Vale's Performance in 2Q22

July 29th, 2022

Disclaimer

“This presentation may include statements that present Vale's expectations about future events or results. All statements, when based upon expectations about the future involve various risks and uncertainties. Vale cannot guarantee that such statements will prove correct. These risks and uncertainties include factors related 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.

1. We are building a better Vale

Building a better Vale

De-risking

- Brumadinho
- Mariana
- Dam safety
- Production resumption

Reshaping

- Focus on core business
- Elimination of cash drains
- Accretive growth opportunities
- Cost efficiency

Re-rating

- Benchmark in safety
- Best-in-class reliable operator
- Talent-driven organization
- Leader in low carbon mining and ESG practices
- Reference in creating and sharing value

Sound cash flow generation

Discipline in capital allocation

VALE

Historical agreement with the Xikrin do Cateté indigenous people

- **40 years** of relationship
- 18 months of **engagement and dialogue**
- **Definitive solution** to end 15-year disputes
- Stakeholders involved: **Indigenous Leaders, Federal Public Prosecutors Office and Vale**


Indigenous Leader and Vale's CEO, Eduardo Bartolomeo

Note: The agreement with the Xikrin community was approved by the court responsible for the Onça Puma, S11D and Salobo projects. Approval is still pending for the Alemão and Ferro Carajás projects.

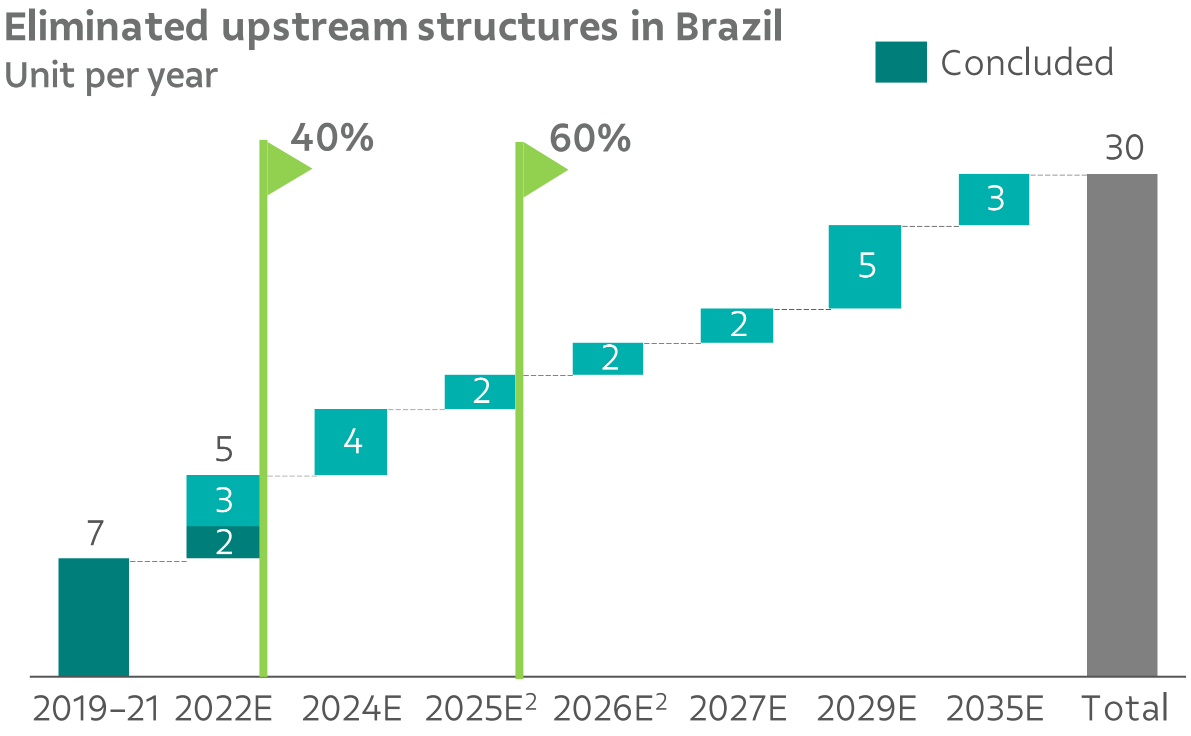
Upstream dams in Brazil: 40% eliminated by 2022E

