Vale's Performance in 1Q23

April 27th , 2023

VALE

Disclaimer

"This presentation may include statements that present Vale's expectations about future events or results, including without limitation our production guidance on slides 5 and 8, plans relating to Briquette Tubarão project on slide 6 and Morowali and Pomalaa projects on slide 9, our dams emergency level removal plan on slide 10, our cost guidance on slides 15, 16, 17 and 18, and our share buyback program on slide 20. These risks and uncertainties include factors relating to our ability to obtain financing for Briquette Tubarão, Morowali and Pomalaa projects and to obtain applicable environmental licenses. It include risks and uncertainties relating to the following: (a) the countries where we operate, 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; (e) global competition in the markets in which Vale operates; and (f) the estimation of mineral resources and reserves, the exploration of mineral reserves and resources and the development of mining facilities, our ability to obtain or renew licenses, the depletion and exhaustion of mines and mineral reserves and resources. To obtain further information on factors that may lead to results different from those forecast by Vale, please consult the reports 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."

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1. Opening remarks

Business and Financial highlights

Iron Solutions

- Iron ore production up 6% y/y: stronger performance at S11D
- Production-to-sales gap to be offset in the 2H23
- Quality impacted by shipment restrictions and opportunistic sales

Energy transition metals

- Copper and nickel sales up 25% and 3% y/y, respectively
- Successfully ramping up Salobo III. Sudbury mines' record ore production rates since 3Q17
- Binding agreement with Huayou and Ford in Pomalaa project. Groundbreaking of Morowali project[1]

Sustainable mining

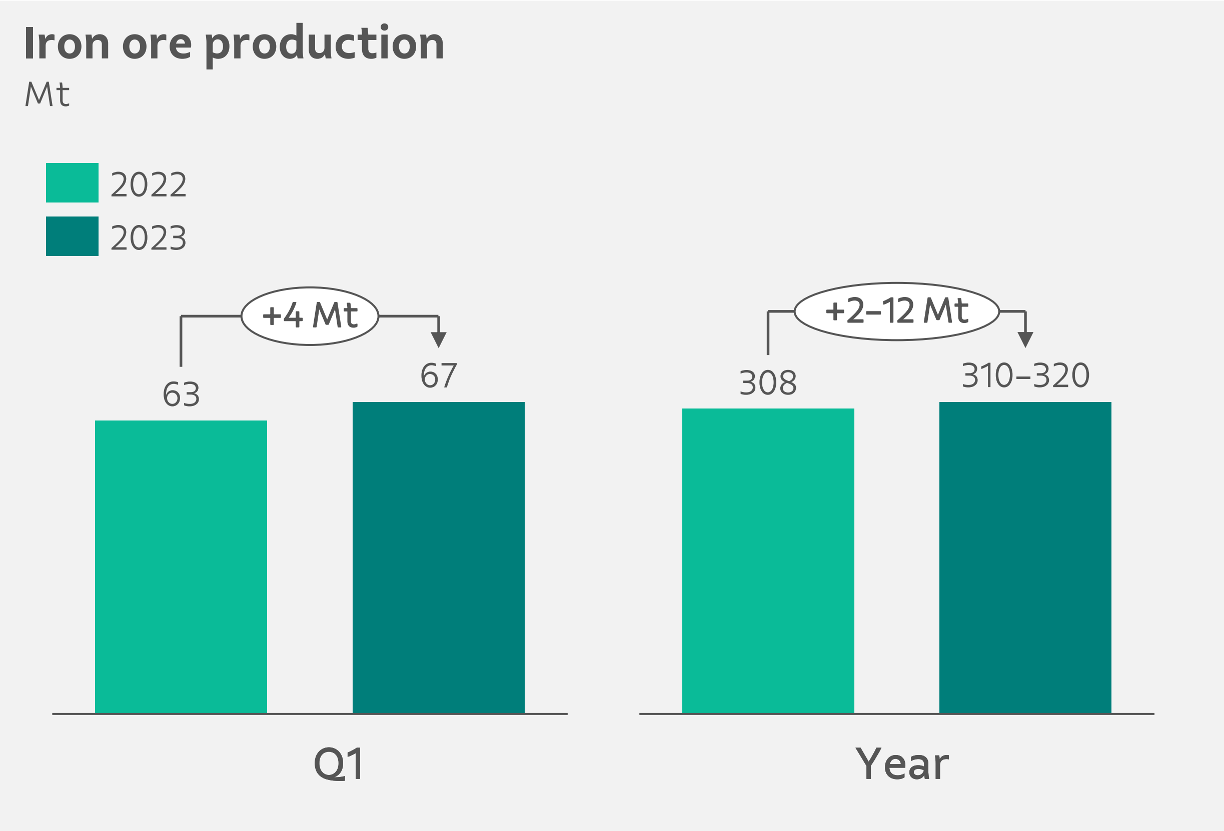
- Two additional dams achieved adequate safety levels, with emergency protocols removed
- Improved Sustainalytics ESG risk rating

Stay disciplined

- Completed divestment program with the sale of MRN
- US$ 1.8 billion dividend paid in March
- 3rd buyback program 47% completed[2]

[1] Formerly known as Bahodopi nickel project.
[2] As of Apr 11, 2023. Approximately 233 million repurchased shares (47% of 3rd announced program).

On track to meet iron ore production guidance



Q1 highlights

S11D
- Improved truckless system:
  - availability (+9% y/y)
  - MTBF[1] (+28% y/y)

Minas Gerais
- Solid production in Minas Gerais, after heavy rain disruptions in 2022
- Torto dam emergency plan approved

Sales and quality
- Annual sales plan unchanged
- Average grade impacted by temporary shipment restrictions and opportunistic sales

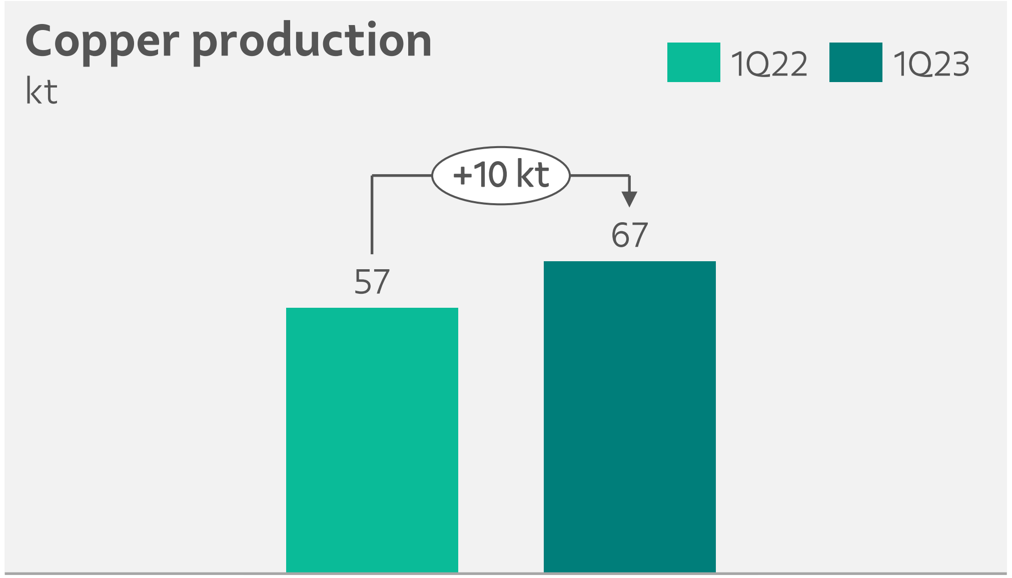
[1] Mean time between failure indicator.

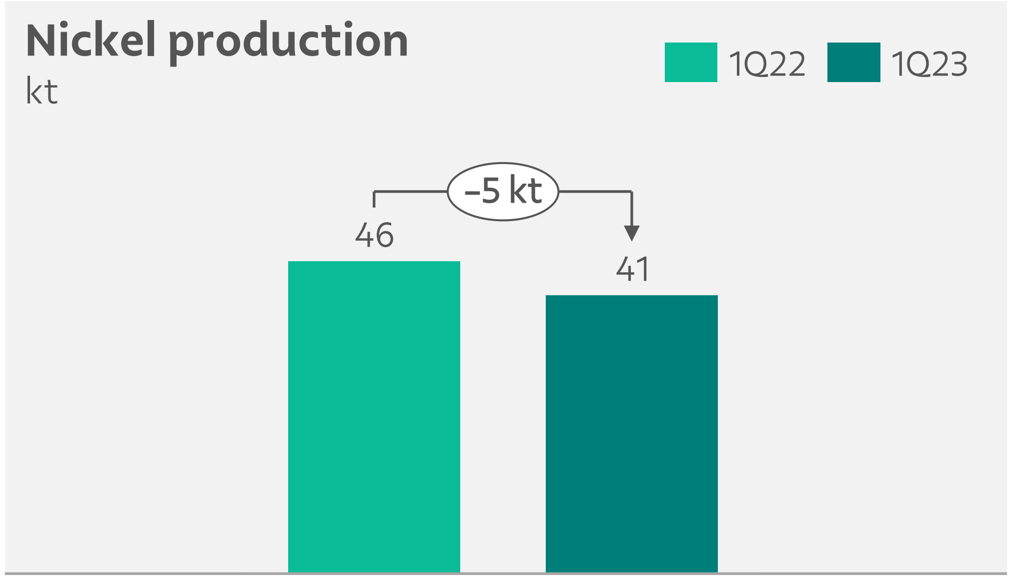
Advancing the development of iron ore briquettes

Tests in clients' furnaces are confirming the benefits of iron ore briquettes

- **70 kt** of briquettes successfully tested
- **First shipment of briquette** cargo for international industrial trial in April
- **9 trials** scheduled **for 2023**
- **Start-up** of first two industrial plants **in 2023**

Improved copper volumes and higher nickel sales





Sales up 25% y/y

Improved operational performance at Sossego

Salobo III ramp-up

Additional planned maintenance at Salobo and Sossego

Sales up 3% y/y

Strong performance at Sudbury mines

Ongoing transitional period due to the Ovoid mine depletion

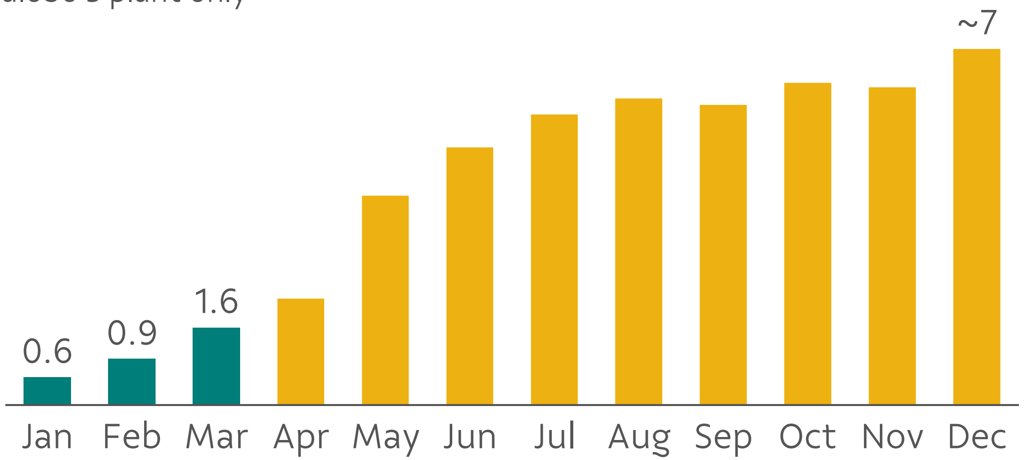
Longer planned maintenance at Matsusaka Refinery

Steadily ramping-up Salobo III

- Both lines already in operation
- Expected to reach full capacity by Q4 2024

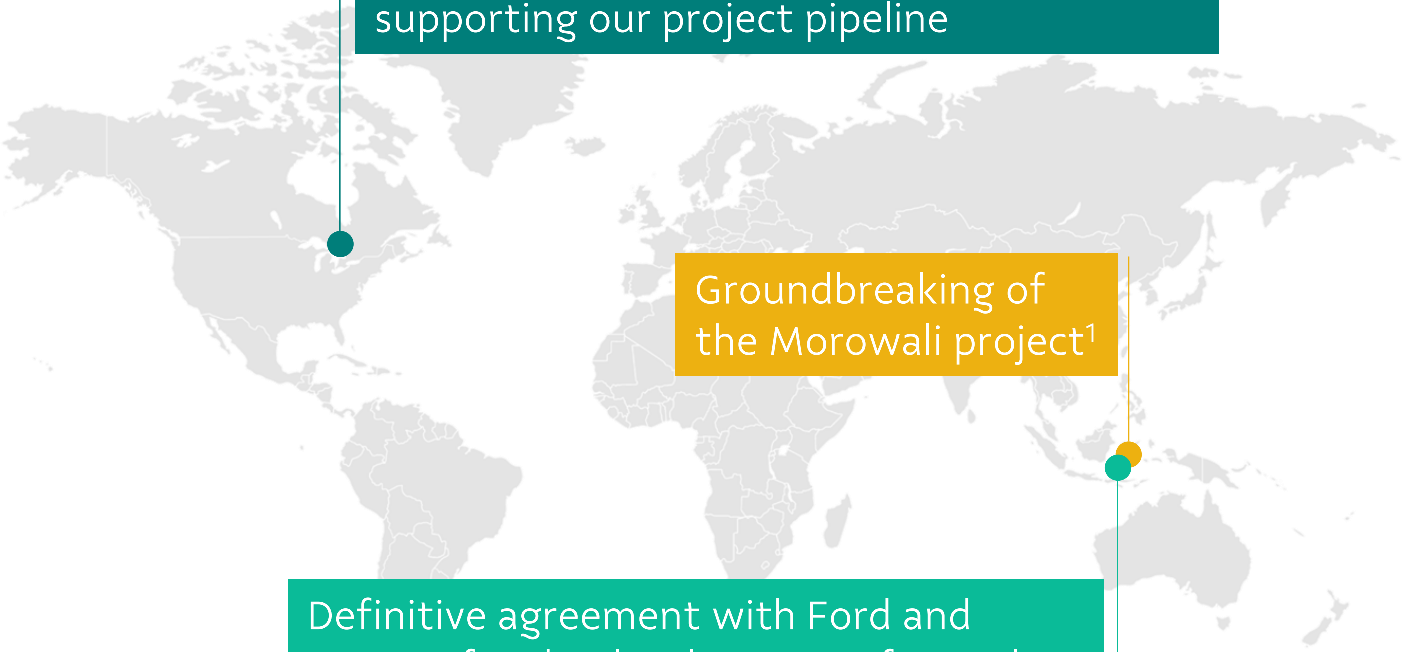
Planned ramp-up progress in 2023

Production, in kilotons of copper per month
Salobo 3 plant only



Uniquely positioned to benefit from a secular shift in Nickel demand

Canada Budget 2023: incentives for critical minerals and clean energy, further supporting our project pipeline



Groundbreaking of the Morowali project[1]

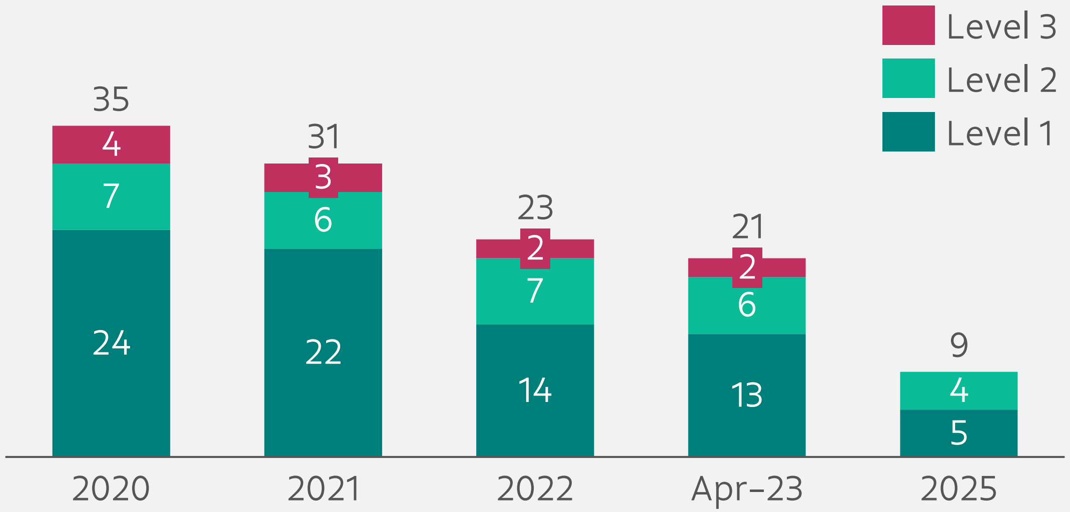
Definitive agreement with Ford and Huayou for the development of Pomalaa HPAL project

Canada's Deputy Prime Minister Chrystia Freeland visits Long Harbour as part of her post-Budget 2023 cross-country tour.

[1] Formerly known as Bahodopi nickel project.

Stronger safety practices, improved ESG perception

Structures at emergency level[1] today



2 dams with emergency level removed in Apr-23

10 dams with emergency level removed since 2022

Vale's ESG risk rating

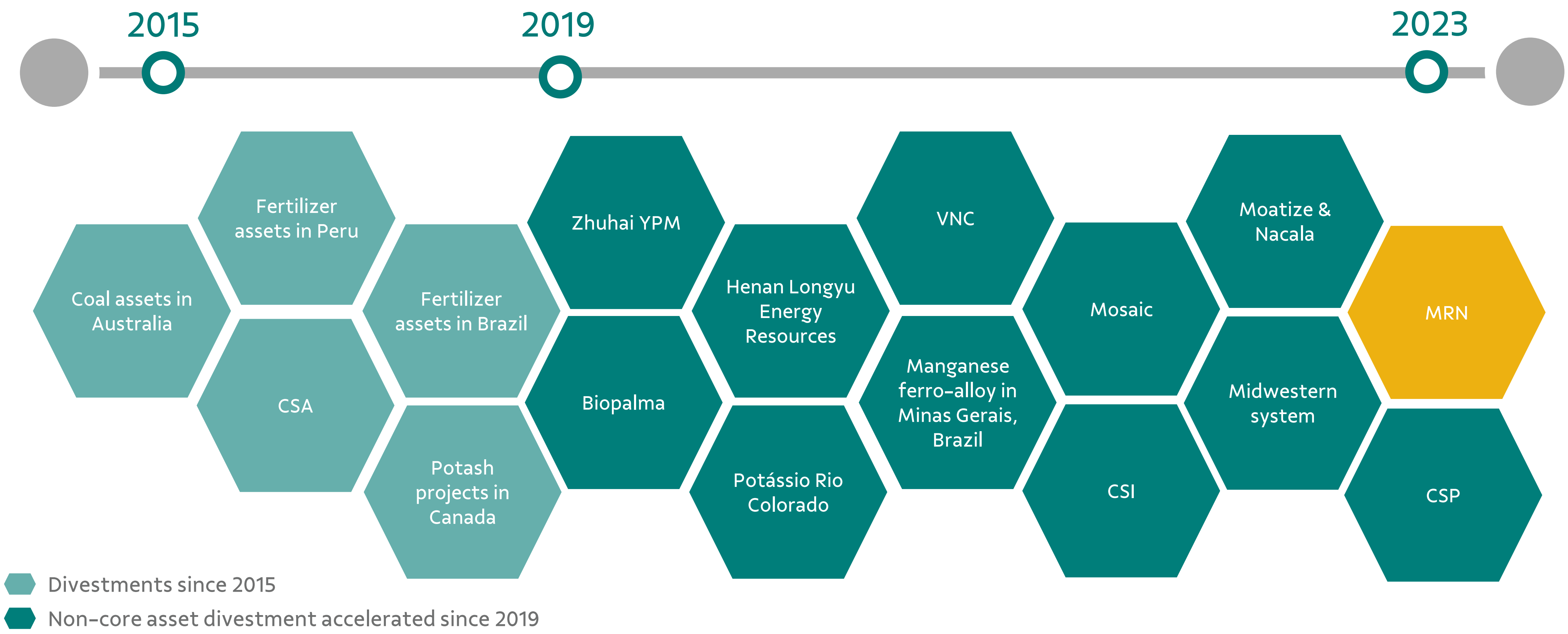
Sustainalytics	2019	2021	Today
Ratings (the lower, the better)	54.5	39.1	35.3
M&M industry Quartile	3rd	2nd	1st

