusted EBITDA (x)	0.8	0.6	0.9
Gross debt and leases / LTM operational cash flow (x)	0.8	0.7	0.8

**(e) LTM Adjusted EBITDA / LTM interest payments**

<i>US\$ million</i>	<b>4Q23</b>	<b>4Q22</b>	<b>3Q23</b>
Adjusted LTM EBITDA / LTM gross interest (x)	24.1	32.3	23.0
LTM adjusted EBITDA / LTM interest payments (x)	24.2	25.2	21.2

**(f) US dollar exchange rates**

<i>R\$/US\$</i>	<b>4Q23</b>	<b>4Q22</b>	<b>3Q23</b>
Average	4.9553	5.2554	4.8803
End of period	4.8413	5.2177	5.0076

## Revenues and volumes

### Net operating revenue by destination

US\$ million	4Q23	%	4Q22	%	3Q23	%	2023	%	2022	%
<b>North America</b>	<b>473</b>	<b>3.6</b>	<b>613</b>	<b>5.1</b>	<b>398</b>	<b>3.7</b>	<b>2,078</b>	<b>5.0</b>	<b>2,239</b>	<b>5.1</b>
USA	358	2.7	433	3.6	323	3.0	1,623	3.9	1,643	3.7
Canada	115	0.9	180	1.5	75	0.7	455	1.1	596	1.4
<b>South America</b>	<b>1,014</b>	<b>7.8</b>	<b>913</b>	<b>7.6</b>	<b>1,018</b>	<b>9.6</b>	<b>4,197</b>	<b>10.0</b>	<b>4,740</b>	<b>10.8</b>
Brazil	927	7.1	829	6.9	915	8.6	3,755	9.0	4,137	9.4
Others	87	0.7	84	0.7	103	1.0	442	1.1	603	1.4
<b>Asia</b>	<b>9,497</b>	<b>72.8</b>	<b>8,484</b>	<b>71.0</b>	<b>7,603</b>	<b>71.6</b>	<b>28,104</b>	<b>67.3</b>	<b>28,857</b>	<b>65.8</b>
China	7,672	58.8	7,072	59.2	5,860	55.2	21,577	51.6	22,203	50.6
Japan	863	6.6	803	6.7	843	7.9	3,219	7.7	3,535	8.1
South Korea	390	3.0	310	2.6	289	2.7	1,365	3.3	1,311	2.9
Others	572	4.4	299	2.5	611	5.8	1,943	4.7	1,808	4.2
<b>Europe</b>	<b>1,282</b>	<b>9.8</b>	<b>1,109</b>	<b>9.3</b>	<b>956</b>	<b>9.0</b>	<b>5,028</b>	<b>12.0</b>	<b>5,357</b>	<b>12.2</b>
Germany	368	2.8	321	2.7	261	2.5	1,351	3.2	1,521	3.5
Italy	96	0.7	153	1.3	48	0.5	509	1.2	708	1.6
Others	818	6.3	635	5.3	647	6.1	3,168	7.6	3,128	7.1
<b>Middle East</b>	<b>343</b>	<b>2.6</b>	<b>317</b>	<b>2.7</b>	<b>271</b>	<b>2.6</b>	<b>1,014</b>	<b>2.4</b>	<b>1,241</b>	<b>2.8</b>
<b>Rest of the World</b>	<b>445</b>	<b>3.4</b>	<b>505</b>	<b>4.2</b>	<b>377</b>	<b>3.5</b>	<b>1,363</b>	<b>3.3</b>	<b>1,405</b>	<b>3.2</b>
<b>Total</b>	<b>13,054</b>	<b>100.0</b>	<b>11,941</b>	<b>100.0</b>	<b>10,623</b>	<b>100.0</b>	<b>41,784</b>	<b>100.0</b>	<b>43,839</b>	<b>100.0</b>