Baixo João Pereira dam and Dike 4[1]: decharacterization **concluded**

Backup dam for Coqueirinho completed

B3/B4: 40% tailings removed, and conclusion anticipated to 2025[2]

9 structures eliminated since 2019



[1] Dike 4 decharacterization was completed and final works in the site will continue along the second half of this year. [2] Due to the need to implement instruments, drilling and complementary engineering studies, the date of Campo Grande de-characterization conclusion changed from 2025 to 2026. Despite the change in the Campo Grande dam de-characterization deadline, the company maintains the commitment to de-characterize 18 structures of the program by 2025 due to the tendency to anticipate the completion of the B3/B4 dam works.

Business and Financial highlights

Iron Ore	• 2022's production guidance revised to 310–320 Mt • Solid production in Minas Gerais operations (38% increase q/q)
Base Metals	• Maintenance works affected nickel and copper quarterly production • 2022's copper production guidance revised to 270–285 kt
Climate change	• Decarbonization MoU with Nippon Steel (~50% of Scope 3 covered by MoUs[1]) • Second 100% electric locomotive received, powered by battery
Portfolio optimization	• Midwestern System divestment completed • Binding agreement to sell Vale's stake in CSP
Capital allocation	• US$ 3.0 billion dividend to be paid in September 2022 • 23% of current buyback program completed[2]

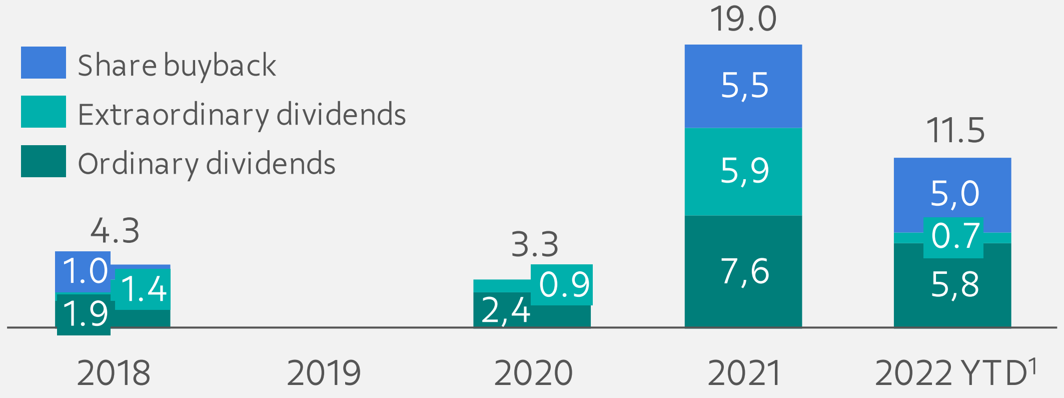
[1] Memorandum of Understanding. Also includes nondisclosure agreements to decarbonize ironmaking process. [2] As of July 28th, 2022. Approximately 114 million repurchased shares (23% of 3rd announced program)

Committed to generate solid shareholder returns

Stable dividends

Share buyback programs

Free cash flow returned to shareholder
US$ billion



- **~22.3%** dividend yield since 2021[2]
- **584 million shares or 11.4%** of outstanding shares repurchased[3]
- **149 million shares** repurchased in 2Q22[4]