Closing the gaps with ISO14001 and Social Ambition

Upgrade in H&S controversy due to strong measures taken to improve safety

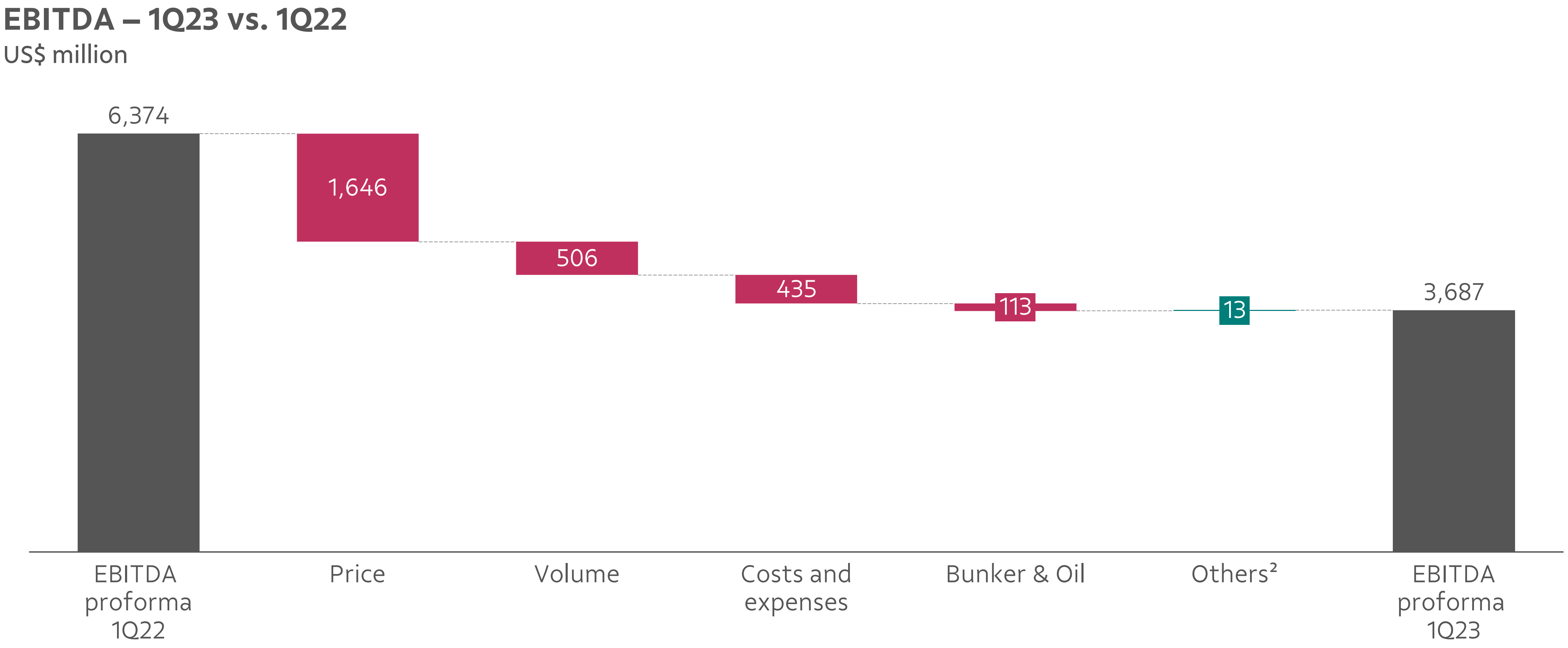
[1] Includes tailings and sediments dams, dikes and drained stacks. As per the Brazilian regulation and as provided for in each Mining Dams Emergency Action Plan, considering level 3 as the critical emergency level. [2] Considering the maximum number of structures at emergency level in 2020. [3] The 21 structures encompass different heightening methods and include 10 upstream structures.

Reshaped portfolio



2. Financial Performance

EBITDA mostly impacted by lower prices and volume

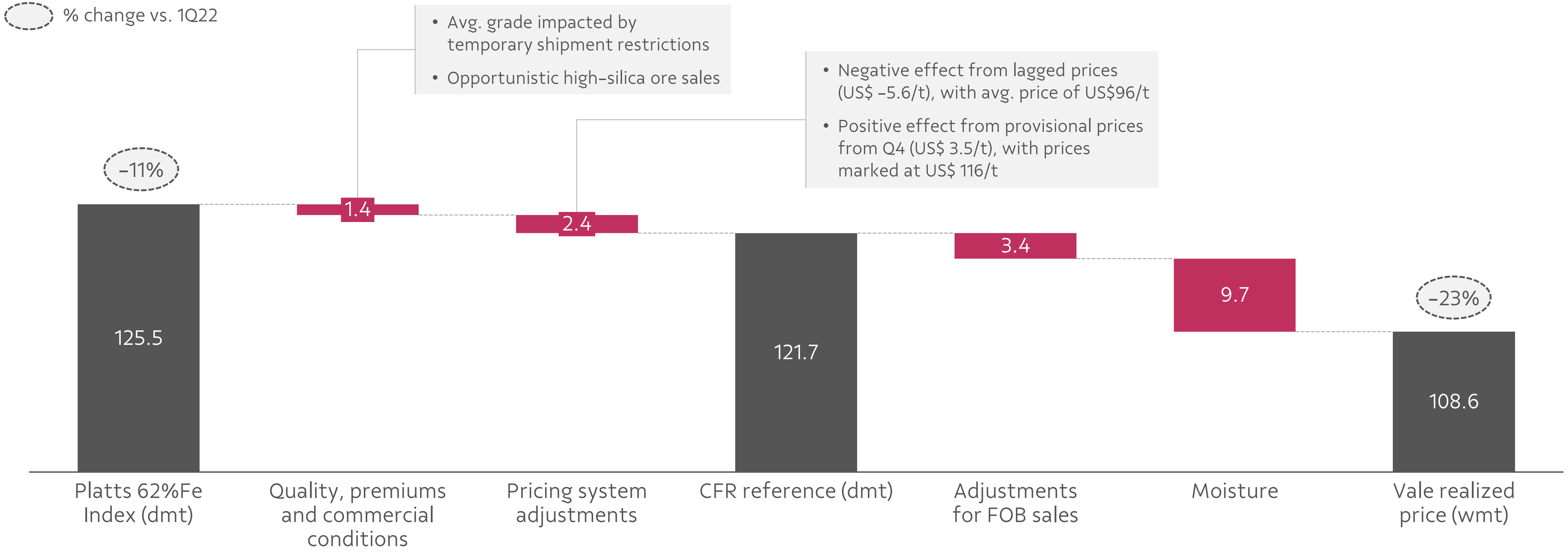


[1] Net of Brumadinho expenses. [2] Includes US$ 25 million of FX effect, US$ 12 million of dividends, and others.

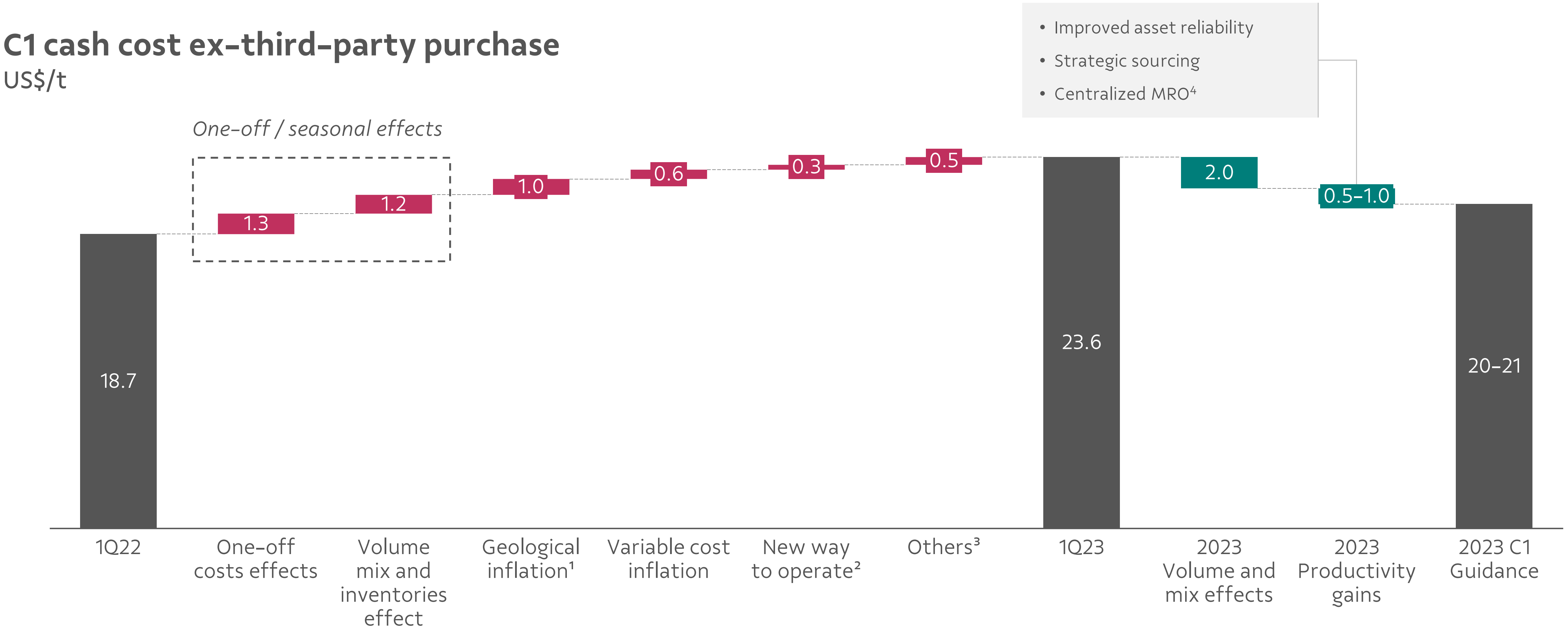
Realized price affected by pricing system and product mix

Iron ore fines price realization – 1Q23

US$/t



Higher C1 mainly driven by one-off and seasonal effects



[1] Including cost effects from average haulage distance (AHT), strip ratio and others. [2] Including tailings filtration plants ramp-up, health & safety, dam management, geotechnics, risk and sustainability costs.
[3] Including FX effect, energy costs, demurrage costs and others. [4] Materials, repair, operation.

All-in cost to benefit from better volume and mix in the year to go

Iron ore fines & pellets EBITDA break-even – 1Q23 and 1Q22
US$/t

	1Q22	1Q23
Vale's C1 cash cost ex-third-party purchase cost	18.7	23.6
Third-party purchases cost adjustments	2.5	3.1
Vale's iron ore cash cost (ex-ROM, ex-royalties), FOB	**21.2**	**26.7**
Iron ore fines freight cost	18.1	17.8
Iron ore fines distribution cost	1.7	3.2
Iron ore fines expenses & royalties	8.0	7.6
Iron ore fines moisture adjustment	4.4	5.0
Iron ore fines quality adjustment	(4.4)	1.4
Iron ore fines EBITDA break-even (US$/dmt)	**49.0**	**61.7**
Iron ore fines pellet adjustment	(4.7)	(3.5)
Iron ore fines and pellets EBITDA break-even (US$/dmt)	**44.3**	**58.2**

- One-off costs and seasonally-low volumes in Q1
- Higher share in mix and prices for third-party purchases

- Competitive freight rates vs. C3 index
- US$ 129 million of cost avoidance by scrubbers' installation

- Higher share of beneficiated products in third-party concentrators (US$ 1.3/t effect), improving returns and margins

- Lower 65%/62%Fe spread (US$ -14/t spread y/y)
- Lower pellet premiums (US$ -9/t of contractual premiums y/y)

Flat COGS after by products y/y; All-in costs impacted by higher benchmark TC/RC[1]

Copper all-in costs – 1Q23

US$/t

	1Q22	1Q23
COGS	6,661	6,256
By-product revenues	-3,055	-2,664
COGS after by-product revenues	**3,606**	**3,592**
Other expenses[2]	611	782
Total costs	**4,217**	**4,374**
TC/RCs penalties, premiums and discounts	456	518
All-in costs (EBITDA breakeven)	**4,673**	**4,892**
All-in costs (EBITDA breakeven) ex-Hu'u	**4,105**	**4,464**

- Higher fixed costs dilution in Sossego after extended maintenance in 1H22
- Higher share of Sossego copper concentrates in sales mix
- Increase in TC/RC benchmark

All-in guidance 2023: US$3,200/t
Higher production; ramp-up of Salobo

[1] Treatment Charge and Refining Charge. [2] Includes SG&A, R&D, pre-operational expenses and other expenses.

In Nickel, costs increased y/y mainly due to the higher consumption of 3rd party feed

Nickel all-in costs – 1Q23

US$/t

	1Q22	1Q23
COGS ex-third party	16,798	22,434
COGS	17,410	23,653
By-product revenues	-8,501	-7,687
COGS after by-product revenues	**8,909**	**15,966**
Other expenses[1]	609	1,117
Total costs	**9,518**	**17,083**
Nickel average aggregate (premium) discount	110	60
All-in costs (EBITDA breakeven)	**9,628**	**17,143**

- Lower fixed costs dilution, sales mix and inflationary pressures (fuel, materials)
- Higher costs and volumes of 3rd party feed
- Increase on R&D initiatives for further operational improvements

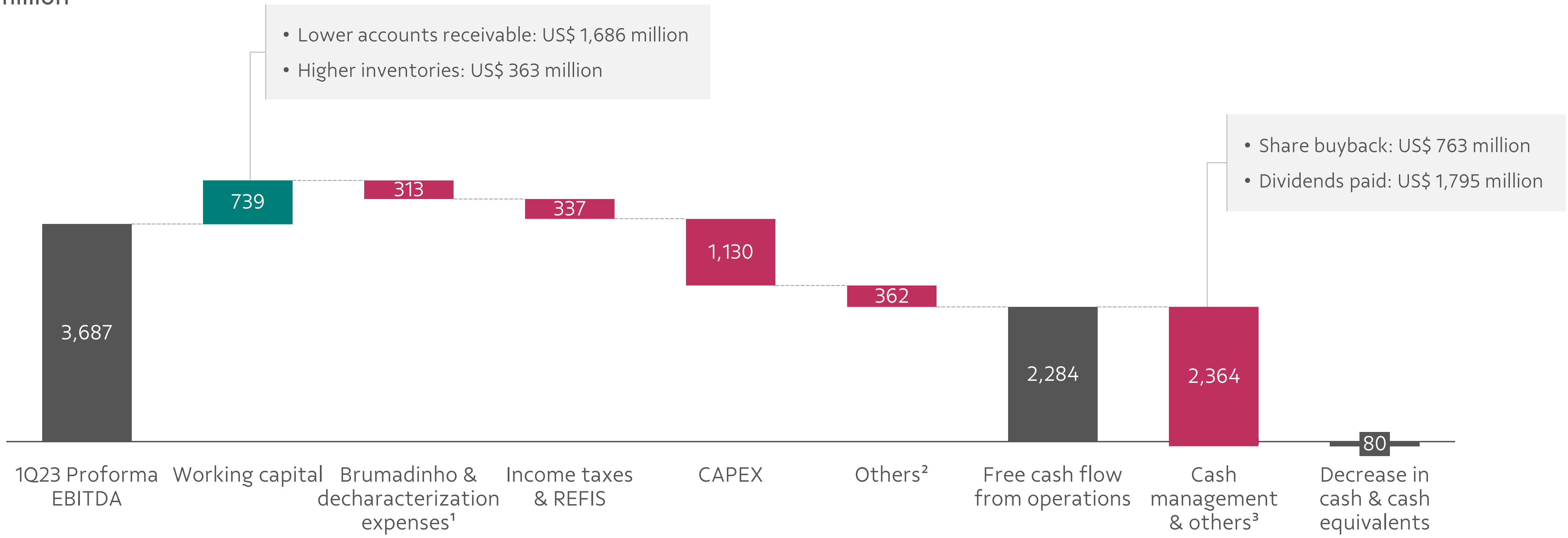
All-in guidance 2023: US$13,000/t
Higher volumes in 2H23

[1] Includes SG&A, R&D, pre-operational expenses and other expenses.

62% EBITDA–to–cash conversion in the quarter

Free cash flow – 1Q23

US$ million



[1] Includes US$ 202 million of disbursement of Brumadinho and de-characterization provisioned expenses and US$ 111 million of Brumadinho incurred expenses. [2] Includes interest on loans, derivatives, leasing, dividends paid to noncontrolling interest, shareholders debentures, payments to Renova and others. [3] Includes US$ 763 million of share buyback, US$ 1,795 million in dividends, US$ 261 million of debt repurchased and US$ -67 million from the sale of CSP.

Highly-accretive buyback program

Share buyback programs since 2019

1st Program (announced in April 2021)

- **270 million shares repurchased** – 5.3% of outstanding shares[1]
  - **US$ 19.55** average share price
  - **US$ 5.28 billion**

2nd Program (announced in October 2021)

- **200 million shares repurchased** – 3.9% of outstanding shares[1]
  - **US$ 17.56** average share price
  - **US$ 3.5 billion**

3rd Program (announced in April 2022)

- **500 million shares repurchase** – 10% of outstanding shares[1]
  - **US$ 15.89** average share price
- Until Oct/23
- **47%** program completed

73% of ~19.2% complete...

[1] As of March 2021 (5,130,801,436 shares).

Closing remarks

Solid production across the board

Unlocking significant value through growth (eg. Salobo III, Pomalaa)

Portfolio successfully reshaped allowing greater focus on our core

Capital discipline and shareholders return to remain a key priority

VALE

Vale's performance in 1Q23

Rio de Janeiro, April 26th, 2023. *"Our Q1 results showed stronger iron ore production, supported by S11D improved performance, thanks to our truckless system improved reliability and the new crushers. Despite the weather-related loading restrictions that impacted our sales, we remain confident in our ability to achieve our 2023 goals. Our Energy Transition Metals results were solid, with continued ramp up at Salobo III, resulting in a strong performance in copper. In Sudbury, our mines had their highest production rates since 2017. While the mining industry faces inflationary pressure, we remain focused on cost efficiency and productivity gains. We are also making progress in managing our tailings dams. In April, two geotechnical structures received their declaration of stability, which led to removing their emergency level. Since 2022, we have successfully revoked the emergency level protocols for 10 structures. We remain strongly committed to building a safer and more reliable company while delivering value to our shareholders."* commented Eduardo Bartolomeo, Chief Executive Officer.

Selected financial indicators

US$ million	1Q23	1Q22	4Q22
Net operating revenues	8,434	10,812	11,941
Total costs and expenses (ex-Brumadinho and de-characterization of dams)[1]	(5,403)	(5,124)	(7,895)
Expenses related to Brumadinho event and de-characterization of dams	(111)	(160)	(375)
Adjusted EBIT from continuing operations	**2,920**	**5,528**	**3,726**
Adjusted EBIT margin (%)	35%	51%	31%
Adjusted EBITDA from continuing operations	**3,576**	**6,214**	**4,626**
Adjusted EBITDA margin (%)	42%	57%	39%
Proforma adjusted EBITDA from continuing operations[2]	**3,687**	**6,374**	**5,001**
Net income from continuing operations attributable to Vale's shareholders	1,837	4,456	3,724
Net debt [3]	8,226	4,911	7,915
Capital expenditures	1,130	1,136	1,787

[1] Includes adjustment of US$ 35 million in 1Q23, to reflect the performance of the streaming transactions at market price.
[2] Excluding expenses related to Brumadinho.
[3] Including leases (IFRS 16).

Highlights

Business Results

- Proforma adjusted EBITDA from continued operations of US$ 3.7 billion in Q1, down US$ 2.7 billion y/y, mainly reflecting (i) lower realized prices of iron ore fines and pellets, (ii) lower sales of iron ore fines and (iii) higher costs.

- Free Cash Flow from Operations of US$ 2.3 billion, representing 62% EBITDA to cash-conversion versus 19% in 1Q22, largely explained by (i) the strong cash collection from 4Q22 sales and (ii) seasonally higher income tax paid in 1Q22.

Disciplined capital allocation

- Capital expenditures of US$ 1.1 billion in Q1, including growth and sustaining investments, in line y/y.
- Gross debt and leases of US$ 13.0 billion as of March 31, 2023, slightly higher q/q, mainly due to US$ 300 million debt issued as part of Vale's liability management.
- Expanded Net Debt of US$ 14.4 billion as of March 31, 2023, in line q/q and within the targeted leverage of US$ 10-20 billion.

Value creation and distribution

- US$ 1.8 billion in dividends paid in March 2023.
- Disbursement for the 3rd buyback program in quarter was US$ 763 million. Overall, the 3rd buyback program is 47% complete, with a disbursement of US$ 3.7 billion to repurchase 233.7 million shares[1].