### Volume sold by destination – Iron ore and pellets

'000 metric tons	4Q23	4Q22	3Q23	2023	2022
<b>Americas</b>	<b>9,667</b>	<b>9,659</b>	<b>9,829</b>	<b>40,431</b>	<b>39,200</b>
Brazil	8,912	8,904	9,339	36,512	35,550
Others	755	755	490	3,919	3,650
<b>Asia</b>	<b>73,341</b>	<b>74,370</b>	<b>64,801</b>	<b>232,818</b>	<b>232,587</b>
China	60,180	64,172	52,139	185,522	190,107
Japan	6,825	5,473	6,317	24,956	22,801
Others	6,336	4,725	6,345	22,340	19,679
<b>Europe</b>	<b>2,941</b>	<b>3,403</b>	<b>2,299</b>	<b>14,429</b>	<b>17,363</b>
Germany	654	698	494	2,538	3,220
France	685	587	189	2,696	3,313
Others	1,602	2,118	1,616	9,195	10,830
<b>Middle East</b>	<b>1,815</b>	<b>1,654</b>	<b>1,475</b>	<b>5,483</b>	<b>5,797</b>
<b>Rest of the World</b>	<b>2,564</b>	<b>2,868</b>	<b>2,155</b>	<b>7,758</b>	<b>7,095</b>
<b>Total</b>	<b>90,328</b>	<b>91,954</b>	<b>80,559</b>	<b>300,919</b>	<b>302,042</b>

### Net operating revenue by business area

US\$ million	4Q23	%	4Q22	%	3Q23	%	2023	%	2022	%
<b>Iron Ore Solutions</b>	<b>11,030</b>	<b>84%</b>	<b>9,330</b>	<b>78%</b>	<b>8,862</b>	<b>83%</b>	<b>34,079</b>	<b>82%</b>	<b>34,916</b>	<b>80%</b>
Iron ore fines	9,212	71%	7,767	65%	7,331	69%	27,760	66%	28,188	64%
ROM	29	0%	22	0%	33	0%	122	0%	103	0%
Pellets	1,680	13%	1,456	12%	1,388	13%	5,803	14%	6,256	14%
Others	109	1%	85	1%	110	1%	394	1%	369	1%
<b>Energy Transition Metals</b>	<b>1,982</b>	<b>15%</b>	<b>2,549</b>	<b>21%</b>	<b>1,718</b>	<b>16%</b>	<b>7,569</b>	<b>18%</b>	<b>8,398</b>	<b>19%</b>
Nickel	888	7%	1,422	12%	833	8%	3,664	9%	4,279	10%
Copper	767	6%	597	5%	567	5%	2,432	6%	1,917	4%
PGMs	71	1%	87	1%	54	1%	285	1%	390	1%
Gold as by-product <sup>1</sup>	185	1%	123	1%	147	1%	561	1%	494	1%
Silver as by-product	13	0%	12	0%	8	0%	42	0%	34	0%
Cobalt <sup>1</sup>	16	0%	42	0%	14	0%	73	0%	139	0%
Others <sup>2</sup>	42	0%	266	2%	95	1%	512	1%	1,145	3%
<b>Others</b>	<b>42</b>	<b>0%</b>	<b>62</b>	<b>1%</b>	<b>42</b>	<b>0%</b>	<b>136</b>	<b>0%</b>	<b>525</b>	<b>1%</b>
<b>Total of continuing operations</b>	<b>13,054</b>	<b>100%</b>	<b>11,941</b>	<b>100%</b>	<b>10,623</b>	<b>100%</b>	<b>41,784</b>	<b>100%</b>	<b>43,839</b>	<b>100%</b>

<sup>1</sup> Exclude the adjustment of US\$ 82 million in 4Q23 and US\$ 47 million in 3Q23, related to the performance of streaming transactions at market price.

<sup>2</sup> Includes marketing activities.