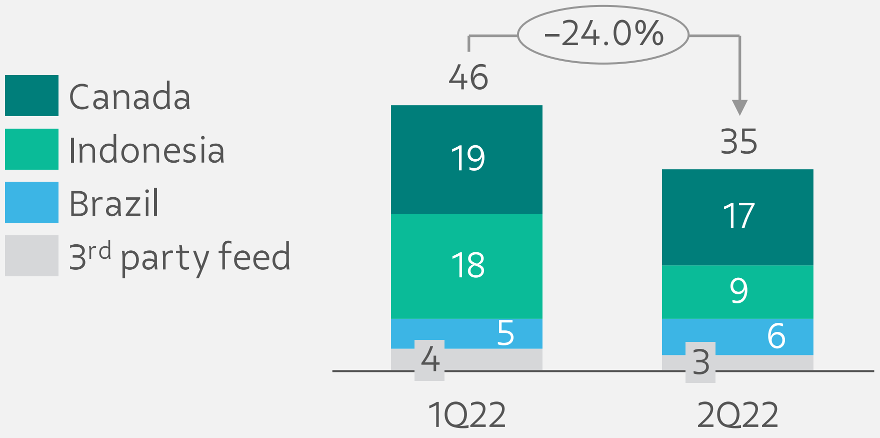
[1] As of July 28th, 2022. Also considers dividends announced on July 28th, 2022, to be paid in September 2022. [2] Including ordinary and extraordinary dividends paid in 2021 and 2022 (including announced). Considering share price and outstanding shares of December 31st, 2020. [3] Considering outstanding shares of March 2021. Considers programs announced in April 2021, October 2021 and April 2022 executed until July 28th, 2022. [4] Including repurchases from programs announced in October 2021 and April 2022 (2nd and 3rd programs).

2. Base Metals

Base Metals production impacted by maintenance works

Nickel production

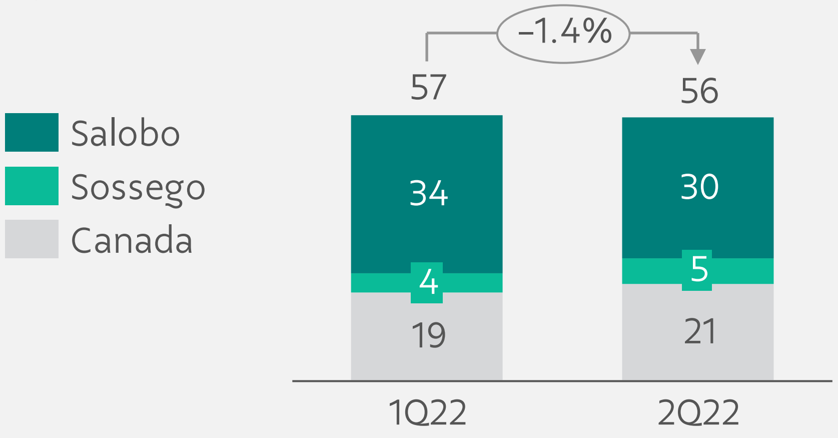
kt



- Sudbury mines' run rates improved
- Planned maintenance at surface facilities
- Mine-mill maintenance in Q3: Ni concentrate inventories built in Q2
- PTVI furnace in heat up phase