Focusing and strengthening the core

- Progressing in the electric vehicles value chain:
  - PTVI and China's Zhejiang Huayou Cobalt Co. signed a definitive agreement with global automaker Ford Motor Co. for the development of the Pomalaa project in Indonesia. The three-party collaboration enables to advance more sustainable nickel production in Indonesia and help make electric vehicle batteries more affordable.
  - In February, we inaugurated the construction of the Morowali project, an integrated nickel mining and processing plant (RKEF) powered by natural gas, with an expected nickel capacity of 73 ktpy, to start-up in 2025. The project is a JV between PTVI, which will own 100% of the mine and two Chinese partners, who will hold a 51% stake in the RKEF.
- Delivering iron solutions:
  - Shipment of the first briquettes cargo for international tests in blast furnace in April. The cargo was shipped from the Port of Açu for testing at a client's blast furnace in Europe. The green briquette is an innovative product, which reduces CO_2 emissions in steelmaking by 10%.
  - Emergency plan for Torto dam was approved in March, and our expectation is to obtain the operating license by the end of Q2. The dam will enable us to increase the overall quality and volume of pellets, improving mix and average price premium.
- Advancing the project pipeline:
  - Both lines at Salobo III plant already in operation, and successfully ramping up. The project will add 30-40 ktpy of copper production to the Salobo complex and it is expected to reach full capacity in 4Q24.
  - Commissioning of Gelado project has continued to progress, using 100% electric dredges. Gelado will produce high-quality pellet feed by reusing the tailings that have been deposited in the Gelado dam.
- Responsible divestment of non-core assets is concluded with:
  - The sale of Companhia Siderúrgica do Pecém (CSP) was closed for an enterprise value of US$ 2.2 billion, used to prepay CSP's outstanding net debt balance of US$ 2.3 billion.

[1] Related to the April 2022 3rd buyback program for a total of 500 million shares.

Promoting sustainable mining

- Two geotechnical structures received declaration of stability condition in April, having their emergency level condition removed. Since the beginning of 2022, 10 structures had emergency level protocols revoked.

- Vale's ESG Risk Rating, assessed by Sustainalytics, was upgraded from 39.1 to 35.3, indicating further recognition of our efforts in building a safer and more sustainable company.

- Agreement with United States Securities and Exchange Commission ("SEC") to terminate a lawsuit filed by the SEC against the Company was signed in March 2023. Vale will make payments totaling US$ 55.9 million to the SEC.

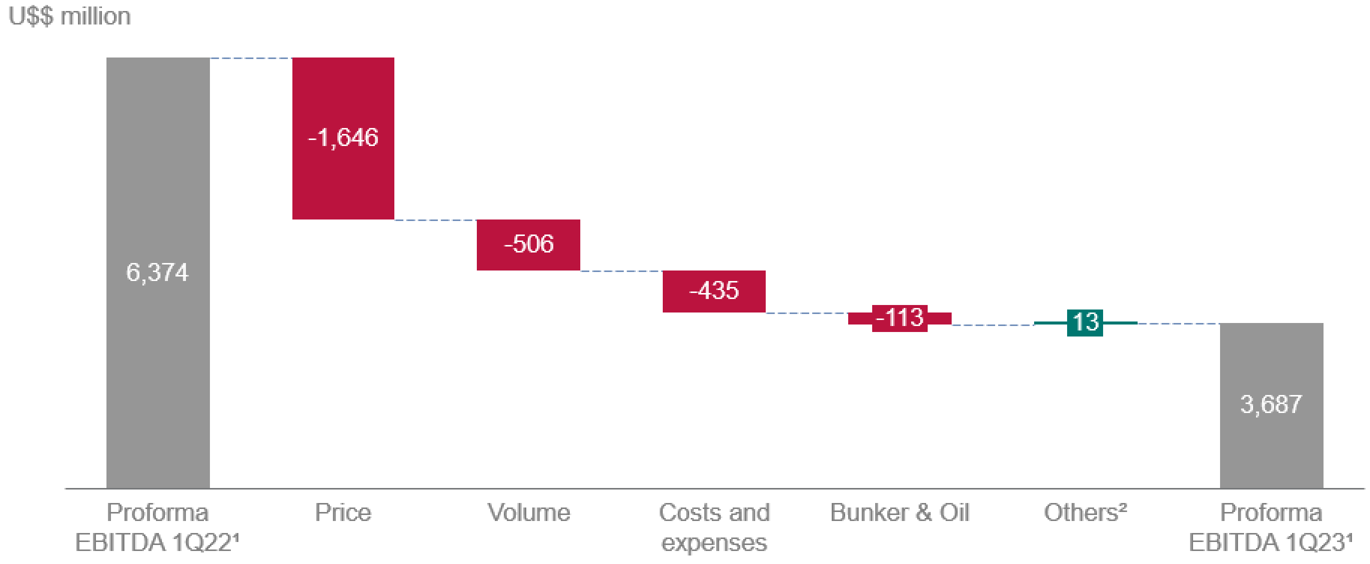
Adjusted EBITDA

Adjusted EBITDA

US$ million	1Q23	1Q22	4Q22
Net operating revenues	8,434	10,812	11,941
COGS	(4,949)	(4,622)	(7,155)
SG&A	(118)	(121)	(148)
Research and development	(139)	(121)	(218)
Pre-operating and stoppage expenses	(124)	(154)	(125)
Expenses related to Brumadinho event & de-characterization of dams	(111)	(160)	(375)
Other operational expenses[1]	(73)	(106)	(249)
Dividends and interests on associates and JVs	-	-	55
Adjusted EBIT from continuing operations	**2,920**	**5,528**	**3,726**
Depreciation, amortization & depletion	656	686	900
Adjusted EBITDA from continuing operations	**3,576**	**6,214**	**4,626**
Proforma Adjusted EBITDA from continuing operations[2]	**3,687**	**6,374**	**5,001**
Discontinued operations – Coal	-	171	-
Adjusted EBITDA total	**3,576**	**6,385**	**4,626**
Proforma Adjusted EBITDA total[2]	**3,687**	**6,545**	**5,001**

[1] Includes adjustment of US$ 35 million in 1Q23, to reflect the performance of the streaming transactions at market price.
[2] Excluding expenses related to Brumadinho.

Proforma EBITDA - 1Q23 vs. 1Q22



[1] Net of Brumadinho expenses. [2] Includes US$ 25 million of FX effect, US$ 12 million of dividends, and others.

Sales & price realization

Volume sold - Minerals and metals

'000 metric tons	1Q23	1Q22	4Q22
Iron ore fines	45,861	51,311	81,202
ROM	1,665	1,035	1,963
Pellets	8,133	7,011	8,789
Nickel	40	39	58
Copper[1]	63	50	72
Gold as by-product ('000 oz)[1]	72	62	73
Silver as by-product ('000 oz)[1]	406	341	533
PGMs ('000 oz)	74	49	54
Cobalt (metric ton)	621	415	927

[1] Including sales originated from both nickel and copper operations.

Average realized prices

US$/ton	1Q23	1Q22	4Q22
Iron ore - 62% Fe reference price	125.5	141.6	99.0
Iron ore fines Vale CFR/FOB realized price	108.6	141.4	95.6
Pellets CFR/FOB (wmt)	162.5	194.6	165.6
Nickel	25,260	22,195	24,454
Copper[2]	9,298	10,619	8,337
Gold (US$/oz)[12]	1,845	1,862	1,677
Silver (US$/oz)[2]	22.07	23.47	21.88
Cobalt (US$/t)[1]	32,830	78,085	44,980

[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	1Q23	1Q22	4Q22
Iron Solutions	3,290	3,108	5,079
Energy Transition Metals	1,620	1,334	1,965
Others	39	180	111
Total COGS of continuing operations[1]	**4,949**	**4,622**	**7,155**
Depreciation	613	645	875
COGS of continuing operations, ex-depreciation	**4,336**	**3,977**	**6,280**

[1] COGS currency exposure in 1Q23 was as follows: 50,07% BRL, 42,29% USD, 7,37% CAD and 0,27% Other currencies.

Expenses

Operating expenses

US$ million	1Q23	1Q22	4Q22
SG&A	118	121	148
Administrative	100	103	121
Personnel	45	54	45
Services	28	23	44
Depreciation	11	11	9
Others	16	15	23
Selling	18	18	27
R&D	139	121	218
Pre-operating and stoppage expenses	124	154	125
Expenses related to Brumadinho event and de-characterization of dams	111	160	375
Other operating expenses	108	106	249
Total operating expenses	**600**	**662**	**1,115**
Depreciation	43	41	25
Operating expenses, ex-depreciation	**557**	**621**	**1,090**

Brumadinho

Impact of Brumadinho and De-characterization in 1Q23

US$ million	Provisions balance 31dec22	EBITDA impact	Payments	FX and other adjustments[2]	Provisions balance 31mar23
De-characterization	3,378	-	(78)	164	3,464
Agreements & donations[1]	3,312	-	(124)	170	3,358
Total Provisions	**6,690**	**-**	**(202)**	**334**	**6,822**
Incurred expenses and others	58	111	(111)	-	58
Total	**6,748**	**111**	**(313)**	**334**	**6,880**

[1] Includes Integral Reparation Agreement, individual, labor and emergency indemnifications, tailing removal and containment w orks.
[2] Includes foreign exchange, present value and other adjustments.

Impact of Brumadinho and De-characterization from 2019 until 1Q23

US$ million	EBITDA impact	Payments	PV & FX adjust [2]	Provisions balance 31mar23
De-characterization	5,038	(1,216)	(358)	3,464
Agreements & donations[1]	8,658	(5,126)	(174)	3,358
Total Provisions	**13,696**	**(6,342)**	**(532)**	**6,822**
Incurred expenses	2,621	(2,621)	-	-
Others	180	-	-	58
Total	**16,497**	**(8,963)**	**(532)**	**6,880**

[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]:

US$ billion	Since 2019 until 1Q23 disbursed	2023	2024	2025	2026	2027	Yearly average 2028-2035[3]
De-characterization	1.2	0.3	0.6	0.5	0.6	0.4	0.3
Integral Reparation Agreement & other reparation provisions	5.1	1.0	1.1	0.8	0.7	0.3	0.4[4]
Incurred expenses	2.6	0.3	0.4	0.3	0.2	0.1	-
Total	**8.9**	**1.6**	**2.1**	**1.6**	**1.5**	**0.8**	**-**

[1] Estimate cash outflow for 2023-2035 period, given BRL-USD exchange rates of 5.0804.
[2] Amounts stated without discount to present value, net of judicial deposits and comprises inflation adjustments.
[3] Estimate annual average cash flow for De-characterization provisions in the 2028-2035 period is US$ 272 million per year.
[4] Disbursements related to the Integral Reparation Agreement end in 2028.

Net income

Reconciliation of proforma EBITDA to net income

US$ million	1Q23	1Q22	4Q22
EBITDA Proforma	**3,687**	**6,545**	**5,001**
Brumadinho event and de-characterization of dams	(111)	(160)	(375)
EBITDA Coal (Discontinued operation)	-	(171)	-
Adjusted EBITDA from continuing operations	**3,576**	**6,214**	**4,626**
Impairment reversal (impairment and disposals) of non-current assets, net [1]	(39)	1,072	(177)
Dividends received	-	-	(55)
Equity results and net income (loss) attributable to noncontrolling interests	(96)	189	53
Financial results	(530)	(242)	(658)
Income taxes	(418)	(2,091)	835
Depreciation, depletion & amortization	(656)	(686)	(900)
Net income from continuing operations attributable to Vale's shareholders	**1,837**	**4,456**	**3,724**

[1] Includes adjustment of US$ 35 million in 1Q23, to reflect the performance of the streaming transactions at market price

Financial results

US$ million	1Q23	1Q22	4Q22
Financial expenses, of which:	(320)	(319)	(291)
Gross interest	(180)	(161)	(149)
Capitalization of interest	5	14	7
Others	(107)	(140)	(110)
Financial expenses (REFIS)	(38)	(32)	(39)
Financial income	121	150	92
Shareholder Debentures	(47)	(249)	(99)
Financial Guarantee	-	123	2
Derivatives[1]	192	861	373
Currency and interest rate swaps	216	863	323
Others (commodities, etc)	(24)	(2)	50
Foreign Exchange	(151)	(817)	(247)
Monetary variation	(325)	9	(488)
Financial result, net	**(530)**	**(242)**	**(658)**

[1] The cash effect of the derivatives was a gain of US$ 24 million in 1Q23.

Main factors that affected net income for 1Q23 vs. 1Q22

	US$ million	
1Q22 Net income from continuing operations attributable to Vale's stockholders	**4,456**	
Δ EBITDA proforma	(2,687)	Lower iron ore and pellets realized prices and lower iron ore sales volumes
Δ Brumadinho event and de-characterization of dams	49	
Δ EBITDA Coal (Discontinued operation)	(171)	
Δ Impairment & disposal of non-current assets	(1,076)	1Q22 impacted by gains from Midwestern System sale
Δ Dividends received	-	
Δ Equity results and net income (loss) attributable to noncontrolling interests	(149)	
Δ Financial results	(288)	.
Δ Income taxes	1,673	Lower net income for Q1 2023 leading to lower income tax in the quarter
Δ Depreciation, depletion & amortization	30	
1Q23 Net income from continuing operations attributable to Vale's shareholders	**1,837**	

Δ: difference between 1Q23 and 1Q22 figures

CAPEX

Growth and sustaining projects execution

US$ million	1Q23	%	1Q22	%	4Q22	%
Growth projects	**326**	**28.8**	**337**	**29.7**	**426**	**23.8**
Iron Solutions	236	20.9	182	16.0	285	15.9
Energy Transition Metals	72	6.4	67	5.9	100	5.6
Nickel	20	1.8	6	0.5	16	0.9
Copper	52	4.6	62	5.5	84	4.7
Energy and others	18	1.6	88	7.7	41	2.3
Sustaining projects	**804**	**71.2**	**799**	**70.3**	**1,361**	**76.2**
Iron Solutions	512	45.3	499	43.9	764	42.8
Energy Transition Metals	263	23.3	270	23.8	567	31.7
Nickel	204	18.1	226	19.9	480	26.9
Copper	59	5.2	44	3.9	87	4.9
Energy and others	29	2.6	30	2.6	30	1.7
Total	**1,130**	**100.0**	**1,136**	**100.0**	**1,787**	**100.0**

Growth projects

Investments in growth projects under construction totaled US$ 326 million in Q1, flat y/y, driven by the progress made in the Capanema's Maximization and Tubarão Briquette projects, partially offset by lower investments in Sol do Cerrado project after its commissioning in October 2022.

Growth projects progress indicator[2]

Projects	Capex 1Q23	Financial progress[1]	Physical progress	Comments
Iron Solutions				
Northern System 240 Mtpy *Capacity: 10 Mtpy* *Start-up: 1H23* *Capex: US$ 772 MM*	18	70%	85%[2]	For mine-plant, loading tests have started in the products stockyard, and it is in the final testing phase at the loading silo. For railway, services to complete the project's railway duplication are expected to start in Q2. For port, works are on schedule.
Capanema's Maximization *Capacity: 18 Mtpy* *Start-up: 1H25* *Capex: US$ 913 MM*	54	21%	37%	The electromechanical assembly of the primary, secondary, and tertiary circuits continued in Q1. The electromechanical assembly of the long-distance conveyor belt and the stacker/reclaimers for stockpiles has started. At the same time, the supply of the tertiary crushers has been completed.
Serra Sul 120 Mtpy[3] *Capacity: 20 Mtpy* *Start-up: 2H25* *Capex: US$ 1,502 MM*	83	37%	45%	The civil works for the mine are in progress. The electromechanical assembly packages are in the acquisition phase. The earthworks for the duplication of the long-distance conveyor belt and the civil works for the plant's expansion have started.
Briquettes Tubarão *Capacity: 6 Mtpy* *Start-up: 1H23 (Plant 1) and 2H23 (Plant 2)* *Capex: US$ 182 MM*	28	74%	86%	Mechanical completions for Plant 1 are advanced. The commissioning is in progress, with the testing of three briquetting machines, one dryer, briquetting and mixing circuit conveyors, precipitators, and additives area. Hot tests are expected to start in Q2.
Energy Transition Materials				
Salobo III *Capacity: 30-40 ktpy* *Start-up: 2H22* *Capex: US$ 1,056 MM*	51	95%	100%	The start-up was completed, and production is ramping up.
Onça Puma 2nd Furnace *Capacity: 12-15 ktpy* *Start-up: 1H25* *Capex: US$ 555 MM*	2	3%	4%	The detailed engineering, procurement of major work packages, and demolition of the second furnace are in progress.

[1] CAPEX disbursement until end of 1Q23 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.

[2] Pre-operating expenses included in the total estimated capex information, in line with Vale's Board of Directors approvals.

Sustaining projects

Investments in sustaining our operations totaled US$ 804 million in Q1, flat y/y, driven by higher maintenance disbursements in iron ore operations, which was offset by lower investments in tailings filtration after the start-up of our four plants.

Sustaining projects progress indicator[3]

Projects	Capex 1Q23	Financial progress[1]	Physical progress	Comments
Iron Solutions				
Gelado *Capacity: 10 Mtpy* *Start-up: 2H22* *Capex: US$ 428 MM*	14	83%	100%	The project progressed on production commissioning. The Gelado project capacity is 5 Mtpy in the initial years, as it requires Usina 1 conversion to dry processing to achieve full capacity (10 Mtpy).
Compact Crushing S11D *Capacity: 50 Mtpy* *Start-up: 2H26* *Capex: US$ 755 MM*	10	5%	7%	The earthworks related to the primary crusher were completed, and the civil works are expected to start in Q2.
Energy Transition Metals				
Voisey's Bay Mine Extension *Capacity: 45 ktpy (Ni) and 20 ktpy (Cu)* *Start-up: 1H21[2]* *Capex: US$ 2,690 MM*	67	78%	83%	Electromechanical assembly continues to advance on the surface works. The paste system commissioning is ongoing, and the first assets will be delivered in Q2. For underground works, the Reid Brook bulk material handling system is near ready for commissioning. The lateral development advancement for the Eastern Deeps and the initial infrastructure works remain the priority.

[1] CAPEX disbursement until end of 1Q23 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 scheduled to start the main production ramp-up in the second half of 2023.

Sustaining capex by type - 1Q23

US$ million	Iron Solutions	Energy Transition Materials	Energy and others	Total
Enhancement of operations	263	136	2	401
Replacement projects	18	88	-	106
Filtration and dry stacking projects	28	-	-	28
Dam management	26	2	-	28
Other investments in dams and waste dumps	39	8	-	47
Health and Safety	43	18	1	62
Social investments and environmental protection	51	5	-	56
Administrative & Others	44	6	26	76
Total	**512**	**263**	**29**	**804**

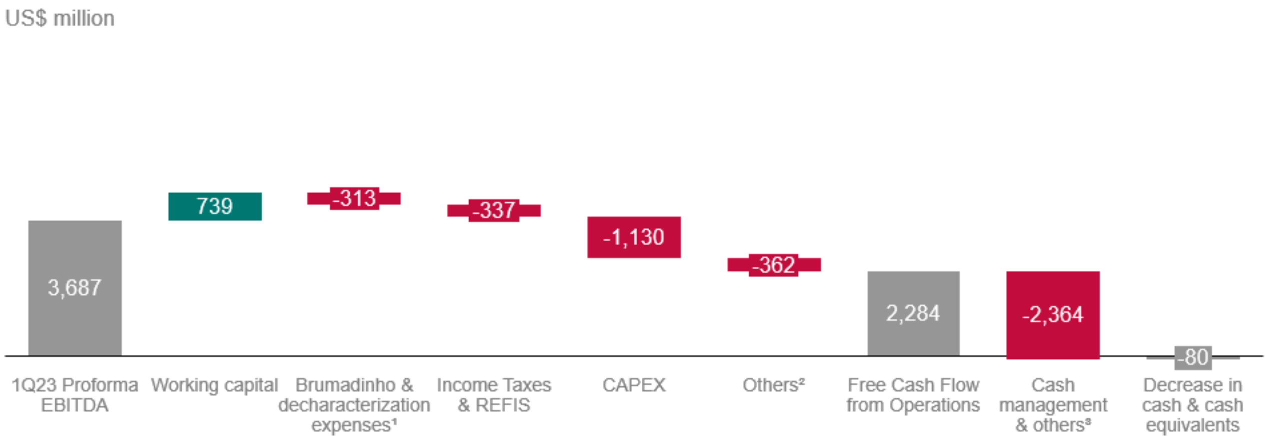
[3] Pre-operating expenses included in the total estimated capex column, in line with Vale's Board of Directors approvals.