## Projects under evaluation and growth options

Copper		
<b>Alemão</b>	<b>Capacity: 60 ktpy</b>	<b>Stage: FEL3</b>
Carajás, Brazil	Growth project	Investment decision: 2025
Vale's ownership: 100%	Underground mine	115 kozpy Au as byproduct
<b>South Hub extension</b>	<b>Capacity: 60-80 ktpy</b>	<b>Stage: FEL3<sup>1</sup></b>
Carajás, Brazil	Replacement project	Investment decision: 2024
Vale's ownership: 100%	Open pit	Development of mines to feed Sossego mill
<b>Victor</b>	<b>Capacity: 20 ktpy</b>	<b>Stage: FEL3</b>
Ontario, Canada	Replacement project	Investment decision: 2025
Vale's ownership: N/A	Underground mine	5 ktpy Ni as co-product; JV partnership under discussion
<b>Hu'u</b>	<b>Capacity: 300-350 ktpy</b>	<b>Stage: FEL2</b>
Dompu, Indonesia	Growth project	200 kozpy Au as byproduct
Vale's ownership: 80%	Underground block cave	
<b>North Hub</b>	<b>Capacity: 70-100 ktpy</b>	<b>Stage: FEL1</b>
Carajás, Brazil	Growth project	
Vale's ownership: 100%	Mines and processing plant	
Nickel		
<b>Sorowako Limonite</b>	<b>Capacity: 60 ktpy</b>	<b>Stage: FEL3</b>
Sorowako, Indonesia	Growth project	Investment decision: 2024
Vale's ownership: N/A <sup>2</sup>	Mine + HPAL plant	8 ktpy Co as by-product
<b>Creighton Ph. 5</b>	<b>Capacity: 15-20 ktpy</b>	<b>Stage: FEL3</b>
Ontario, Canada	Replacement project	Investment decision: 2025
Vale's ownership: 100%	Underground mine	10-16 ktpy Cu as by-product
<b>CCM Pit</b>	<b>Capacity: 12-15 ktpy</b>	<b>Stage: FEL3</b>
Ontario, Canada	Replacement project	Investment decision: 2024
Vale's ownership: 100%	Open pit mine	7-9 ktpy Cu as by-product
<b>CCM Ph. 3</b>	<b>Capacity: 5-10 ktpy</b>	<b>Stage: FEL3</b>
Ontario, Canada	Replacement project	7-13 ktpy Cu as by-product
Vale's ownership: 100%	Underground mine	
<b>CCM Ph. 4</b>	<b>Capacity: 7-12 ktpy</b>	<b>Stage: FEL2</b>
Ontario, Canada	Replacement project	7-12 ktpy Cu as by-product
Vale's ownership: 100%	Underground mine	
<b>Nickel Sulphate Plant</b>	<b>Capacity: ~25 ktpy</b>	<b>Stage: FEL3</b>
Quebec, Canada	Growth project	Investment decision: 2024-2025
Vale's ownership: N/A		
Iron ore		
<b>Concentration Plant</b>	<b>Capacity: 12-15 Mtpy pellet feed</b>	<b>Stage: FEL3</b>
Sohar, Oman	Asset-light partnership	Investment decision: 2024
Vale's ownership: N/A	Located next to Oman's pellet plant	
<b>Green briquette plants</b>	<b>Capacity: Under evaluation</b>	<b>Stage: FEL3 (two plants)</b>
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
<b>Serra Leste expansion</b>	<b>Capacity: +4 Mtpy (10 Mtpy total)</b>	<b>Stage: FEL2</b>
Northern System (Brazil)	Growth project	
Vale's ownership: 100%	Open pit mine	
<b>S11C</b>	<b>Capacity: Under evaluation</b>	<b>Stage: FEL2</b>
Northern System (Brazil)	Growth project	
Vale's ownership: 100%	Open pit mine	
<b>Serra Norte N1/N2<sup>3</sup></b>	<b>Capacity: Under evaluation</b>	<b>Stage: FEL2</b>
Northern System (Brazil)	Replacement project	
Vale's ownership: 100%	Open pit mine	
<b>Mega Hubs</b>	<b>Capacity: Under evaluation</b>	<b>Stage: Prefeasibility Study</b>
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

<sup>1</sup> Refers to the most advanced projects (Bacaba and Cristalino).

<sup>2</sup> 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.

<sup>3</sup> Project scope is under review given permitting constraints.