Copper production

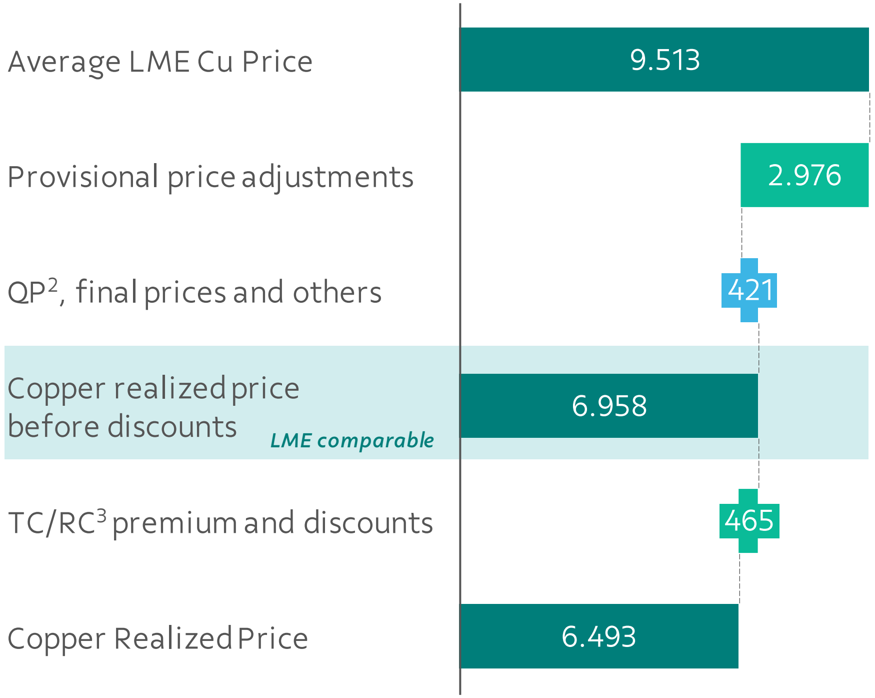
kt



- Mines operating well during the quarter
- Replacement of discharge trunnion at Sossego concluded
- Guidance revised down to 270-285 kt:
  - Additional maintenance in South Atlantic
- Planned temporary impact on copper from Canada in Q3: mine-mill maintenance

Decrease in forward copper prices and hedge in nickel weighed on price realization

Q2 Realized prices: Copper business[1]

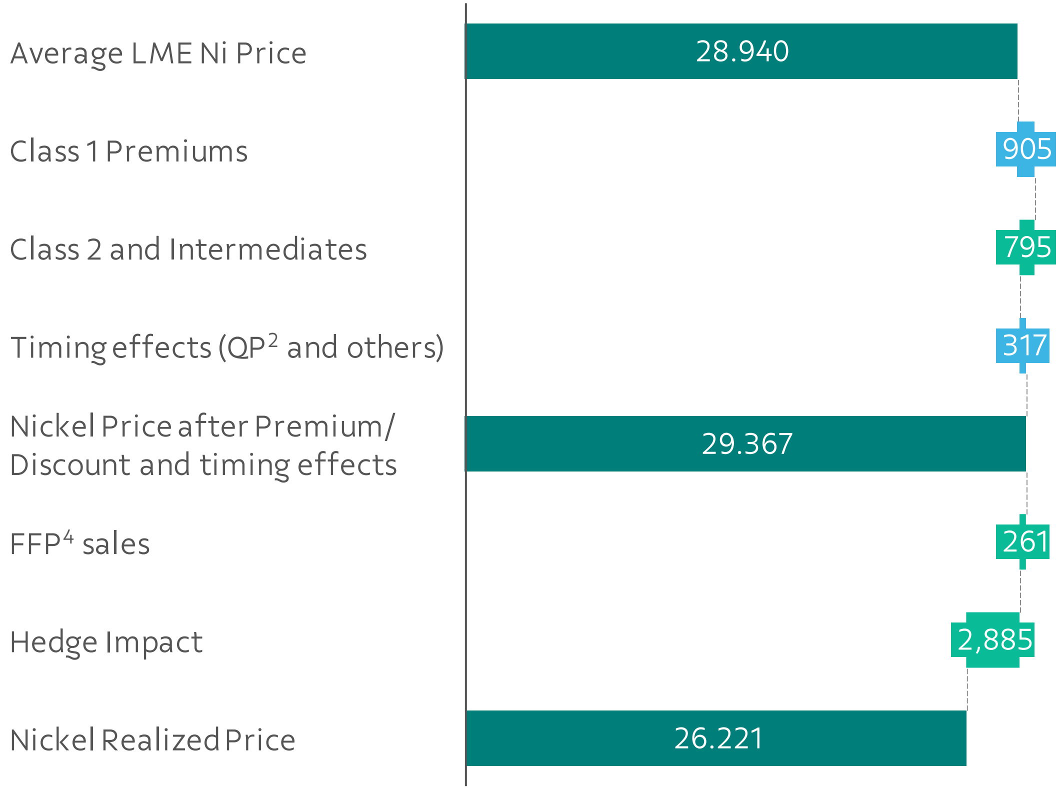


Marked-to-market position

End Q2: 31.7 kt @ ~US$8,300/t

End Q1: 44.5 kt @ ~US$10,400/t

Q2 Realized prices: Nickel business



[1] Sossego and Salobo only. Copper revenues from Canadian operations are accounted as Nickel by-products. [2] Quotational period. [3] Treatment Charge (TC) and Refining Charge (RC). [4] Firm Fixed Price.