Free cash flow

Free Cash Flow from Operations reached US$ 2,284 million in 1Q23, representing 62% cash-conversion. The robust cash-conversion is due to a positive working capital variation, largely explained by the strong cash collection from 4Q22 sales. This was partially offset by inventory build-up and seasonal disbursements related to profit sharing in the first quarter.

In 1Q23, Vale distributed US$ 1,795 million to shareholders and repurchased US$ 763 million of shares. Cash & cash equivalents position decreased by US$ 80 million in the quarter.

Free Cash Flow 1Q23



[1] Includes US$ 202 million of disbursement of Brumadinho and de-characterization provisioned expenses and US$ 111 million of Brumadinho incurred expenses.
[2] Includes interest on loans, derivatives, leasing, dividends paid to noncontrolling interest, shareholders debentures, payments to Renova and others.
[3] Includes US$ 763 million of share buyback, US$ 1,795 million of dividends, US$ 261 million of debt repurchased and US$ -67 million from the sale of CSP.

Debt

Debt indicators

US$ million	1Q23	1Q22	4Q22
Gross debt [1]	**11,464**	**12,349**	**11,181**
Lease (IFRS 16)	1,520	1,666	1,531
Gross debt and leases	**12,984**	**14,015**	**12,712**
Cash, cash equivalents and short-term investments	4,758	9,104	4,797
Net debt	**8,226**	**4,911**	**7,915**
Currency swaps[2]	(421)	(89)	(211)
Brumadinho provisions	3,358	4,192	3,312
Samarco & Renova Foundation provisions[3]	3,196	3,411	3,124
Expanded net debt	**14,359**	**12,425**	**14,140**
Average debt maturity (years)	8.4	8.5	8.7
Cost of debt after hedge (% pa)	5.3	4.9	5.5
Total debt and leases / adjusted LTM EBITDA (x)	0.8	0.5	0.6
Net debt / adjusted LTM EBITDA (x)	0.5	0.2	0.4
Adjusted LTM EBITDA / LTM gross interest (x)	27.1	46.5	32.3

[1] Does not include leases (IFRS 16).

[2] Includes interest rate swaps.

[3] Does not include provision for de-characterization of Germano dam in the amount of US$ 203 million in 1Q23, US$ 197 million in 4Q22 and US$ 238 million in 1Q22 .

Gross debt and leases totaled US$ 13 billion as of March 31, 2023, slightly higher q/q mainly due to US$ 300 million debt issued as part of Vale's liability management.

Expanded net debt reached US$ 14.4 billion as of March 31, 2023, in line q/q and within the target leverage of US$ 10-20 billion.

The average debt maturity was 8.4 years, slightly lower than the 8.7 years on December 31, 2022. After currency and interest rate swaps, the average cost of debt was 5.34% per annum.

Performance of the business segments

Proforma Adjusted EBITDA from continuing operations, by business area

US$ million	1Q23	1Q22	4Q22
Iron Solutions	**3,320**	**5,802**	**4,721**
Iron ore fines	2,638	4,934	3,955
Pellets	667	837	743
Other Ferrous Minerals	15	31	23
Energy Transition Metals	**573**	**751**	**775**
Nickel	353	525	610
Copper	220	226	165
Others	**(206)**	**(179)**	**(495)**
Total	**3,687**	**6,374**	**5,001**

Segment information 1Q23

		Expenses				
US$ million	Net operating revenues	Cost[1]	SG&A and others[1]	R&D[1]	Pre operating & stoppage[1]	Adjusted EBITDA
Iron Solutions	**6,411**	**(2,918)**	**(41)**	**(43)**	**(89)**	**3,320**
Iron ore fines	4,982	(2,197)	(29)	(39)	(79)	2,638
Pellets	1,322	(648)	(2)	-	(5)	667
Others ferrous	107	(73)	(10)	(4)	(5)	15
Energy Transition Metals[2]	**2,033**	**(1,382)**	**(23)**	**(52)**	**(3)**	**573**
Nickel[3]	1,509	(1,112)	(17)	(27)	-	353
Copper[4]	524	(270)	(6)	(25)	(3)	220

[1] Excluding depreciation, depletion and amortization.
[2] Includes adjustment of US$ 35 million in 1Q23, to reflect the performance of the streaming transactions at market price.
[3] Including copper, by-products from our nickel operations and marketing activities.
[4] Including by-products from our copper operations.

Iron Solutions

Selected financial indicators - Iron Solutions

US$ million	1Q23	1Q22	4Q22
Net Revenues	6,411	8,734	9,330
Costs[1]	(2,918)	(2,723)	(4,561)
SG&A and Other expenses[1]	(41)	(52)	94
Pre-operating and stoppage expenses[1]	(89)	(121)	(102)
R&D expenses	(43)	(36)	(84)
Dividends and interests on associates and JVs	-	-	44
Adjusted EBITDA	**3,320**	**5,802**	**4,721**
Depreciation and amortization	(403)	(416)	(535)
Adjusted EBIT	**2,917**	**5,386**	**4,186**
Adjusted EBIT margin (%)	**45.5**	**61.7**	**44.9**

[1] Net of depreciation and amortization

Iron Solutions EBITDA Variation 1Q23 vs 1Q22

		Drivers				
US$ million	1Q22	Volume	Prices	Others	Total variation	1Q23
Iron ore fines	4,934	(574)	(1,470)	(252)	(2,296)	2,638
Pellets	837	132	(244)	(58)	(170)	667
Other	31	5	(4)	(17)	(16)	15
Iron Solutions	**5,802**	**(437)**	**(1,718)**	**(327)**	**(2,482)**	**3,320**

The 43% decrease in EBITDA is explained mainly by (i) lower realized prices, driven by an 11% lower benchmark average price (US$ 1,718 million), (ii) 5.5 Mt lower iron ore fines sales (US$ 574 million), and (iii) higher all-in unit costs, mainly driven by higher C1 cash costs (included on “Other” US$ 327 million in the table above).

Revenues

Iron Solutions' volumes, prices, premiums and revenues

	1Q23	1Q22	4Q22
Volume sold ('000 metric tons)			
Iron ore fines	45,861	51,311	81,202
ROM	1,665	1,035	1,963
Pellets	8,133	7,011	8,789
Share of premium products[1] (%)	76%	84%	83%
Average prices (US$/t)			
Iron ore - 62% Fe reference price	125.5	141.6	99.0
Iron ore - Metal Bulletin 62% low alumina index	128.7	146.6	99.8
Iron ore - Metal Bulletin 65% index	140.3	170.2	111.4
Provisional price at the end of the quarter	126.0	158.1	116.3
Iron ore fines Vale CFR reference (dmt)	121.7	156.2	107.4
Iron ore fines Vale CFR/FOB realized price	108.6	141.4	95.6
Pellets CFR/FOB (wmt)	162.5	194.6	165.6

contd.

Iron Solutions' volumes, prices, premiums and revenues (contd.)

	1Q23	1Q22	4Q22
Iron ore fines and pellets quality premium (US$/t)			
Iron ore fines quality premium	(1.4)	4.4	1.6
Pellets weighted average contribution	3.5	4.7	3.8
Total	2.1	9.1	5.4
Net operating revenue by product (US$ million)			
Iron ore fines	4,982	7,255	7,767
ROM	26	23	22
Pellets	1,322	1,364	1,456
Others	81	92	85
Total	**6,411**	**8,734**	**9,330**

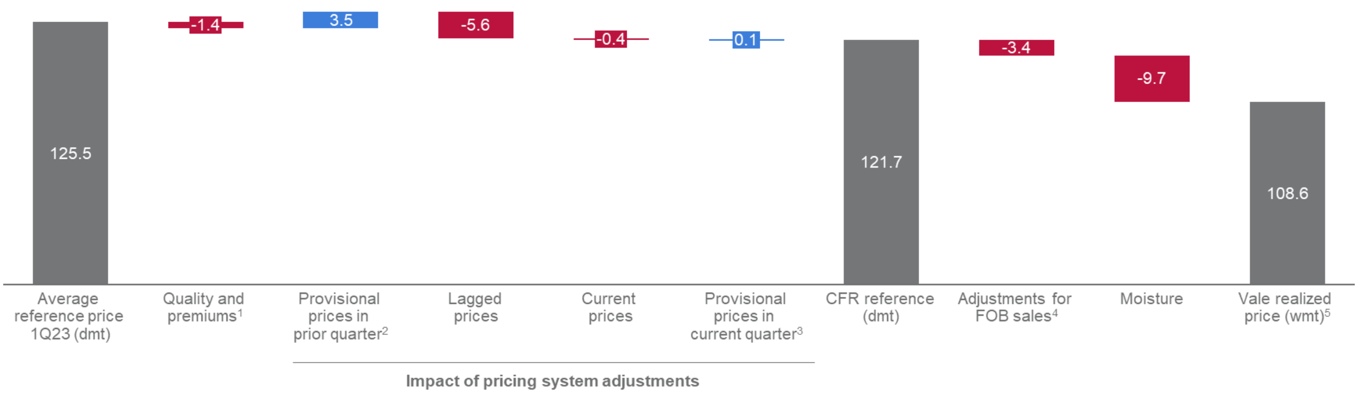
[1] Pellets, Carajás (IOCJ), Brazilian Blend Fines (BRBF) and pellet feed.

The share of premium products in total sales totaled 76% in Q1. All-in premium totaled US$ 2.1/t (vs. US$ 9.1/t in 1Q22), driven by (i) higher sales mix of high-silica products, taking advantage of strong relative prices for this product which, despite the positive margins, reduce average premiums; (ii) lower share of IOCJ and BRBF in the sales mix, due to port restrictions at Ponta da Madeira Terminal; and (iii) lower market premiums for pellets.

Iron ore fines, excluding Pellets and ROM

Revenues & price realization

Price realization iron ore fines – US$/t, 1Q23



[1] Includes quality (US$ -1.0/t) and premiums/discounts and commercial conditions (US$ -0.4/t).
[2] Adjustment as a result of provisional prices booked in 4Q22 at US$ 116.3/t.
[3] Difference between the weighted average of the prices provisionally set at the end of 1Q23 at US$ 126.0/t based on forward curves and US$ 125.5/t from the 1Q23 average reference price.
[4] Includes freight pricing mechanisms of CFR sales freight recognition.
[5] Vale's price is net of taxes.

Iron ore fines realized price was US$ 108.6/t, US$ 32.8/t lower y/y, mainly due to (i) lower benchmark prices (US$ 16.1/t lower y/y); (ii) a negative effect of pricing adjustment mechanisms (US$ 12.6/t lower y/y), mainly related to a lower positive effect from provisional prices in prior quarter (US$ 11.5/t in 1Q22); and (iii) lower fines premiums (US$ 5.8/t lower y/y).

Iron Ore fines pricing system breakdown (%)

	1Q23	1Q22	4Q22
Lagged	19	18	12
Current	62	59	57
Provisional	19	23	31
Total	**100**	**100**	**100**

Costs

Iron ore fines cash cost and freight

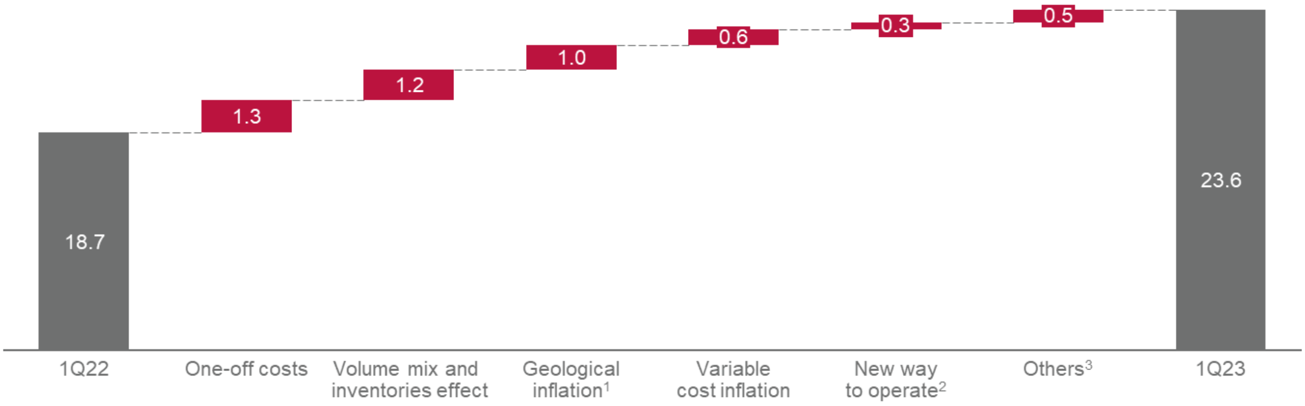
	1Q23	1Q22	4Q22
Costs (US$ million)			
Vale's iron ore fines C1 cash cost (A)	1,222	1,088	1,759
Third-party purchase costs[1] (B)	222	181	274
Vale's C1 cash cost ex-third-party volumes (C = A – B)	1,000	907	1,485
Sales Volumes (Mt)			
Volume sold (ex-ROM) (D)	45.9	51.3	81.2
Volume sold from third-party purchases (E)	3.5	2.7	5.1
Volume sold from own operations (F = D – E)	42.3	48.6	76.2
Iron ore fines cash cost (ex-ROM, ex-royalties), FOB (US$ /t)			
Vale's C1 cash cost ex-third-party purchase cost (C/F)	23.6	18.7	19.5
Average third-party purchase C1 cash cost (B/E)	62.8	67.0	54.2
Vale's iron ore cash cost (A/D)	26.7	21.2	21.7
Freight			
Maritime freight costs (G)	622	733	1,312
% of CFR sales (H)	76%	79%	86%
Volume CFR (Mt) (I = D x H)	34.9	40.5	69.8
Vale's iron ore unit freight cost (US$/t) (G/I)	17.8	18.1	18.8

[1] Includes logistics costs related to third-party purchases

Iron ore fines COGS - 1Q22 x 1Q23

		Drivers				
US$ million	1Q22	Volume	Exchange rate	Others	Total variation	1Q23
C1 cash costs	1,088	(116)	6	244	134	1,222
Freight	733	(100)	-	(11)	(111)	622
Distribution costs	87	(9)	-	69	60	147
Royalties & others	211	(22)	-	17	(5)	206
Total costs before depreciation and amortization	**2,119**	**(247)**	**6**	**319**	**78**	**2,197**
Depreciation	266	(28)	1	6	(21)	245
Total	**2,385**	**(275)**	**7**	**325**	**57**	**2,442**

C1 cash cost variation (excluding 3rd party purchases) – US$/t (1Q23 x 1Q22)



[1] Including cost effects from average haulage distance, strip ratio and others.
[2] Including tailings filtration plants ramp-up, health & safety, dam management, geotechnics, risk and sustainability costs.
[3] Including FX, energy costs, demurrage costs and others.

Vale's C1 cash cost, ex-third-party purchases, increased US$ 4.9/t y/y, mainly driven by (i) one-off cost effects, including anticipation of maintenance activities, taking advantage of the lower impact in volumes in the first semester, (ii) negative effect from volume mix, as result of lower production from Northern System, and consumption of inventories from the previous quarter with higher costs, (iii) higher mining costs mainly due to higher haulage distances, in line with mining plan, (iv) inflationary pressures on diesel and materials, and (v) higher costs associated with the implementation of our new way to operate, including the costs of our tailings filtration plants which started during 2022.

The effect of third-party purchases on costs increased as third-party volumes represented a higher share in Vale's total sales y/y.

Vale's maritime freight cost was US$ 17.8/t in 1Q23, US$ 0.3/t lower y/y, largely explained by lower spot freight costs and lower bunker fuel costs. CFR sales totaled 34.9 Mt in Q1, totaling 76% of total iron ore fines sales.

Expenses

Expenses - Iron Ore fines

US$ millions	1Q23	1Q22	4Q22
SG&A	15	13	21
R&D	39	34	83
Pre-operating and stoppage expenses	79	113	92
Other expenses	14	42	(114)
Total expenses	147	202	82

Iron ore pellets

Pellets – EBITDA

US$ million	1Q23	1Q22	4Q22	Comments
Net revenues / Realized prices	1,322	1,364	1,456	Realized prices were US$ 162.5/t, US$ 32.1/t lower y/y, mainly due to (i) lower benchmark prices, and (ii) the net effect of lower market premiums.
Dividends from leased pelletizing plants	0	0	30	
Cash costs (Iron ore, leasing, freight, overhead, energy and other)	(648)	(526)	(735)	Mainly due to higher pellet feed production costs. FOB sales were 69% of total sales.
Pre-operational & stoppage expenses	(5)	(5)	(5)	
Expenses (Selling, R&D and other)	(2)	4	(3)	
EBITDA	**667**	**837**	**743**	
EBITDA/t	**82**	**119**	**85**	

Iron ore fines and pellets cash break-even landed in China[4]

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

US$/t	1Q23	1Q22	4Q22
Vale's C1 cash cost ex-third-party purchase cost	23.6	18.7	19.5
Third party purchases cost adjustments	3.1	2.5	2.2
Vale's iron ore cash cost (ex-ROM, ex-royalties), FOB (US$ /t)	26.7	21.2	21.7
Iron ore fines freight cost (ex-bunker oil hedge)	17.8	18.1	18.8
Iron ore fines distribution cost	3.2	1.7	1.9
Iron ore fines expenses[1] & royalties	7.6	8.0	7.2
Iron ore fines moisture adjustment	5.0	4.4	4.3
Iron ore fines quality adjustment	1.4	(4.4)	(1.6)
Iron ore fines EBITDA break-even (US$/dmt)	**61.7**	**49.0**	**52.3**
Iron ore fines pellet adjustment	(3.5)	(4.7)	(3.8)
Iron ore fines and pellets EBITDA break-even (US$/dmt)	**58.2**	**44.3**	**48.5**
Iron ore fines sustaining investments	9.4	8.9	8.7
Iron ore fines and pellets cash break-even landed in China (US$/dmt)	**67.6**	**53.2**	**57.2**

[1] Net of depreciation and includes dividends received. Including stoppage expenses.

[4] 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 – 1Q23

US$ million	Sudbury	Voisey's Bay & Long Harbour	PTVI (site)	Onça Puma	Sossego	Salobo	Others	Subtotal Energy Transition Metals	Marketing activities	Total Energy Transition Metals
Net Revenues	979	233	363	81	147	377	(335)	1,845	188	2,033
Costs	(731)	(209)	(185)	(60)	(85)	(185)	236	(1,219)	(163)	(1,382)
Selling and other expenses	(5)	1	(1)	(2)	(3)	(2)	(11)	(23)	-	(23)
Pre-operating and stoppage expenses	-	-	-	-	-	(3)	-	(3)	-	(3)
R&D	(17)	(4)	(4)	-	(7)	(1)	(19)	(52)	-	(52)
EBITDA	**226**	**21**	**173**	**19**	**52**	**186**	**(129)**	**548**	**25**	**573**

Nickel operations

Selected financial indicators, ex- marketing activities

US$ million	1Q23	1Q22	4Q22
Net Revenues	1,321	1,198	1,795
Costs[1]	(949)	(679)	(1,138)
SG&A and other expenses[1]	(17)	(8)	(20)
Pre-operating and stoppage expenses[1]	-	-	(1)
R&D expenses	(27)	(16)	(42)
Adjusted EBITDA	328	495	594
Depreciation and amortization	(203)	(165)	(272)
Adjusted EBIT	125	330	322
Adjusted EBIT margin (%)	9.5	27.6	17.9

[1] Net of depreciation and amortization.