Continued to advance in Base Metals' Agenda

Pivoting towards North Atlantic EV

- **Status:** PFS completed
- **Capacity:** 25 kt Ni in sulphate
- Exploring **additional potential synergy** arrangements with partners

Other CAM investments in Bécancour

STRATEGIC LOCATION

- Green and low-cost energy
- Environmental standards
- Logistics
- Workforce

Uniquely exposed to Indonesia

Bahodopi
- 73 kt Ni in FeNi
- CAPEX
  - Mine (100% PTVI): ~US$ 400 mn
  - RKEF JV (49% PTVI): US$ 2.3 bn (PTVI: US$ 1.1 bn)
- Startup: 2025

Pomalaa
- MoU for a 3-party relationship to process PTVI's nickel ores from Pomalaa block

3. Iron Ore

Our journey to recover capacity and increase flexibility in a discipline way

Main actions

- **Operational resumption:** new way to operate
- **Licensing:** stringent ESG standards
- **Projects:** adding new capacity and creating buffers

We are progressing on assets debottleneck

Serra Norte

- **Gelado project:** final construction and licensing stages for first phase's start-up in 4Q22
- **New ore bodies under licensing** and future development (N3 and N1/N2)
- Applying for **rolling licenses** to sustain production level

S11D

- **Four crushers** to process jaspilite and mobile plants **installation concluded**
- **Serra Sul 120 project’s installation license granted**
- **Jaspilite restrictions:** New waste crusher required to process large compact blocks

Itabira

- **Itabiruçu dam:** raising works on progress with first phase conclusion by year end
- Development of **medium-term tailings disposal solutions**

Brucutu

- **Torto dam:** construction works completed and under licensing process until 4Q22
- **Licensing and development of tailings/waste stockpiles** areas

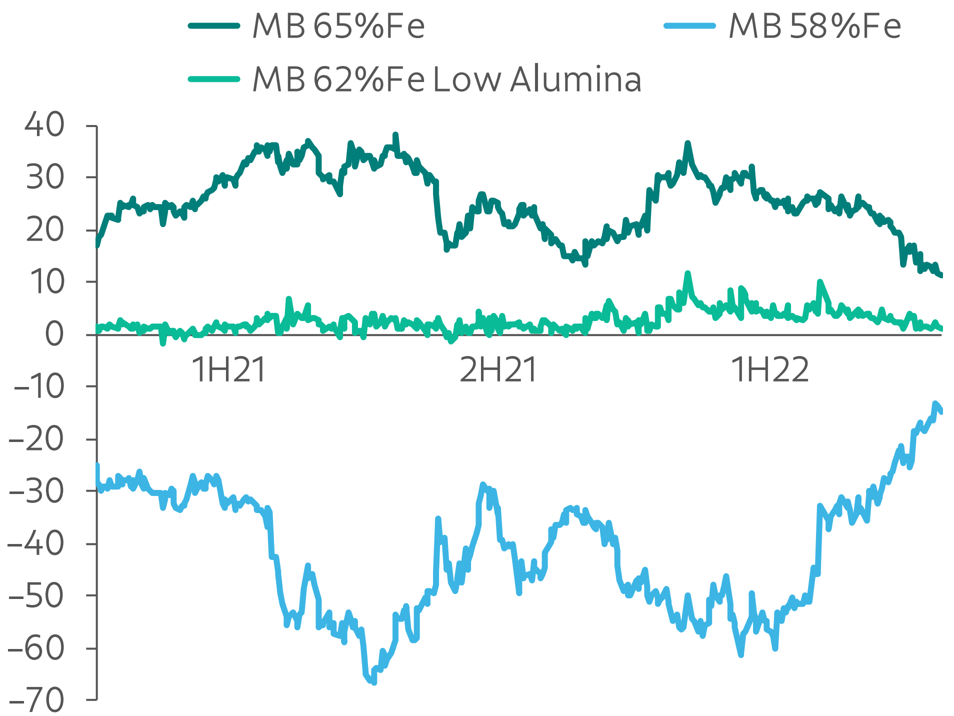
Vale revised its iron ore annual production guidance

- Stockpiles homogenization activities in Q2
- Midwestern System sale
- Slower licensing process
- Production level flexibility given current market conditions

Iron ore guidance – 2022
Mt

Sales strategy and suppy-chain flexibility allows value maximization

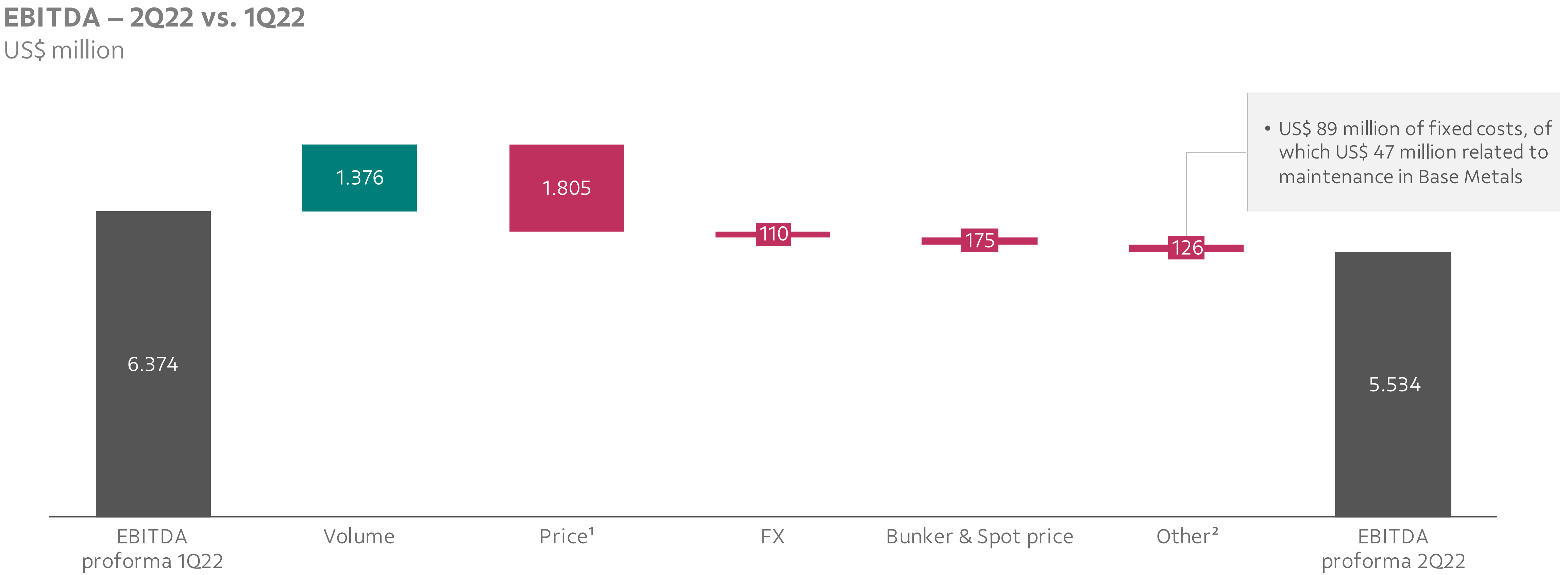
IO indexes spread vs. benchmark 62% Index
US$/t



2Q22	• Lower silica discounts driven by **negative steel margins** • **More high-silica products** impacting Vale's mix, but **maximizing value**
2H22	• Seasonal **higher volumes in Northern System** • **Positive impact on Vale's avg. quality** premiums by mix
Medium & Long term	• **Industry's lower availability of low alumina** products • **Transition** to more **direct reduction** demand and carbon pricing • **Structural higher premiums**