EBITDA variation - US$ million (1Q23 x 1Q22), ex-marketing activities

		Drivers					
US$ million	1Q22	Volume	Prices	By-products	Others	Total variation	1Q23
Nickel excl. marketing	495	5	123	(23)	(272)	(168)	328

EBITDA by operations, ex-marketing activities

US$ million	1Q23	1Q22	4Q22	1Q23 vs. 1Q22 Comments
Sudbury[1]	226	260	192	Higher third-party feed consumption and maintenance costs, partially offset by a higher nickel realized price.
Voisey's Bay & Long Harbour	21	113	65	Production 42.7% lower due to continued transition to the two underground mines and higher third-party feed consumption, partially offset by higher nickel realized price.
PTVI	173	116	95	Higher nickel sales and realized price, despite higher fuel cost.
Onça Puma	19	37	101	Lower price realization resulting from higher discounts for Class II products.
Others[2]	(111)	(31)	141	Higher prices and volumes of intragroup sales.
Total	**328**	**495**	**594**	

[1] Includes the Thompson operations and Clydach refinery.
[2] 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

	1Q23	1Q22	4Q22
Volume sold ('000 metric tons)			
Nickel	40	39	58
Copper	20	16	27
Gold as by-product ('000 oz)	11	8	11
Silver as by-product ('000 oz)	236	215	355
PGMs ('000 oz)	74	49	54
Cobalt (metric ton)	621	415	927
Average realized prices (US$/t)			
Nickel	25,260	22,195	24,454
Copper	8,928	10,139	7,610
Gold (US$/oz)	1,915	1,750	1,750
Silver (US$/oz)	22	23	24
Cobalt	32,830	78,085	44,980
Net revenue by product - ex marketing activities (US$ million)			
Nickel	1,013	866	1,422
Copper	174	164	205
Gold as by-product[1]	21	14	20
Silver as by-product	5	5	9
PGMs	75	110	87
Cobalt[1]	20	32	42
Others	12	7	10
Total	**1,321**	**1,198**	**1,795**

[1] 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

	1Q23	1Q22	4Q22
Volumes (kt)			
Upper Class I nickel	23.9	20.0	28.9
- of which: EV Battery	1.6	1.3	1.8
Lower Class I nickel	4.1	5	7.0
Class II nickel	8.1	9	17.8
Intermediates	4.1	5	4.5
Nickel realized price (US$/t)			
LME average nickel price	25,983	26,395	25,292
Average nickel realized price	25,260	22,195	24,454
Contribution to the nickel realized price by category:			
Nickel average aggregate premium	(60)	(110)	(250)
Other timing and pricing adjustments contributions[1]	(663)	(4,090)	(588)
Premium/discount by product (US$/t)			
Upper Class I nickel	1,550	1,250	1,520
Lower Class I nickel	1,340	550	670
Class II nickel	(2,770)	90	(2,370)
Intermediates	(5,560)	(6,480)	(4,750)

[1] 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 negative impact of US$ 893/t , (ii) fixed-price sales, with a negative impact of US$ 112/t (iii) the effect of the hedging on Vale's nickel price realization, with a positive impact of US$ 348/t in the quarter and (iv) other effects with a negative impact of US$ 6/t.
Note: The nickel realized price for 1Q23 was impacted by a settlement price in the quarter of circa US$ 26,079/t. The average strike price for the complete hedge position was flat at US$ 34,929/t.

Nickel realized price in 1Q23 increased by 14% increase y/y, despite relatively flat average LME prices. This was mainly due to the positive effect of Class I premiums and our hedge position, partially offset by the negative effect of (i) net PPAs, due to a decreasing average forward curve price, (ii) fixed-price sales and (iii) higher discounts for Class II.

Product type by operation

% of source sales	North Atlantic	PTVI	Onça Puma	Total 1Q23	Total 1Q22
Upper Class I	81.0	-	-	59.0	50.0
Lower Class I	14.0	-	-	10.0	12.6
Class II	3.0	37.0	100.0	20.0	28.5
Intermediates	2.0	63.0	-	10.0	8.9

[1] Including sales originated from Matsusaka refinery.

Costs

Nickel COGS, excluding marketing activities - 1Q23 x 1Q22

		Drivers				
US$ million	1Q22	Volume	Exchange rate	Others	Total variation	1Q23
Nickel operations	679	19	(36)	287	270	949
Depreciation	165	5	(7)	40	38	203
Total	**844**	**24**	**(43)**	**327**	**308**	**1,152**

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

US$/t	1Q23	1Q22	4Q22	1Q23 vs. 1Q22 Comments
Sudbury[1,2]	16,328	9,697	16,435	Lower by-product revenues per ton and higher volumes of third-party feed purchased.
Voisey's Bay & Long Harbour[2]	24,170	9,021	17,797	Continued transition to underground, higher third-party feed consumption, maintenance cost and operational materials and services.
PTVI	11,030	8,792	12,150	Higher fuel cost, due to rising prices.
Onça Puma	12,284	11,919	10,412	Higher diesel prices.

[1] Sudbury figures include Thompson and Clydach costs.
[2] A large portion of Sudbury, including Clydach, and Long Harbour finished nickel production is derived from intercompany tra nsfers, as well as from the purchase of ore or nickel intermediates from third parties. These transactions are valued at fair marke t value.

EBITDA break-even

EBITDA break-even

US$/t	1Q23	1Q22	4Q22
COGS ex. 3rd-party feed	22,434	16,798	18,660
COGS[1]	23,653	17,410	19,577
By-product revenues[1]	(7,687)	(8,501)	(6,390)
COGS after by-product revenues	15,966	8,909	13,187
Other expenses[2]	1,117	609	1,017
Total Costs	**17,083**	**9,518**	**14,204**
Nickel average aggregate (premium) discount	**60**	**110**	**250**
EBITDA breakeven[3]	**17,143**	**9,628**	**14,454**

[1] Excluding marketing activities.
[2] Includes R&D, sales expenses and pre-operating & stoppage.
[3] Considering only the cash effect of streaming transactions, nickel operations EBITDA break-even would increase to US$ 17,383/t.

Costs ex. 3rd-party feed increased by US$ 5,636/t compared to 1Q22 mainly explained by (i) change in sale mix ($1,702/t), most notably, an increase of nickel sales from Sudbury operations; and (ii) other factors ($3,934/t), mostly related to the impact of Voisey's Bay transition to underground mining, inflationary pressures, and rising fuel costs.

Copper operations – Salobo and Sossego

Selected financial indicators - Copper operations, ex-marketing activities

US$ million	1Q23	1Q22	4Q22
Net Revenues	524	474	498
Costs[1]	(270)	(227)	(279)
SG&A and other expenses[1]	(6)	6	(16)
Pre-operating and stoppage expenses[1]	(3)	(2)	(5)
R&D expenses	(25)	(25)	(33)
Adjusted EBITDA	220	226	165
Depreciation and amortization	(37)	(33)	(34)
Adjusted EBIT	183	193	131
Adjusted EBIT margin (%)	34.9	40.7	26.3

[1] Net of depreciation and amortization

EBITDA variation - US$ million (1Q23 x 1Q22)

		Drivers					
US$ million	1Q22	Volume	Prices	By-products	Others	Total variation	1Q23
Copper	226	(35)	(51)	11	69	(6)	220

EBITDA by operation

US$ million	1Q23	1Q22	4Q22	1Q23 vs. 1Q22 Comments
Salobo	186	260	142	Higher unit cost and lower copper realized prices.
Sossego	52	(15)	51	Lower costs following the extended SAG mill maintenance in 1Q22.
Others copper[1]	(18)	(19)	(28)	
Total	**220**	**226**	**165**	

[1] Includes US$ 18 million in research expenses related to the Hu'u project in 1Q23.

Revenues & price realization

Revenues & price realization

US$ million	1Q23	1Q22	4Q22
Volume sold (000 metric tons)			
Copper	43	34	45
Gold as by-product	61	54	62
Silver as by-product	170	126	178
Average prices (US$/t)			
Average LME copper price	8,927	9,997	8,001
Average copper realized price	9,465	10,848	8,774
Gold (US$/oz)[1]	1,832	1,879	1,663
Silver (US$/oz)	22	24	18
Revenue (US$ million)			
Copper	409	370	392
Gold as by-product[1]	111	101	103
Silver as by-product	4	3	3
Total	**524**	**474**	**498**

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

Price realization – copper operations

US$/t	1Q23	1Q22	4Q22
Average LME copper price	8,927	9,997	8,001
Current period price adjustments[1]	228	(95)	514
Copper gross realized price	9,155	9,902	8,514
Prior period price adjustments[2]	829	1,402	736
Copper realized price before discounts	**9,983**	**11,304**	**9,250**
TC/RCs, penalties, premiums and discounts[3]	(518)	(456)	(470)
Average copper realized price	**9,465**	**10,848**	**8,780**

[1] 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.
[2] 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
[3] TC/RCs, penalties, premiums, and discounts for intermediate products.

Vale's copper products are sold on a provisional pricing basis during the quarter, with final prices determined in a future period, generally one-to-four months forward.

The positive effects of the prior-period price adjustments of US$ 829/t and the current-period price adjustments US$ 228/t[5] were mainly due to the forward price increase in the quarter. Average TC/RCs discount was US$ 518/t in the quarter, representing an increase in discount of 14% y/y, already reflecting higher benchmark TC/RCs for 2023.

Costs

COGS - 1Q23 x 1Q22

		Drivers				
US$ million	1Q22	Volume	Exchange rate	Others	Total variation	1Q23
Copper operations	227	125	1	(83)	43	270
Depreciation	33	22	-	(20)	2	35
Total	**260**	**147**	**1**	**(103)**	**45**	**305**

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

US$/t	1Q23	1Q22	4Q22	1Q23 vs. 1Q22 Comments
Salobo	2,856	1,624	3,644	Higher maintenance and operational services cost.
Sossego	5,233	13,917	4,409	Higher fixed costs dilution after the extended SAG Mill maintenance and higher by-product revenue.

[5] On March 31st, 2023, Vale had provisionally priced copper sales from Sossego and Salobo totaling 41,650 tons valued at weighted average LME forward price of US$ 8,898/t, subject to final pricing over the following months.

EBITDA break-even – copper operations

US$/t	1Q23	1Q22	4Q22
COGS	6,256	6,661	6,264
By-product revenues	(2,664)	(3,055)	(2,372)
COGS after by-product revenues	**3,592**	**3,606**	**3,892**
Other expenses[1]	782	611	1,201
Total costs	**4,374**	**4,217**	**5,093**
TC/RCs penalties, premiums and discounts	518	456	476
EBITDA breakeven	**4,892**	**4,673**	**5,569**
EBITDA breakeven ex-Hu'u[2]	**4,464**	**4,105**	**4,938**

[1] Includes sales expenses, R&D, pre-operating and stoppage expenses and other expenses
[2] Considering only the cash effect of streaming transactions, copper operations EBITDA break-even would increase to US$ 6,114/t.

The realized price to be compared to the EBITDA break-even should be the copper realized price before discounts (US$ 9,983/t), given that TC/RCs, penalties, and other discounts are already part of the EBITDA break-even build-up.

WEBCAST INFORMATION

Vale will host a webcast on Thursday, April 27, 2023, 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. Interested parties may listen to the teleconference by dialing in:

Brazil: +55 (11) 4090 1621 / 3181-8565

U.K: +44 20 3795 9972

U.S (toll-free): +1 844 204 8942

U.S: +1 412 717 9627 / 1-844-200-6205.

The Access Code for this call is VALE.

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

Investor Relations

Vale.RI@vale.com
Ivan Fadel: ivan.fadel@vale.com
Luciana Oliveti: luciana.oliveti@vale.com
Mariana Rocha: mariana.rocha@vale.com
Samir Bassil: samir.bassil@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, Tecnored 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	1Q23	1Q22	4Q22
Net operating revenue	**8,434**	**10,812**	**11,941**
Cost of goods sold and services rendered	(4,949)	(4,622)	(7,155)
Gross profit	**3,485**	**6,190**	**4,786**
Gross margin (%)	41.3	57.3	40.1
Selling and administrative expenses	(118)	(121)	(148)
Research and development expenses	(139)	(121)	(218)
Pre-operating and operational stoppage	(124)	(154)	(125)
Other operational expenses, net	(219)	(266)	(624)
Impairment reversal (impairment and disposals) of non-current assets, net	(4)	1,072	(177)
Operating income	**2,881**	**6,600**	**3,494**
Financial income	121	150	92
Financial expenses	(320)	(319)	(291)
Other financial items, net	(331)	(73)	(459)
Equity results and other results in associates and joint ventures	(55)	211	72
Income before income taxes	**2,296**	**6,569**	**2,908**
Current tax	(218)	(253)	(72)
Deferred tax	(200)	(1,838)	907
Net income from continuing operations	**1,878**	**4,478**	**3,743**
Net income (loss) attributable to noncontrolling interests	41	22	19
Net income from continuing operations attributable to Vale's shareholders	**1,837**	**4,456**	**3,724**
Discontinued operations			
Net income (Loss) from discontinued operations	-	2	-
Net income from discontinued operations attributable to noncontrolling interests	-	-	-
Net income (Loss) from discontinued operations attributable to Vale's shareholders	**-**	**2**	**-**
Net income	**1,878**	**4,480**	**3,743**
Net income (Loss) attributable to Vale's to noncontrolling interests	41	22	19
Net income attributable to Vale's shareholders	**1,837**	**4,458**	**3,724**
Earnings per share (attributable to the Company's shareholders - US$):			
Basic and diluted earnings per share (attributable to the Company's shareholders - US$)	0.41	0.93	0.82

Equity income (loss) by business segment

US$ million	1Q23	%	1Q22	%	4Q22	%
Iron Solutions	(96)	109	16	62	65	90
Energy Transition Metals	-	-	2	8	-	-
Others	8	(9)	8	30	7	10
Total	**(88)**	**100**	**26**	**100**	**72**	**100**

Balance sheet

US$ million	3/31/2023	12/31/2022	3/31/2022
Assets			
Current assets	**14,508**	**15,526**	**19,465**
Cash and cash equivalents	4,705	4,736	9,061
Short term investments	53	61	43
Accounts receivable	2,687	4,319	3,123
Other financial assets	381	342	268
Inventories	4,992	4,482	5,038
Recoverable taxes	1,345	1,272	832
Others	345	314	291
Non-current assets held for sale	-	-	809
Non-current assets	**14,785**	**14,394**	**15,181**
Judicial deposits	1,255	1,215	1,455
Other financial assets	393	280	390
Recoverable taxes	1,143	1,110	1,157
Deferred income taxes	10,799	10,770	11,192
Others	1,195	1,019	987
Fixed assets	**58,254**	**56,974**	**58,503**
Total assets	**87,547**	**86,894**	**93,149**
Liabilities			
Current liabilities	**12,977**	**13,891**	**14,668**
Suppliers and contractors	4,464	4,461	3,446
Loans, borrowings and leases	543	489	1,103
Other financial liabilities	1,581	1,672	2,362
Taxes payable	672	470	927
Settlement program (REFIS)	388	371	387
Provisions	722	1,036	750
Liabilities related to associates and joint ventures	2,133	1,911	2,361
Liabilities related to Brumadinho	1,122	944	1,385
De-characterization of dams and asset retirement obligations	785	661	646
Dividends payable	-	1,383	-
Others	567	493	845
Liabilities associated with non-current assets held for sale	-	-	456
Non-current liabilities	**35,689**	**35,645**	**39,992**
Loans, borrowings and leases	12,441	12,223	12,912
Participative shareholders' debentures	2,846	2,725	4,299
Other financial liabilities	2,805	2,843	2,348
Settlement program (REFIS)	1,856	1,869	2,247
Deferred income taxes	1,379	1,413	1,830
Provisions	2,548	2,446	2,782
Liabilities related to associates and joint ventures	1,266	1,410	1,288
Liabilities related to Brumadinho	2,236	2,368	2,807
De-characterization of dams and asset retirement obligations	6,462	6,520	7,610
Streaming transactions	1,636	1,612	1,683
Others	214	216	186
Total liabilities	**48,666**	**49,536**	**54,660**
Shareholders' equity	**38,881**	**37,358**	**38,489**
Total liabilities and shareholders' equity	**87,547**	**86,894**	**93,149**

Cash flow

US$ million	1Q23	1Q22	4Q22
Cash flow from operations	**4,280**	**5,531**	**2,902**
Interest on loans and borrowings paid	(169)	(179)	(135)
Cash received (paid) on settlement of Derivatives, net	38	(76)	(65)
Payments related to Brumadinho event	(124)	(64)	(287)
Payments related to de-characterization of dams	(78)	(69)	(102)
Interest on participative shareholders debentures paid	-	-	(136)
Income taxes (including settlement program)	(337)	(2,577)	(265)
Net cash generated by operating activities from continuing operations	**3,610**	**2,566**	**1,912**
Net cash generated by operating activities from discontinued operations	**-**	**41**	**-**
Net cash generated by operating activities	**3,610**	**2,607**	**1,912**
Cash flow from investing activities			
Short term investiment	(55)	2	39
Capital expenditures	(1,130)	(1,136)	(1,787)
Additions to investment	(7)	-	-
Dividends received from joint ventures and associates	-	65	55
Proceeds (payments) from the sale of investments, net	(67)	437	-
Other investment activities, net	(67)	-	(171)
Net cash used in investing activities from continuing operations	**(1,326)**	**(632)**	**(1,864)**
Net cash used in investing activites from discontinued operations	**-**	**(38)**	**-**
Net cash used in investing actitivies	**(1,326)**	**(670)**	**(1,864)**
Cash flow from financing activities			
Loans and financing:			
Loans and borrowings from third parties	300	425	500
Payments of loans and borrowings from third parties	(39)	(395)	(24)
Payments of leasing	(47)	(41)	(78)
Payments to shareholders:			
Dividends and interest on capital paid to shareholders	(1,795)	(3,480)	-
Dividends and interest on capital paid to noncontrolling interest	(3)	(3)	(2)
Share buyback program	(763)	(1,788)	(966)
Net cash used in financing activities from continuing operations	**(2,347)**	**(5,282)**	**(570)**
Net cash used in financing activities from discontinued operations	**-**	**(11)**	**-**
Net cash used in financing activities	**(2,347)**	**(5,293)**	**(570)**
Reduction in cash and cash equivalents	**(63)**	**(3,356)**	**(522)**
Cash and cash equivalents in the beginning of the period	4,736	11,721	5,182
Effect of exchange rate changes on cash and cash equivalents	32	707	76
Cash and cash equivalents from subsidiaries sold, net	-	(11)	-
Cash and cash equivalents at the end of period	**4,705**	**9,061**	**4,736**
Non-cash transactions:			
Additions to property, plant and equipment - capitalized loans and borrowing costs	5	14	7
Cash flow from operating activities			
Income before income taxes	**2,296**	**6,569**	**2,908**
Adjusted for:			
Provisions related to Brumadinho	-	-	133
Provision for de-characterization of dams	-	37	-
Equity results and other results in associates and joint ventures	55	(211)	(72)
Impairment and disposals (impairment reversal) of non-current assets, net	4	(1,072)	177
Depreciation, depletion and amortization	656	686	900
Financial results, net	530	242	658
Change in assets and liabilities			
Accounts receivable	1,686	877	(2,107)
Inventories	(363)	(304)	940
Suppliers and contractors	(105)	(672)	(435)
Other assets and liabilities, net	(479)	(621)	(200)
Cash flow from operations	**4,280**	**5,531**	**2,902**

Reconciliation of IFRS and "non-GAAP" information

(a) Adjusted EBIT

US$ million	1Q23	1Q22	4Q22
Net operating revenues	8,434	10,812	11,941
COGS	(4,949)	(4,622)	(7,155)
Sales and administrative expenses	(118)	(121)	(148)
Research and development expenses	(139)	(121)	(218)
Pre-operating and stoppage expenses	(124)	(154)	(125)
Brumadinho event and dam de-characterization of dams	(111)	(160)	(375)
Other operational expenses, net[1]	(73)	(106)	(249)
Dividends received and interests from associates and JVs	-	-	55
Adjusted EBIT from continuing operations	**2,920**	**5,528**	**3,726**

[1] Includes adjustment of US$ 35 million in 1Q23, 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 (impairmaint 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	1Q23	1Q22	4Q22
Adjusted EBITDA from continuing operations	**3,576**	**6,214**	**4,626**
Working capital:			
Accounts receivable	1,686	877	(2,107)
Inventories	(363)	(304)	940
Suppliers and contractors	(105)	(672)	(435)
Provisions for Brumadinho	-	-	133
Provision for de-characterization of dams	-	37	-
Others	(514)	(621)	(255)
Cash flow from continuing operations	**4,280**	**5,531**	**2,902**
Income taxes paid (including settlement program)	(337)	(2,577)	(265)
Interest on loans and borrowings paid	(169)	(179)	(135)
Payments related to Brumadinho event	(124)	(64)	(287)
Payments related to de-characterization of dams	(78)	(69)	(102)
Interest on participative shareholders' debentures paid	-	-	(136)
Cash received (paid) on settlement of Derivatives, net	38	(76)	(65)
Net cash generated by operating activities from continuing operations	**3,610**	**2,566**	**1,912**
Net cash generated by operating activities from discontinued operations	**-**	**41**	**-**
Net cash generated by operating activities	**3,610**	**2,607**	**1,912**

Reconciliation between adjusted EBITDA and net income (loss)

US$ million	1Q23	1Q22	4Q22
Adjusted EBITDA from continuing operations	**3,576**	**6,214**	**4,626**
Depreciation, depletion and amortization	(656)	(686)	(901)
Dividends received and interest from associates and joint ventures	-	-	(55)
Impairment reversal (impairment and disposals) of non-current assets,net[1]	(39)	1,072	(177)
Operating income	**2,881**	**6,600**	**3,493**
Financial results	(530)	(242)	(658)
Equity results and other results in associates and joint ventures	(55)	211	72
Income taxes	(418)	(2,091)	835
Net income from continuing operations	**1,878**	**4,478**	**3,743**
Net income (loss) attributable to noncontrolling interests	41	22	19
Net income attributable to Vale's shareholders	**1,837**	**4,456**	**3,724**

[1] Includes adjustment of US$ 35 million 1Q23, to reflect the performance of the streaming transactions at market price.

(c) Net debt

US$ million	1Q23	1Q22	4Q22
Gross debt	11,464	12,349	11,181
Leases	1,520	1,666	1,531
Cash and cash equivalents[1]	(4,758)	(9,104)	(4,797)
Net debt	**8,226**	**4,911**	**7,915**

[1] Including financial investments

(d) Gross debt / LTM Adjusted EBITDA

US$ million	1Q23	1Q22	4Q22
Gross debt and leases / LTM Adjusted EBITDA (x)	0.8	0.5	0.6
Gross debt and leases / LTM operational cash flow (x)	0.7	0.5	0.7

(e) LTM Adjusted EBITDA / LTM interest payments

US$ million	1Q23	1Q22	4Q22
Adjusted LTM EBITDA / LTM gross interest (x)	27.1	46.5	33.7
LTM adjusted EBITDA / LTM interest payments (x)	22.1	49.5	25.2

(f) US dollar exchange rates

R$/US$	1Q23	1Q22	4Q22
Average	5.1963	5.2299	5.2554
End of period	5.0804	4.7378	5.2177

Revenues and volumes

Net operating revenue by destination

US$ million	1Q23	%	1Q22	%	4Q22	%
North America	**653**	**7.7**	**479**	**4.4**	**613**	**5.1**
USA	511	6.1	313	2.9	433	3.6
Canada	142	1.7	166	1.5	180	1.5
South America	**1,067**	**12.7**	**1,307**	**12.1**	**913**	**7.6**
Brazil	919	10.9	1,128	10.4	829	6.9
Others	148	1.8	179	1.7	84	0.7
Asia	**4,726**	**56.0**	**7,067**	**65.4**	**8,484**	**71.0**
China	3,407	40.4	5,389	49.8	7,072	59.2
Japan	689	8.2	861	8.0	803	6.7
South Korea	312	3.7	255	2.4	310	2.6
Others	318	3.8	562	5.2	299	2.5
Europe	**1,563**	**18.5**	**1,462**	**13.5**	**1,109**	**9.3**
Germany	428	5.1	508	4.7	321	2.7
Italy	183	2.2	182	1.7	153	1.3
Others	952	11.3	772	7.1	635	5.3
Middle East	**238**	**2.8**	**242**	**2.2**	**317**	**2.7**
Rest of the World	**187**	**2.2**	**255**	**2.4**	**505**	**4.2**
Total	**8,434**	**100.0**	**10,812**	**100.0**	**11,941**	**100.0**

Volume sold by destination – Iron ore and pellets

'000 metric tons	1Q23	1Q22	4Q22
Americas	**10,151**	**8,624**	**9,659**
Brazil	8,749	7,761	8,904
Others	1,402	863	755
Asia	**38,058**	**43,366**	**74,370**
China	28,295	33,560	64,172
Japan	5,545	5,436	5,473
Others	4,218	4,370	4,725
Europe	**5,168**	**5,019**	**3,403**
Germany	964	980	698
France	1,080	1,085	587
Others	3,124	2,954	2,118
Middle East	**1,240**	**1,079**	**1,654**
Rest of the World	**1,042**	**1,270**	**2,868**
Total	**55,659**	**59,358**	**91,954**

Net operating revenue by business area

US$ million	1Q23	%	1Q22	%	4Q22	%
Iron Solutions	**6,411**	**76%**	**8,734**	**81%**	**9,330**	**78%**
Iron ore fines	4,982	59%	7,255	67%	7,767	65%
ROM	26	0%	23	0%	22	0%
Pellets	1,322	16%	1,364	13%	1,456	12%
Others	81	1%	92	1%	85	1%
Energy Transition Metals	**1,998**	**24%**	**1,932**	**18%**	**2,549**	**21%**
Nickel	1,013	12%	866	8%	1,422	12%
Copper	583	7%	534	5%	597	5%
PGMs	75	1%	110	1%	87	1%
Gold as by-product[1]	97	1%	115	1%	123	1%
Silver as by-product	9	0%	8	0%	12	0%
Cobalt[1]	21	0%	33	0%	42	0%
Others[2]	200	2%	266	2%	266	2%
Others	**25**	**0%**	**146**	**1%**	**62**	**1%**
Total of continuing operations	**8,434**	**100%**	**10,812**	**100%**	**11,941**	**100%**

[1] Exclude the adjustment of US$ 35 million in 1Q23, 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: 2023
Vale's ownership: 100%	Underground mine	115 kozpy Au as byproduct
South Hub extension	**Capacity: 60-80 ktpy**	**Stage: FEL3[1]**
Carajás, Brazil	Replacement project	Investment decision: 2023
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: 2024
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 Limonites	**Capacity: 60 ktpy**	**Stage: FEL3**
Sorowako, Indonesia	Growth project	Investment decision: 2023
Vale's ownership: N/A[2]	HPAL plant	8 kpty Co as by-product
Pomalaa	**Capacity: 120 ktpy**	**Stage: Definitive feasibility study**
Kolaka, Indonesia	Growth project	Investment decision: 2023 (mine)
Vale's ownership: N/A[2]	Mine	15 ktpy Co as by-product
Creighton Ph. 5	**Capacity: 20-24 ktpy**	**Stage: FEL3**
Ontario, Canada	Replacement project	Investment decision: 2023-2024
Vale's ownership: 100%	Underground mine	17-20 ktpy Cu as by-product
CCM Pit	**Capacity: 12-15 ktpy**	**Stage: FEL3**
Ontario, Canada	Replacement project	Investment decision: 2023
Vale's ownership: 100%	Underground mine	7-9 ktpy Cu as by-product
CCM Ph. 3	**Capacity: 7 ktpy**	**Stage: FEL3**
Ontario, Canada	Replacement project	9 ktpy Cu as by-product
Vale's ownership: 100%	Underground mine	
CCM Ph. 4	**Capacity: 9 ktpy**	**Stage: FEL3**
Ontario, Canada	Replacement project	9 ktpy Cu as by-product
Vale's ownership: 100%	Underground mine	
Iron ore		
Dry concentration plant	**Capacity: 8 Mtpy DR pellet feed**	**Stage: FEL3**
Oman	Replacement project	Investment decision: 2023
Vale's ownership: N/A	Cleaner to produce DR pellet feed	
Green briquette plants	**Capacity: Under evaluation**	**Stage: FEL3 (two plants)**
Brazil and other regions	Growth project	Investment decision: 2023-2029
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	

Contd.

Iron ore (contd.)		
Serra Norte N1/N2[3]	**Capacity: Under evaluation**	**Stage: FEL2**
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.

Local Conference Call
Vale S/A(VALE3)
1Q23 Earnings Results
April 27th, 2023

Operator: Good morning, ladies, and gentlemen. Welcome to Vale's conference call to discuss first quarter 2023 results. At this time, all participants are in a listen-only mode. Later, we will conduct a question-and-answer session and instructions will be given at that time. This call is being simultaneously translated to Portuguese.

If you should require assistance during the call, please press the star followed by zero. As a reminder, this conference is being recorded and the recording will be available on the Company's website at: VALE.COM at the Investors link.

This conference call is accompanied by a slide presentation, also available at the Investors link at the Company's website and is transmitted via internet as well. The broadcasting via internet – both the audio and the slides changes – has a few seconds delay in relation to the audio transmitted via phone.

Before proceeding, let me mention that forward-looking statements are being made under the safe harbor of the Securities Litigation Reform Act of 1996. Actual performance could differ materially from that anticipated in any forward-looking comments as a result of macroeconomic conditions, market risks and other factors.

With us today are:

- Mr. Eduardo de Salles Bartolomeo – Chief Executive Officer;
- Mr. Gustavo Pimenta – Executive Vice President of Finance and Investor Relations;
- Mr. Marcello Spinelli – Executive Vice President of Iron Solutions;
- Mr. Carlos Medeiros – Executive Vice President of Operations
- Mrs. Deshnee Naidoo – Executive Vice President of Energy Transition Metals;

First, Mr. Eduardo Bartolomeo will proceed to the presentation Vale's first quarter 23 performance, and after that he will be available for Questions and Answers.

It is now my pleasure to turn the call over to Mr. Eduardo Bartolomeo. Sir, you may now begin.

Eduardo Bartolomeo: Thank you very much. Good morning, everyone. I hope you are doing well.

We started 2023 with great confidence in delivering our goals for the year. In iron solutions, iron ore production was solid, specially at S11D thanks to a better performance of a truckless system and installation of the new crushers in 2022.

In addition, our pellet production increased by 20% year-on-year with higher feed availability and improving asset reliability in our pelletizing plants.

On iron ore sales, the gap to production was primarily due to weather restrictions in loading at our Northern port and supply chain rebalancing after strong sales in the fourth quarter of last year. Since production was not affected, we expect to offset this impact in the second half of the year. In this sense, our average iron content and quality was slightly lower impacted by the port restrictions and opportunistic sales of low grade which add value to the company.

In energy transition metals, copper production grew over 18% year-on-year supported by Salobo startup and with sales up to 25%. Finish nickel production was impacted by the ongoing transitional period between the depletion of Ovoid mine and the full ramp-up of Voisey's Bay. On a very high note, our Sudbury mines continue to deliver remarkable performance with record ore production rates since 2017. Also, we continue to make progress on the EV supply chain with two important milestones for Pomalaa and Morowali (in Indonesia), which I will cover later.

Moving on to sustainability, we're steadily making progress with our dam safety management. This year we upgraded the safety levels of two more dams removing their emergency protocols. Our improvements in health and safety practice led to renewed perception by ESG rating providers. On that, Sustainalytics completed its annual review on Vale in March with a substantial upgrade in our ESG risk rating.

On top of that, our discipline in capital allocation remains pristine. We're walking the talk and returning value to shareholders. In March, we distributed US$1.8 billion in dividends while completing 47% of the third buyback program launched since 2020.

So, let's see our performance in detail in the next slide, please. We are well-positioned to deliver the production guidance for iron ore this year. We already produced 4 million tons more than the same period of last year and we expect to continue with a steady performance as the seasonal challenges fade away. In the Northern System, asset availability increased at S11D with lower non-scheduled maintenance and solid production output. That achievement aligns with our intensive efforts to standardize processes and ensure adherence to best operational practices.

In the Southern and Southeastern Systems, the heavy rains did not prevent us from delivering a strong production, contrasting with what we experienced last year. The loading restrictions mentioned caused the production-to-sale gap and the lower average grade, which are temporary, and we should be able to compensate it in the second half of the year. In addition, we are close to obtaining the operating license for Torto dam, since we had its emergency plan approved in March. The dam will support pellet feed quality and volume, as well as product mix and average price premium.

Another project that is moving well is the commissioning of Gelado, which will produce high-quality pellet feed by reusing the tailings that have been deposited in the Gelado dam.

In this context, we are confident that we will reach our volume guidance and average grade for the year of 2023.

Next slide, please. In Iron Solutions, tests in clients' furnaces are confirming the benefits of iron ore briquettes. We shipped the first cargo for international tests in April. So far, eight industrial tests in six furnaces are under execution with another nine tests expected this year. Our first two industrial plants will start up this year in Tubarão.

I believe we are facing unprecedented opportunities for segmentation and demand growth for high quality. Concentration is key to a high-quality low carbon supply, reason why we signed up for the development of mega hubs in the Middle East and launched the green briquette. Therefore, Vale is uniquely positioned to be the supplier of choice in that scenario, we combine volume, quality, innovative portfolio, and a well-structured supply chain for a decarbonizing world.

Next slide, please. In the Energy Transition Metals Business, I call your attention to our copper production growth, up 18% year on year, which allowed for a sales growth of 25% year on year. This was mainly the result of Salobo III ramp-up and Sossego's improved asset availability benefiting from the extended SAG mill maintenance in 2022.

In Nickel, Sudbury delivered the highest production in the past five years, following another production record in the last quarter due to the excellent performance of our Sudbury mines.

As I mentioned before, the lower finished nickel production for the quarter was expected and was mainly due to the ongoing transitional period between the depletion of Ovoid mine and the production ramp-up of Voisey's' Bay. In the second quarter, we have planned maintenance for Voisey's Bay and Long Harbor operations as well, which should impact Voisey's Bay and Thompson production.

Next slide, please. As I said, we are steadily ramping up Salobo III. Both lines are operating, which is an important milestone for the site. We expect to reach full capacity within 20 months with a relevant contribution to production by the end of 2023. Once at peak, Salobo III will add 30,000 to 40,000 tons of copper per year. As you can see in the picture, that is a beautiful set for a promising project and a natural hub for copper production in Brazil, with substantial value creation for shareholders and society.

With all that, we're confident on both guidances for Copper and Nickel this year.

Next slide, please. We continue to engage with clients and partners in the EV supply chain. We're setting the stage to pivot in Nickel. In that direction together with our Chinese partner, PTVI signed a definitive agreement with global automaker Ford Motor Company for the Pomalaa HPAL project developed in Indonesia. The three-party collaboration fosters conditions for a more sustainable nickel production in Indonesia. We also launched the project construction in Morowali in February. That is an integrated nickel mining and processing plant powered by natural gas, with start-up expected in 2025.

As you can see, we have unique assets, innovative technology, customer engagement, and a supply chain to be the supplier of choice for the EV revolution. With active listening and open dialogue, we set the stage for the strong growth ahead of our Energy Transition Metals business.

Moreover, we continue to make significant progress on several fronts, including on the minority sale, and today I am happy to announce that we have advanced on bringing Mark Cutifani as the Chairman of our newly formed Energy Transition Metals Board starting July this year. Mark needs no introduction, and we are certain he will be a valuable partner as we bring our Tier I portfolio of assets to the next level, unlocking significant value to our shareholders.

Next. We're moving safely towards leadership in sustainable mine. That starts with reducing the risks associated with dams. Since 2020, our approach allowed ten dams to be stated safe and stable by external independent reviewers. With that, those geotechnical structures had their emergency level removed. By August, we are on track to be adherent to the GISTM, the Global Industry Standards for Tailings Managements, for critical structures. That give us confidence that we'll be 100% compliant by 2025 to all other structures. With more robust safety practices, the ESG risk perception on Vale improved considerably. The company has been re-rated by important ESG risk raters, with Sustainalytics providing the latest grade improvement for our company. That decision came with an assessment of critical controversy and improved practices in Health and Safety, putting Vale in the industry first quartile.

We're seeking leadership in sustainable mining. For that, we continue to deliver on many of our public commitments, such as in human rights, Amazon Forest protection, and community relations.

On the Brumadinho reparation, we reached 59% of commitments delivered per the conditions and deadlines set by the Integral Reparation Agreement.

Next slide, please. There is one thing I make sure to emphasize every single time: we substantially de-risked and reshaped Vale. On the de-risking, we had strong deliveries in dam management and decharacterization, besides advancing with the Brumadinho Reparation. On the reshaping, we simplified our business in a major way, we divested from more than ten business in five different countries, tapping cash drains and allowing ourselves to laser-focus on our core business, on safety, and on production stability.

The last milestone, to finally say we completed the Reshaping Program is the divestment from MRN. We moved a lot in building Vale of the future; a company that promotes sustainable mining, fosters low-carbon solutions, and remains disciplined in allocating capital.

Now I pass the floor to Gustavo, who will give you more details about our financial results. I'll get back at the end for our Q&A session. Thank you.

Gustavo Pimenta: Thanks, Eduardo, and good morning, everyone. Let me start with our EBITDA performance for the quarter. As you can see, we delivered a US$3.7 billion proforma EBITDA in Q1, US$2.7 billion lower than in Q1 2022. This decrease is mainly explained by US$1.5 billion lower price realization for iron ore fines. On volumes, we had an impact of US$574 million from lower sales of iron ore fines, which was down 5.5 million tons year-over-year despite the 3.7 million tons production increase. This is a transitory effect due to loading restrictions at Ponta da Madeira terminal during the rainy season and supply chain rebalance after strong sales in Q4.

We expect to offset this impact in the second half of the year keeping the annual sales plan unchanged. The US$435 million increase in cost and expenses will be detailed later in my presentation.

So, back to iron ore price realization, iron fines realized price was US$108.6 per ton, 23% on US$32.8 per ton lower when compared to Q1 2022, mainly due to the decline in benchmark price of US$16.1 per ton. Our average premium also contributed to lower price realization as our average sales quality was impacted by the temporary shipment restrictions at Ponta da Madeira port and the opportunistic sale of high silica products, as discounts for these products were low due to steelmakers negative margins.

The pricing mechanism had a negative impact of US$2.4 per ton on our final realized price. This is largely explained by the negative effect for realized lagged prices at US$96 per ton, which was partially offset by better sales prices in the quarter as compared to the provisional prices accrued in Q4.

Moving to our cost performance in the next slide. As you can see, our C1 cash cost ex-third-party purchases increased to US$23.6 per ton in the quarter. This is explained by three main factors: first, one-off events, which include profit sharing in Q1 and the anticipation of maintenance activities taking advantage of the lower volumes in the first semester; second, the volume mix and inventory effect. The lower production from our Northern System where we have the lowest C1 together with higher third-party purchases had a negative effect on volume mix and fixed cost dilution. We expect these transitory effects to be normalized in the year to go. The remaining impacts were related with the geological inflation in Serra Norte and higher fuel costs in our operations.

We remain confident in achieving our C1 guidance for the year of US$20 to US$21 per ton, mainly due to the production recovery in the Northern System and the rollout of our productivity program with gains in asset reliability and procurement initiatives with suppliers.

Moving to all-in costs in the next slide. As you can see at the bottom of the table, our EBITDA breakeven cost reached US$58.2 per ton. Besides the C1 cash cost increase, which I just explained, there were two other drivers: first, our distribution cost, which increased by US$1.5 per ton mainly due to higher share of beneficiated products in third party concentrators improving returns and margins; and second, lower market pellet premiums. As we reduce our C1 cost and improve the average quality of our portfolio with higher production from Carajás and more pellet feed production in Minas Gerais, we expect our breakeven to improve in the year to go.

Now turning to our Energy Transition Metals Business starting with copper all-in costs, there was a year-over-year decrease in cost of goods sold per ton due to higher fixed cost dilution, largely attributed to the improved operational performance at Sossego. This was offset by a decrease in our by-product revenue due to higher proportion of copper concentrate from Sossego. Also benchmark treatment and refining charges have increased this year. All in all, our EBITDA breakeven excluding Hu'u reached US$4.464 per ton, which should gradually reduce throughout the year as we continue to ramp-up production at Salobo III.

Now looking at nickel all-in costs, cost of goods sold ex-third-party purchases was impacted primarily by lower dilution of fixed cost and inflationary pressure, including higher fuel costs. In addition, volumes from third party feed increased year-on-year, as we had anticipated. Although this increases our cost, it is aimed at maximizing the utilization and performance of our downstream operations, especially as Voisey's Bay open pit is depleting and we progress on the ramp up of the underground mine.

Now moving to cash generation, as you can see, we delivered a 62% EBITDA to cash conversion in the quarter compared to 19% in Q1 2022. Free cash flow generation was positively impacted by working capital as we had a strong cash collection from Q4 sales, as we had anticipated last quarter. This effect was partially offset by transitory inventory build-up and seasonal disbursement related to profit sharing in the first quarter. We also paid around US$1.8 billion in dividends and repurchased almost US$800 million in shares in Q1 aligned with our capital allocation strategy.

So, let me talk more about our capital allocation strategy and more specifically about our buyback program. We are close to reaching 50% completion of our third buyback program and we expect to conclude it in Q4. We continue to see the repurchase of our shares as one of the best ways to create long-term value for our shareholders. After the completion of the third buyback program, we will have repurchased almost 20% of the company's outstanding shares. This means that for our shareholders with position since the start of the program without spending any additional dollar, their participation in future earnings would have increased by almost 25%.

So, before opening up for questions, I'd like to reinforce the key takeaways from today's call. As Eduardo mentioned, we are very encouraged with the leading indicators coming out of our key operational sites and the solid operational performance in Q1, only reinforces we are moving in the right direction. We are also focused on delivering value through accretive growth projects, such as Salobo III, leveraging on Vale's unique endowment. On portfolio redesign, we are happy with the progress to date and strongly believe the current portfolio of assets and the recently announced organization will position us to successfully deliver on our key strategic objectives.

And finally, we remain highly committed to disciplined capital allocation, as evidenced by our highly accretive buyback program.

Now I'd like to open the call for questions. Thank you.

Question and Answer Session

Operator: Thank you. Ladies and gentlemen, we will now begin the question-and-answer session. We advised that the questions should be asked in English. If you have a question, please press the star key followed by the one key on your touch tone phone now. If at any time you would like to remove yourself from the questioning queue, press star two.

Please, restrict your questions to two at a time.

Our first question comes from Rodolfo Angele, JP Morgan Bank.

Rodolfo Angele: Hey, good morning, everyone. My two questions are the following: first, on the operating side, we know that with lower volumes, costs will naturally trend higher, but I've been more and more asked by investors about the trend that we've been seeing, particularly on iron ore, and also, on the nickel business where costs did deteriorate substantially.

So, my question is what can be done to kind of reverse this trend? If you could comment what would costs have been if we didn't have – especially in the iron ore – the restocking that we saw and how relevant are the new licenses over there to lower this? So, you know, any color on the cost trends would be greatly appreciated.

And my second question is more on the industry and how Vale positions itself. So, we started to see after years of an extreme focus on shareholder returns the industry is now moving back a little bit more into growth mode, especially through some M&A. Vale has just completed a divestment program, we've been discussing also the strategic move on the base metal side with a potential partial sale of a stake there to a strategic shareholder as well, and my question is should we expect Vale also to join this new kind of trend in the industry? Should we see the base metals also as an opportunity to speed up growth eventually not only through organic, but also through M&A opportunities? Those are my questions, thank you very much.

Eduardo Bartolomeo: Thanks, Rodolfo, here is Eduardo. I will let Gustavo elaborate on the cost related to dilution and growth for iron ore and nickel, OK?

I think you spot on. Vale is completely focused on its two core businesses, first iron ore, we're always looking for some opportunity, some smart M&As that we can do adjacent of our operating assets, and base metals, the Energy Transition Metals that we call now is this platform. We never hidden that, it's almost three years that we're talking about ring fencing it, creating the right drivers. As you see today, our moves are substantially and effective, we just brought Jerome from Tesla to be an independent Board, now we have the the happiness to have Mark, a good friend, and old friend that worked with us in the past to lead the Board of this new company, and this new company is going to be a platform of growth.

We have organic growth, we have an endowment that nobody has in the world in the right jurisdictions, both Carajás, Canada and Indonesia, we have to tackle execution issues as you know as well, we're going to consolidate, this industry is going to be consolidating, so we are going to have the right entity to do that.

So, yes, the answer is we are going to grow, we are going to grow organically and we can grow inorganically when we have the right entity, and that's what we are building and we are truly on track on both the software (as people), the hardware as the legal entity, and even the participation that you mentioned that we are advancing as well with the 10% at most participation in the business.

I hope I have answered your question, but I think it's a very exciting moment for the Energy Transition Metals world for sure, but we're going to do it with extremely cautious and disciplined way, as we always have been.

And, Gustavo, please, could you elaborate on the question about costs?

Gustavo Pimenta: Yeah. Rodolfo, I think everybody is facing cost increase in the sector. I think if you look at the last three years, pretty much everybody has increased maturely their all-in right from 50 to 100%, it's not only Vale, but our competitors. I mean, there's a higher fuel cost impacting everybody in this space, labor, services. So, I think that applies to everybody.

Now I wouldn't read too much into our Q1 the cost numbers, and for a few reasons: I think the major impact we faced was regarding the Ponta da Madeira restriction, the shipping restrictions that we had. If it wasn't for that impact, our C1 would be probably US$ 2 lower. So, we should be normalizing the C1 in the second half of the year, the major leading indicator that I think we have to look at its production, and we were able to put US$ 4 million up quarter-on-quarter compared to last year, and the shipment we do have flexibility in the System to offset this in the second half.

So, I think all-in, when we bring this volume, especially Carajás, our cost should be benefited. There's also Torto, which as we've said before, it will help us with pellet feed almost 9 million tons, which will then lead to lower better all-in in terms of better premiums. So, we should be… we are very confident that we should be normalizing these figures in the second half of the year.

And nickel, there's a similar component there, we had more third-party feed in the first quarter of this year than we had last year, but we should be also compensating and having more own production in the second half of the year and therefore we continue to point to the 13 kilotons as our previous guidance for nickel cost.

Operator: The next question is from Leonardo Correa, BTG Pactual.

Leonardo Correa: Hello, good morning, everyone. Can you hear me, OK?

Eduardo Bartolomeo: Yes.

Leonardo Correa: OK, perfect. So, good morning, everyone. I have a couple of questions, and I'm sorry for moving back to the question on cost from Rodolfo, I suspect that this is going to be one of the big themes of this conference call, but it seems clear, Gustavo, from what you're saying that there's a very big element of this cost performance which is non-recurring and somewhat of a one-off, right? If we think of the breakeven costs just for fines into China, the number moved up to US$ 62 coming from about US$ 52 in the fourth quarter, so this is a US$ 10 per ton sequential increase, which I think obviously caught everyone by surprise.

I mean, using your judgment and using all the obviously the numbers that you guys have inside the company, what percentage of this or how much of this would you say is non-recurring? I think this is super important just so we have the right base to forecast going forward this very critical, important line?

So, I just wanted to get a sense on how you see this line, how much of it, of this US$ 10 jump is non-recurring. You mentioned that C1 guidance for the year is still upheld at 20 to 21, so just on the C1 I can assume you guys have like a US$ 2 to US$ 3 potential reduction in cost going forward. When I look at the breakdown for premiums, I mean, clearly the result was very weak in the quarter on premium. So, just wanted to hear you on how you see this line going forward and how much of that weak performance is non-recurring.

The second question regarding production and more specifically at the crown jewel at Vale, which has always been the case at Carajás. Carajás has also been struggling for a while and certainly there are several issues which are exogenous and out of control, like licensing, like the cave law in the region. So, first of all, how are you seeing these discussions? Has there been anything new in Legislation to improve the situation and to allow Vale to operate more efficiently in Pará? I just wanted to hear your sense on that.

And if you can give us any color that you can on how you see production at Carajás developing in 2024. Thank you very much.

Eduardo Bartolomeo: OK, Leonardo. Gustavo is going to answer the cost and I'll go over the Carajás production, OK?

Gustavo Pimenta: So, Leo, you're right. I think the view on C1 is around US$ 2 to US$ 3, I've said US$ 2 in terms of transitory impact. Now you understand well, I mean, the transitory impact and the quality also impacts all-in, it impacts premium, it impacts some of the beneficiation cost because we concentrated more for example in China in this quarter versus last quarter, so there is probably a similar impact in C1 applying for the other lines that we have in the all-in, call it US$ 6.

I think a lot on the final all-in for the year will depend on how the premiums perform, they were indeed a little lower, but a lot due to the mix, so if you resolve the mix, if you bring Torto online in the second half of the year, if you bring Carajás you should expect to see ourselves posting a better premium and therefore having an all-in substantially below what we had in the Q1.

So, with that I'll pass it over to Eduardo.

Eduardo Bartolomeo: OK. Leo, this is a very… I think, as you understand, I think it's easier to explain to you, but let's be very clear here, let's separate Carajás Northern System with the S11D, OK? S11D is all endogenous, it's all in our hands, we need to take care, that was built to compensate the loss that we were going to have on the depletion of the Northern Range, and we mentioned already we are improving there, and that's where the growth is coming. When you look at our guidance and our numbers for this year, there is no licensing attached on the Northern Range, we are planning to stabilize around 100 million tons on Northern Range and Serra Leste.

So, how are we advancing with the cave legislation, with the licensing? Because as you might understand, we had the last big licensing in Northern Range in 2014, if I'm not mistaken, and the last small one was Morro Grande in 19, and now we are pointing out to the body N3 that we already had the provisional license for that. But as Spinelli needs to have the feed to make his Iron Solutions, we are working very thoroughly, but for the medium term, not for this year. This year we did very well, by the way, we operated to the program and Carajás on the Northern Range where we hit the program, by the way, but it's a program that is lower. We are we are aiming, as I mentioned, 100 million tons on both Systems.

So, there is not an operational problem there, different from S11D that I mentioned already, but we're not sitting there and waiting and not only the +20 that we already got the license, the +10 that is being commissioned. So, growth from the Northern System is going to come from S11D for sure. That's what is being designed, so we're going to move from 80 something this year, we're going to go up to 110-120 – that's what we are investing by the way – and I think the good news that maybe we didn't stress enough is that we have licensed +20, so we are executing +20 on S11D, there's no problem on licensing there, so we are up and running with that project.

But you're right, we need to get back to the production on the Northern Range and Serra Leste, and Spinelli is leading several initiatives that I think he can share some with you because we're not sitting here waiting and letting our mine that can do 140 stay at 100 million tons.

Marcello Spinelli: Thanks, Eduardo. Leo, just reminding, the main projects we already have the license was +10, + 20, new crushers and also in the Southern we have Capanema. So, this is one site, so we've been evolving in this site.

In the Northern Range, as Eduardo mentioned, we have a combination of small licenses and big licenses that we need in mid and long-term. You may notice that we're not counting on North Range in our volumes, so we flat the production there to guarantee that we're going to deliver that. So, we have N3, N1/ N2 in sequence. And you mentioned small pits sometimes is related to suppression or like cavities, as you mentioned. So, we are working really close to the agencies.

I believe that we have people in the frontline, I'm personally in the frontline to discuss this, we see good news coming with very technical analysis, we are bringing new studies, we're bringing investment in the field, like ITV (the Vale Technological Institute) that we are supporting a lot of their studies. So, we see in this new crew that is leading this in the government that we have a very technical and growing perspective about this.

So, we are confident, we need to work hard in this trend, but we are protecting our plan in the next three years to guarantee that we’re going to deliver that.

Operator: The next question is from Thiago Lofiego, Bradesco.

Thiago Lofiego: Thank you good morning, gentlemen. Two questions. So, the first one, sorry to insist on the cost from Gustavo, but how confident are you guys on the guidance of US$ 20-21 for the C1? So, that would basically entail C1 costs below US$ 20 every quarter from here to the end of the year or significantly below US$ 20 in the second half? I just wanted to try to understand how realistic this is. Just an additional color on that would be great.

Second question for Spinelli. Spinelli, can you talk a bit about the reopening dynamics in China? We are seeing steel margins still depressed, steel prices actually falling at the margin, but at the same time there's some positive data out there, steel production is increasing. So, what's your take on supply and demand dynamics for iron ore in the coming, let's say, few couple quarters, and also what kind of a play is sentiment having on this whole price formation story here for iron ore? Thank you.

Gustavo Pimenta: So, Thiago, Gustavo here, let me take the first one. So, it's going to be gradual and most of the benefit you will see in the second half of the year as we bring more volume and as we bring better product into the mix, especially the products from Carajás, which has substantially lower C1, so you're going to see the benefits from it. And then there is about half a dollar to a dollar of efficiency initiatives that we've been pursuing, strategic sourcing, overhead efficiency, discussions that we've been having with some of our suppliers, so we've been laser-focused since last year on cost efficiency, so we are seeing benefits and we have that in our plan for the rest of the year.

So, you will see a gradual decrease, we are feeling good about it, and we believe that 20 to 21 is a reasonable number to be achieved assuming that we bring the volumes, especially from Carajás, online in the second half of the year.

Marcello Spinelli: Ok, Thiago, Spinelli here, thank you for your questions. So, you know, we've been seeing the recover in China, definitely we have strong numbers, you mentioned that, so GDP, FAI very resilient, infrastructure investment, properties we have good news also, so the bright side is that we're already in the destocking mode in China, so we see the sales increasing and also the accomplishment of construction also increasing. You mentioned all the micro numbers, blast furnace is going well.

We just came from China, it's a common sense that production will be flat this year, so the production is there. So, what is concerning today? The first thing I think is related to the property, it is in the cycle, so firstly we need to sell, finish the construction, so sales and new starts are coming, but it didn't come yet. So, that's the main volatility that we see even in our clients, they are in a wait-and-see mode, but everybody's waiting therefore only for the second half. So, we are on track, and we need to wait for that.

I think the price in steel is another concern, but the good news is if you see the export that we had in China this quarter that implies that we have an asymmetry in the price in ex-China comparing to China. So, there is a wind that can help China to improve the price in steel market, and there is a combination of all of this, we have a tepid margin stimulus.

So, with all this, we have this wait-and-see behavior, all the inventories are really low, so in our perspective in short term, we can see a rebound, we have this next holiday that is coming out and they will need to replenish the supply chain. In the second half, we need to wait and see what is going to happen to the property. I'm not saying that we'll see a growth in the property, but a smooth and flat demand.

But just to conclude, Thiago, I want to drag your attention and everybody that the supply-demand balance is really tight. So, that I think is a very important information to give to you. The demand in ex-China is growing 1.5 to 2%, there's an important demand. In the supply side, you have a growth, but it's not that important growth, and there is a balance. So, we can see an additional of 5 to 10 million tons in an inventory that is very low today, 130 million tons in China – I'm talking about iron ore. So, we see a balance in the market for iron ore and that can bring an upside risk for the price, or at least stability.

The name of the game of this year is stability. We are all the time trying to bother that, but production is there, very stable, the macro is coming, and we see the supply very organized, very tight with the supply balance.

Again, we are cautiously optimistic, we need to wait and see the property market in the second half.

Operator: The next question is from Caio Ribeiro, Bank of America.

Caio Ribeiro: Yes, good morning, everyone, thank you for the opportunity. So, my first question is on third party ore purchases in the iron ore division. This quarter you purchased almost a million tons more than in first quarter 22, so I'm just wondering if you see room to increase third party ore purchases in 2023 for the full year versus last year. And if you can provide any indication on the volume of those purchases for the year, right?

And then my second question on your expanded net debt where you continue to follow a target of US$ 10 to 20 billion, I just wanted to understand if you would be willing to temporarily surpass that upper range of the target if you do encounter an attractive or smarter any opportunity as you put it? And if this opportunity does not unfold, whether the focus will continue to be on cash returns via buybacks and dividends? Thank you.

Marcello Spinelli: Thank you, Caio, thank you for your question. So, third party is a trend, we don't see a huge growth, we're talking about 2-3 million tons probably in this year, it is an ecosystem that we have mainly in Minas Gerais state in Brazil, there are some (we say) smaller miners, there are big companies that we've been developing for many years, so we see a good thing here. Just to you figure it right, we made a US$ 20 a ton in margins with this kind of business, so as we have capacity in our supply chain, you have the market, and if you can improve this product with some application, like pellet feed for pelletizing plants or blending or even in the future the briquettes plants, we may take an advantage of that.

So, that's something that we want to strengthen and bring these partners more and more reliable and with more quality in a sustainable way, so we want to foster that, but for this year we expect some growth, but smaller numbers like 3 million tons.

Gustavo Pimenta: So, Caio, on your second question on the balance sheet, no, we are not expecting and planning on going beyond the 20 billion that we have in our targeted leverage ratio. I think what Eduardo was referring to is, first, on the smart M&A, those are adjacent opportunities with limited capital that we continue to look, especially pursuing high-quality products, so we're seeing some opportunities, but they shouldn't be intense in terms of capital deployment, and on base metals, if we decide to do something, it's certainly using the currency that we are about to create. That's one of the reasons why we've been discussing the carve out of base metals. So, we are not expecting to use Vale’s balance sheet for any move, we continue to believe that the share buyback, especially at the share price that we are seeing today, are one of the best (if not the best) investments that we have for our available cash.

Operator: Our next question comes from Liam Fitzpatrick, Deutsche Bank.

Liam Fitzpatrick: Hi everyone. Two questions from my side, both on the base metals strategy. So, I just wanted to confirm, is the target still to complete the stake sale by the mid-year points? And then in terms of next steps, I'm sure Mark Cutifani hasn't joined to be chairman of a subdivision within Vale, so does this appointment more or less confirm that you are eventually headed down the IPO routes? So, any color on that would be appreciated.

The second question – and I'm sure you know full well why we're all asking around M&A, but –, when you say the correct entity and then you'll consider inorganic opportunities, will you have that correct entity once you complete the minority stake sale or are there further steps that are needed before you get there? Thank you.

Eduardo Bartolomeo: OK, thanks Liam. First of all, I think, as you mentioned, I always said that actually in one of our meetings I said "eventually" and I understood that eventually in English is "we are going to go", obviously an IPO down the road is a liquidity event that you could pursue, but the fundamental reason why we brought Mark is to help us on the execution of this plan to this liquidity event. He can have several forms of liquidity, OK? So, I won't go over them, but he's joining as a chairman because he sees the opportunity to transform the best assets of transition metals in the world, and he knows it very well, and of course he wants to unlock substantial value from it as we do.

So, that I think answers your point, but we always said that there is not a definitive option that we are going to IPO, we want to create optionalities, even if we said already about M&As for sure, like I mentioned. When you go back to your second question, I think it adds to this first one as well because the legal entity is being designed, it doesn't relate – of course it does relate with the sell of the participation –, but let's be very clear as well, if we don't find the right partner that adds value to us and perceives the same values as we do, we're going to go it anyway.

This organization is being ring-fenced as we speak because of the legal and time issues, we believe is going to be hit and running after first of July, and we believe at that moment – and I think Gustavo can help me with more details and clarity – we're going to be able to see that we know we have a partner, but we are going to have an independent board led by Mark, I'll be part of it, it's going to be ran through our Energy Transition Metals as executive co. and in a run to create a huge amount of value and organically, as I mentioned already, and when it's ready it can go inorganic as well. But IPO is not necessarily one of the… maybe is not the only option that we have in this optionality.

So, you can help me a little bit, Gustavo, with the details.

Gustavo Pimenta: I think you covered most of it, Eduardo. I think, Liam, in terms of timing, we continue to work hard to have it finalized by mid this year discussed with our board and then share with you the news, but it's moving along very well, I think there is a lot of interest, as you are all following in the press, there's a lot of interest for this type of platform, and we think we have a very unique platform in our hands, which as Eduardo said, we are working hard on many fronts, including by bringing Mark to take this to the next level. That's the goal, I think the carve out will create a series of options for us to really take this business to another level, grow the business, and create value for our shareholders.

So, in terms of timeline, yes, mid this year we should have some news to share with you all.

Operator: The next question is from Daniel Sasson, Itaú BBA.

Daniel Sasson: Hi, everyone. Thanks for the opportunity. My first question is regarding the supply and demand balance. You seemed very confident reaching your guidance for C1, for instance, because of increased volumes in the second half and more volumes coming from Carajás and Torto and so on and so forth, but my question is how your value over volume strategy could impact the feeling of better volumes in the second half?

And my second question, as Spinelli mentioned, if China produces as much during 2023 as they did in 2022 that can imply a decline in the steel production in second half of this year, and expecting to increase volumes, usually when volumes are seasonally strong. So, do you see a scenario in which you might not be able to sell anything you expect to because of a decline in demand in China?

And my second question is more related to external risks. You mentioned that the things that are in your hands to control and to try to improve and stabilize a commission and so on and so forth, but we're seeing a scenario in Brazil a scenario in which alternatives for increasing government revenues are being assessed, and that means the biggest risks for Vale for instance of interest on capital benefits.

So, anything you could add on that front would be great. Thank you, guys.

Marcello Spinelli: Thank you, Daniel good to hear you. Supply-demand balance. So, you know, second half… I mentioned one number that it was really important which is export in China in the first quarters, 20 million tons, so just keep this in mind because this is important about demand in China, but you have a connection in ex-China also. So, we don't have only China to supply, in the second half. We have the Torto dam, we expect by the end of June and we have production in Brucutu with less high silica, so it's not about improve the pellet feed in pelletizing, but it's to produce less product that today is paying more premiums. You know, the gap between high-grade ore and low-grade ore is narrowed because of the margins in the industry. So, we don't expect this for the whole year, but we're going to increase the production of pellets. So, this one important thing is not in China, is from Middle East or Japan and Europe, and also in Brazil.

So, this is one point of view. The other point is we're going to increase the high-grade ore and our premiums. Today the premium by product is very good, so BRBF is with a good premium, even Carajás we're talking about 16 spread today, it could be higher. Today it depends on the margins of the industry, we don't have the problem of energy, and this is a good thing. So, we're going to have the right product that is Carajás, BRBF, increase of pellets. So, we have the right product in the right moment for the year, despite if you have any adjust of production in China to support this goal of flat production, we have other markets that are aiming for high-grade ores, like Middle East or Europe.

So, that's our strategy for the year. We're keeping our sales plan as planned for the year.

Gustavo Pimenta: So, Daniel, Gustavo here. It was breaking up a little bit your question, but we understood it was more on the external/Brazilian institutional uncertainties, potential uncertainties, and I think you've made a reference on taxation and so on. Look, our view is what we've heard so far is tax reform to pursue neutrality in terms of potential tax burden, which I think it makes sense and that's what we are hopeful, this is a very critical sector, I mean, the mining sector is very critical for the country in terms of employment, in terms of taxes, and when we compare ourselves with the Australians, for example, we are already very highly taxed. So, it's, in our perspective, very important to remain competitive, especially because we compete in the global stage.

So, we are feeling good about it, and we are following very closely all the discussions.

Operator: This concludes today's question and answer session. Mr. Eduardo Bartolomeo, at this time you may proceed with your closing statements.

Eduardo Bartolomeo: OK, thank you. Thank you again for the interest and attention to our call.

I think the four messages that Gustavo want to point – and I'm going to wrap up them in a very short way – we are very confident on the production for this year on the guidance that we set up. The worse seasonality effects, mainly for iron ore, are over, so I think the production was solid, wasn't reflected on sales, but will be in second semester as we mentioned for both businesses, the energy transition metals and the iron solutions.

As you noticed in the questions, Vale is uniquely positioned, even in this M&A frenzy that is starting to happen now, we still have in our iron ore business an ability to grow 40 million tons, we can use third parties, as Spinelli mentioned, a huge amount of iron ore can go through our infrastructure that we are going to use is a new project for us, we have, as mentioned, even with the optionalities that were designed here eventually for the new energy transition metals business to IPO in the future, to M&A it in the future. So, we are creating a tremendous opportunity to unlock value on both business through growth.

I'm very proud with my team to really, really red focus Value and we're very happy to sell to the least part of our reshaping that was MRN today, coincidentally was today, and we're now really ready to focus on our two main and great businesses, iron solutions and energy transition, and for the shareholders I think you have to have no doubt that capital discipline and shareholder return is the main priority, of course, creating benefits for everybody in society.

So, with that, I would like to end the call and thanks a lot for your attention and interest and hope to see you in the next call.

Operator: That does conclude Vale's conference call for today. Thank you very much for your participation. You may now disconnect.

Vale's 1Q23 production and sales report

Rio de Janeiro, April 18th, 2023

- Iron ore production increased 6% y/y due to a stronger performance at S11D and better weather conditions in Minas Gerais. Pellets production increased 20% y/y, driven by higher availability of pellet feed and lower maintenance activities.
- Iron ore fines and pellets sales decreased 7% y/y due to loading restrictions in the Northern System during the rainy season and supply chain rebalancing after strong sales in 4Q22. Vale expects to offset this impact in the second half of the year keeping its annual sales plan unchanged.
- Copper production increased 18% y/y, largely attributed to the improved operational performance of Sossego mine and the steady ramp-up of Salobo III. Copper sales were up 25% y/y, in line with higher production.
- Nickel production decreased 10% y/y mainly due to the continued transitioning of Voisey's Bay mine to underground operations and slightly longer scheduled maintenance at Matsusaka refinery compared to 1Q22. Sudbury mines had strong performance in the quarter, reaching ore production rates of 11.8 ktpd in March, the highest rate since 2017. Nickel sales were strong with up 3% y/y growth.

Production summary

				% change		2023
000' metric tons	1Q23	4Q22	1Q22	1Q23/4Q22	1Q23/1Q22	Guidance
Iron ore[1]	66,774	80,852	63,128	-17.4%	5.8%	310-320 Mt
Pellets	8,318	8,261	6,924	0.7%	20.1%	36-40 Mt[2]
Copper	67.0	66.3	56.6	1.1%	18.4%	335-370 kt
Nickel	41.0	47.4	45.8	-13.5%	-10.5%	160-175 kt

[1] Including third-party purchases, run-of-mine and feed for pelletizing plants.
[2] Iron ore agglomerates guidance, including iron ore pellets and briquettes.

Sales summary

				% change	
000' metric tons	1Q23	4Q22	1Q22	1Q23/4Q22	1Q23/1Q22
Iron ore fines[1]	45,861	81,202	51,311	-43.5%	-10.6%
Iron ore pellets	8,133	8,789	7,011	-7.5%	16.0%
Iron ore ROM	1,665	1,963	1,035	-15.2%	60.9%
Copper	62.7	71.6	50.3	-12.4%	24.7%
Nickel	40.1	58.2	39.0	-31.1%	2.8%

[1] Including third-party purchase sales.

Price realization summary

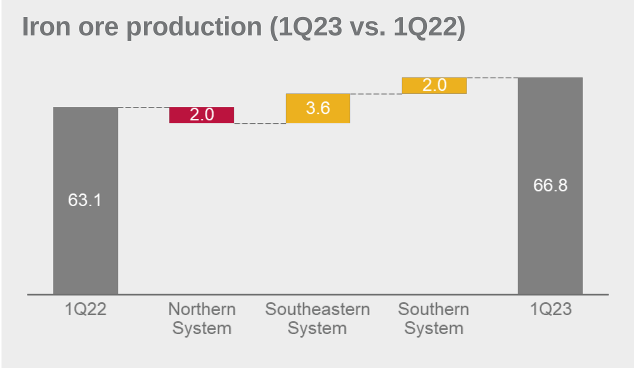
				% change	
US$/t	1Q23	4Q22	1Q22	1Q23/4Q22	1Q23/1Q22
Iron ore fines (CFR/FOB, wmt)	108.6	95.6	141.4	13.6%	-23.2%
Iron ore pellets (CFR/FOB, wmt)	162.5	165.6	194.6	-1.9%	-16.5%
Copper[1]	9,465	8,774	10,848	7.9%	-12.7%
Nickel	25,260	24,454	22,195	3.3%	13.8%
Gold (US$/ oz)	1,845	1,677	1,862	10.0%	-0.9%
Silver (US$/oz)	22.1	21.9	23.5	0.9%	-6.0%
Cobalt	32,830	44,980	78,085	-27.0%	-58.0%

[1] Average realized price for copper operations only (Salobo and Sossego). Average realized copper price for all operations, including copper sales originated from nickel operations, was US$ 9,298/t in 1Q23.

Businesses' highlights in 1Q23

Iron Ore and Pellets operations

- **Iron ore production increased by 3.7 Mt y/y**, driven by a stronger operational performance at S11D and lower rainfall in Minas Gerais. The production-to-sales gap was a result of (i) port loading restrictions at Ponta da Madeira Terminal due to the rainy season impact on stockpile formation and unscheduled maintenance in port equipment, and (ii) supply chain rebalancing after strong sales in 4Q22. **Vale expects to offset this impact in the second half of the year keeping its annual sales plan unchanged.**



- **S11D's production improved by 1.2 Mt y/y** due to a better performance of our truckless system and the installation of new crushers in 2022. **Northern System production decreased by 2.0 Mt y/y**, in line with our plan, driven by lower ROM availability.

- **Southeastern System production was 3.6 Mt higher y/y**, driven by run-of-mine production increase at Mariana Complex and the increase of high-silica production at Brucutu. **Southern System production increased by 2.0 Mt y/y** mainly due to the improved performance at Vargem Grande and more third-party purchases, despite a landslide that partially impacted MRS railway, which is expected to normalize in May. Both Systems' performances were also positively impacted by better weather conditions.

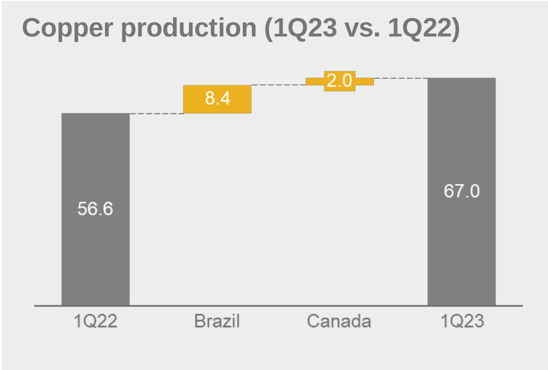
- **Pellet production increased by 1.4 Mt y/y**, driven by (i) higher production at Tubarão 3 plant after scheduled maintenance in 1Q22, and (ii) higher Vargem Grande plant output due to higher pellet feed availability. In March, Torto dam's emergency plan[1] was approved, and Vale expects to receive its operating license by the end of Q2.

- **All-in premium totaled US$ 2.1/t**[2], US$ 7.0/t lower y/y, driven by (i) higher sales mix of high-silica products, which, despite the positive margins, reduce average premiums, (ii) lower share of IOCJ and BRBF in the sales mix, due to port restrictions at Ponta da Madeira Terminal, and (iii) lower market premiums for pellets.

- **Iron ore fines realized price was US$ 108.6/t**, US$ 32.8/t lower y/y, mainly due to (i) lower benchmark prices (US$ 16.1/t lower y/y), (ii) a negative effect of pricing adjustment mechanisms (US$ 12.6/t lower y/y), and (iii) lower fines premiums (US$ 5.8/t lower y/y). **Iron ore pellets realized price was US$ 162.5/t**, US$ 32.1/t lower y/y, mainly due to (i) lower benchmark prices, and (ii) the net effect of lower market premiums.

[1] Emergency Preparedness and Response Plan (PAEBM - Plano de Ação de Emergência para Barragens de Mineração in Portuguese).
[2] Iron ore premium of US$ -1.4/t and weighted average contribution of pellets of US$ 3.5/t.

Copper operations



- **Sossego copper production was 9.5 kt higher y/y** as a result of improved plant availability, benefitting from the extended SAG mill maintenance conducted in 1H22.

- **Salobo copper production was 1.1 kt lower y/y** due to planned and corrective maintenance in 1Q23, partially offset by the ramp-up of Salobo III. Salobo III contributed with 3 kt of copper to the overall Salobo complex.

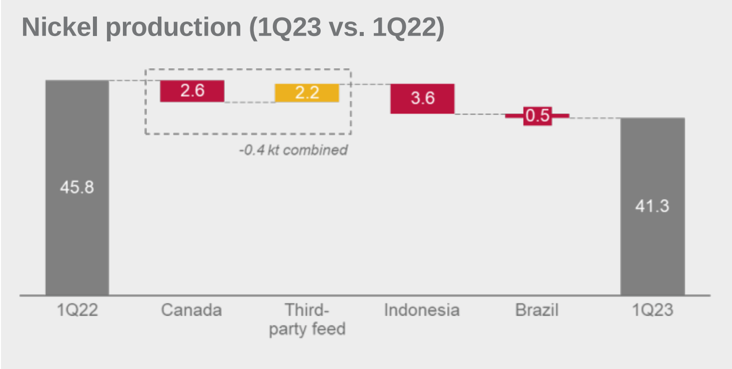
- We advanced with maintenance activities at both Salobo and Sossego operations in 1Q23, and additional maintenance is planned for 2Q23.

- **Copper production in Canada increased by 2.0 kt y/y**, mostly due to higher production from Sudbury, which was driven by greater mine performance and stability this quarter. This increase was partially offset by lower production in Voisey's Bay due to the ongoing mine transition.

- **Copper sales were 12.4 kt higher y/y,** driven by higher production.

- **Average realized price for copper was US$ 9,465/t in the quarter,** down 13% y/y, mainly due to lower LME prices. The realized price was 6% higher than average LME price for the quarter (US$ 8,927/t) as a result of the positive effect of the provisional pricing arrangements (PPAs), as open invoices were marked-up at lower prices in the beginning of the quarter.

Nickel operations



- **Finished nickel production from Sudbury sourced ore increased by 0.9 kt y/y** mostly due to improved mining performance. In March, the Sudbury mines achieved the highest ore production in March since October 2017.

- **Finished nickel production from Thompson sourced ore decreased by 0.4 kt y/y**, as 1Q22 was positively impacted by the transition of Thompson nickel concentrate processing from Sudbury to Long Harbour, when both plants were processing Thompson concentrate.

- **Finished nickel production from Voisey's Bay sourced ore was 3.2 kt lower y/y** as we proceed with the ongoing transitional period between the depletion of Ovoid mine and ramp-up to full production of the Voisey's Bay underground project. Planned maintenance at Voisey's Bay and Long Harbour operations are scheduled for 2Q23, with expected impact on Voisey's Bay and Thompson ore source production in the quarter.

- **Finished nickel production from third parties increased by 2.2 kt y/y**. For 2023, consumption of feed from third parties is expected to remain at higher levels than in recent years, in order to maximize the utilization and performance of our downstream operations.

- **Finished nickel production from Indonesia sourced material was 3.6 kt lower y/y** due to slightly longer scheduled maintenance shutdown at the Matsusaka Refinery in 1Q23, as well as the one-off effect of direct matte sales relocation from 2Q22 to 1Q22 last year. Nickel in matte production increased 22%, reaching 16.8 kt in 1Q23, resulting from the conclusion of the planned furnace rebuild, which started in December 2021 and concluded in June 2022.

- **Onça Puma production was 0.5 kt lower y/y** impacted by the maintenance of the furnace in 1Q23, in preparation for the furnace rebuild later in the year.

- **Nickel sales were 1.1 kt higher y/y,** as 1Q22 sales were impacted by inventories held to cover sales commitments in 2Q22.

- **Average realized price for nickel was US$ 25,260/t in the quarter,** representing a 14% increase y/y, mainly as a result of higher premiums for Class I products and the positive impact of hedge, with average strike price reaching US$ 34,929/t in the quarter. This was partially offset by the negative impact of (i) quotational period due to the 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, (ii) fixed-price sales, and (iii) higher discounts for Class II products.

ANNEX 1 - Production and sales summary

Iron ore

000' metric tons	1Q23	4Q22	1Q22	% change 1Q23/4Q22	% change 1Q23/1Q22
Northern System	**35,771**	**45,097**	**37,732**	**-20.7%**	**-5.2%**
Serra Norte and Serra Leste	19,450	26,486	22,586	-26.6%	-13.9%
S11D	16,321	18,611	15,147	-12.3%	7.8%
Southeastern System	**18,604**	**18,405**	**14,955**	**1.1%**	**24.4%**
Itabira (Cauê, Conceição and others)	7,439	7,007	6,198	6.2%	20.0%
Minas Centrais (Brucutu and others)	5,411	5,395	3,569	0.3%	51.6%
Mariana (Alegria, Timbopeba and others)	5,753	6,003	5,188	-4.2%	10.9%
Southern System	**12,399**	**17,350**	**10,441**	**-28.5%**	**18.8%**
Paraopeba (Mutuca, Fábrica and others)	4,326	8,403	4,010	-48.5%	7.9%
Vargem Grande (Vargem Grande, Pico and others)	8,074	8,947	6,432	-9.8%	25.5%
IRON ORE PRODUCTION[1]	**66,774**	**80,852**	**63,128**	**-17.4%**	**5.8%**
OWN PRODUCTION	**63,490**	**75,872**	**60,718**	**-16.3%**	**4.6%**
THIRD-PARTY PURCHASES	**3,284**	**4,980**	**2,411**	**-34.1%**	**36.2%**
FINES AND PELLETS SALES	**53,994**	**89,991**	**58,323**	**-40.0%**	**-7.4%**
FINES SALES[2]	**45,861**	**81,202**	**51,311**	**-43.5%**	**-10.6%**
PELLETS SALES	**8,133**	**8,789**	**7,011**	**-7.5%**	**16.0%**
ROM SALES	**1,665**	**1,963**	**1,035**	**-15.2%**	**60.9%**
SALES FROM 3RD PARTY PURCHASE	**3,545**	**5,051**	**2,699**	**-29.8%**	**31.3%**

[1] Including third-party purchases, run-of-mine and feed for pelletizing plants. Excluding Midwestern System volumes. Vale's product portfolio Fe content reached 61.6%, alumina 1.2% and silica 7.2% in 1Q23.
[2] Including third-party purchases.

Pellets

000' metric tons	1Q23	4Q22	1Q22	% change 1Q23/4Q22	% change 1Q23/1Q22
Northern System	**784**	**739**	**738**	**6.1%**	**6.2%**
São Luis	784	739	738	6.1%	6.2%
Southeastern System	**4,668**	**3,616**	**3,689**	**29.1%**	**26.5%**
Itabrasco (Tubarão 3)	951	960	310	-0.9%	206.8%
Hispanobras (Tubarão 4)	-	-	-	-	-
Nibrasco (Tubarão 5 and 6)	1,208	1,131	1,064	6.8%	13.5%
Kobrasco (Tubarão 7)	948	178	969	432.6%	-2.2%
Tubarão 8	1,562	1,347	1,346	16.0%	16.0%
Southern System	**1,147**	**1,222**	**679**	**-6.1%**	**68.9%**
Fábrica	-	-	-	-	-
Vargem Grande	1,147	1,222	679	-6.1%	68.9%
Oman	**1,719**	**2,684**	**1,818**	**-36.0%**	**-5.4%**
PELLETS PRODUCTION	**8,318**	**8,261**	**6,924**	**0.7%**	**20.1%**
PELLETS SALES	**8,133**	**8,789**	**7,011**	**-7.5%**	**16.0%**

Copper - Finished production by source

000' metric tons	1Q23	4Q22	1Q22	% change 1Q23/4Q22	% change 1Q23/1Q22
Brazil	**46.1**	**44.9**	**37.7**	**2.7%**	**22.3%**
Salobo	32.8	29.6	33.9	10.8%	-3.2%
Sossego	13.3	15.3	3.8	-13.1%	250.0%
Canada	**20.9**	**21.4**	**18.9**	**-2.3%**	**10.6%**
Sudbury	16.3	16.1	13.9	1.2%	17.3%
Thompson	0.1	1.2	0.3	-91.7%	-66.7%
Voisey's Bay	2.0	1.9	3.1	5.3%	-35.5%
Feed from third parties	2.5	2.2	1.6	13.6%	56.3%
COPPER PRODUCTION	**67.0**	**66.3**	**56.6**	**1.1%**	**18.4%**
COPPER SALES	**62.7**	**71.6**	**50.3**	**-12.4%**	**24.7%**
Copper Sales Brazil	43.2	44.7	34.1	-3.4%	26.7%
Copper Sales Canada	19.5	26.9	16.2	-27.5%	20.4%

Nickel - Finished production by source

000' metric tons	1Q23	4Q22	1Q22	% change 1Q23/4Q22	% change 1Q23/1Q22
Canada	**16.3**	**18.2**	**18.9**	**-10.4%**	**-13.8%**
Sudbury[1]	9.5	11.1	8.6	-14.4%	10.5%
Thompson	2.5	2.4	2.9	4.2%	-13.8%
Voisey's Bay	4.3	4.6	7.5	-6.5%	-42.7%
Indonesia	**14.0**	**18.0**	**17.6**	**-22.2%**	**-20.5%**
Brazil	**4.9**	**5.1**	**5.4**	**-3.9%**	**-9.3%**
Feed from third-parties[1]	**5.9**	**6.1**	**3.7**	**-3.3%**	**59.5%**
NICKEL PRODUCTION	**41.0**	**47.4**	**45.8**	**-13.5%**	**-10.5%**
NICKEL SALES	**40.1**	**58.2**	**39.0**	**-31.1%**	**2.8%**

[1] External feed purchased from third parties and processed into finished nickel in our Canadian operations.

Energy Transition Metals by-products - Finished production

	1Q23	4Q22	1Q22	% change 1Q23/4Q22	% change 1Q23/1Q22
COBALT (000' metric tons)	597	529	755	12.9%	-20.9%
PLATINUM (000' oz troy)	34	25	23	36.0%	47.8%
PALLADIUM (000' oz troy)	40	33	29	21.2%	37.9%
GOLD (000' oz troy)[1]	79	74	71	6.8%	11.3%
TOTAL BY-PRODUCTS (000' metric tons Cu eq.)[2 3]	**34**	**34**	**32**	**-**	**6.3%**

[1] Includes gold from Copper and Nickel operations.
[2] Includes iridium, rhodium, ruthenium and silver.
[3] Copper equivalent tonnes calculated using average market metal prices for each quarter. Market reference prices: for copper and cobalt: LME spot; for gold and silver: LME spot for 1Q22 and NYMEX for 4Q22 and 1Q23; for Platinum and Palladium: NYMEX spot; for other PGMs: Johnson Matthey.

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

Investor Relations

Vale IR: vale.ri@vale.com
Ivan Fadel: ivan.fadel@vale.com
Luciana Oliveti: luciana.oliveti@vale.com
Mariana Rocha: mariana.rocha@vale.com
Samir Bassil: samir.bassil@vale.com