4. Finance

EBITDA was impacted by lower prices, partially offset by higher volumes

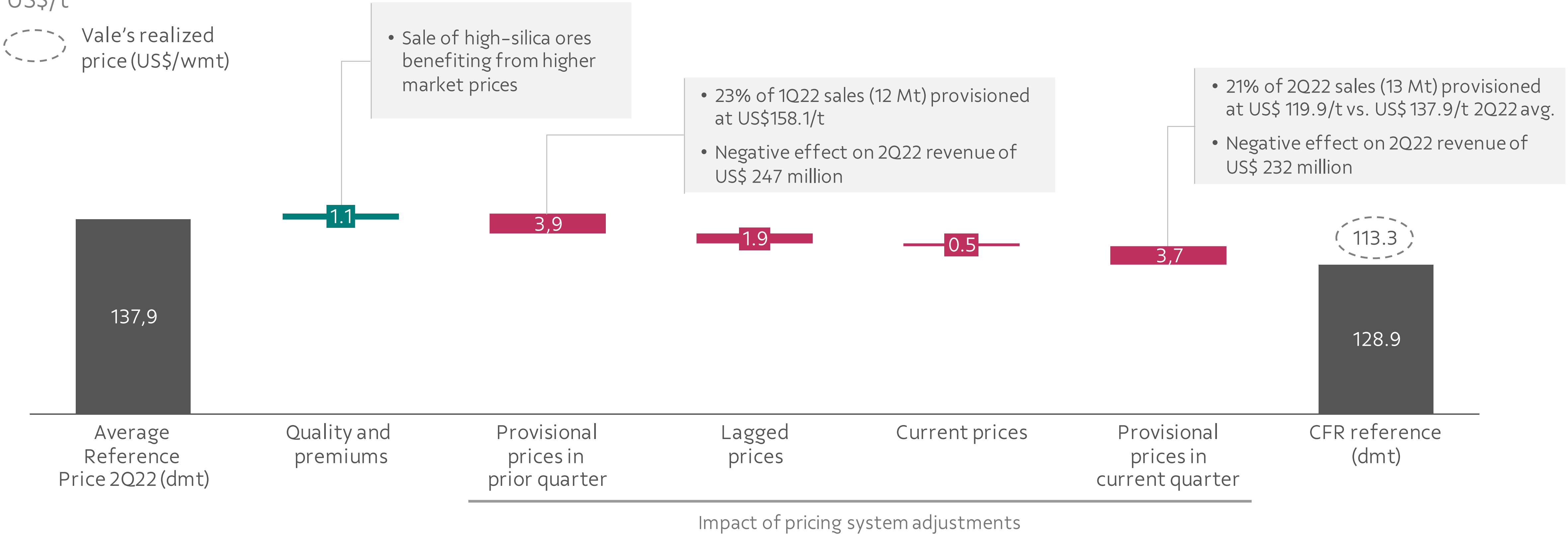


[1] Includes the impact of third-party purchase, royalties, distribution center, and leasing. [2] Includes costs and expenses, the impact of trading operations, the impact of by-products, and others.

Realized price impacted by provisional prices and sales mix

Iron ore fines' price realization – 2Q22

US$/t



[1] Includes quality (US$ 0.0/t) and premiums/discounts and commercial conditions (US$ 1.1/t) [2] Adjustment as a result of provisional prices booked in 1Q22 at US$ 158.1/t. [3] Difference between the weighted average of the prices provisionally set at the end of 2Q22 at US$ 119.9/t based on forward curves and US$ 137.9/t from the 2Q22 62% Fe reference price. [4] Includes freight pricing mechanisms of CFR sales freight recognition. [5] Vale's price is net of taxes.

Higher costs mostly driven by external effects

Iron ore fines & pellets EBITDA break-even – 2Q22

US$/t

	1Q22	2Q22
Vale's C1 cash cost ex-third-party purchase cost	18.7	20.9
Third-party purchases cost adjustments	2.5	3.3
Vale's iron ore cash cost (ex-ROM, ex-royalties), FOB	**21.2**	**24.2**
Iron ore fines freight cost	18.1	21.3
Iron ore fines distribution cost	1.7	2.2
Iron ore fines expenses & royalties	8.0	6.9
Iron ore fines moisture adjustment	4.4	4.9
Iron ore fines quality adjustment	(4.4)	(1.1)
Iron ore fines EBITDA break-even (US$/dmt)	**49.0**	**58.4**
Iron ore fines pellet adjustment	(4.7)	(6.2)
Iron ore fines and pellets EBITDA break-even (US$/dmt)	**44.3**	**52.2**

- Exchange rate: – US$ 1.0/t
- Consumption of Q1 inventories: – US$ 0.6/t
- Higher fuel costs: – US$ 0.4/t

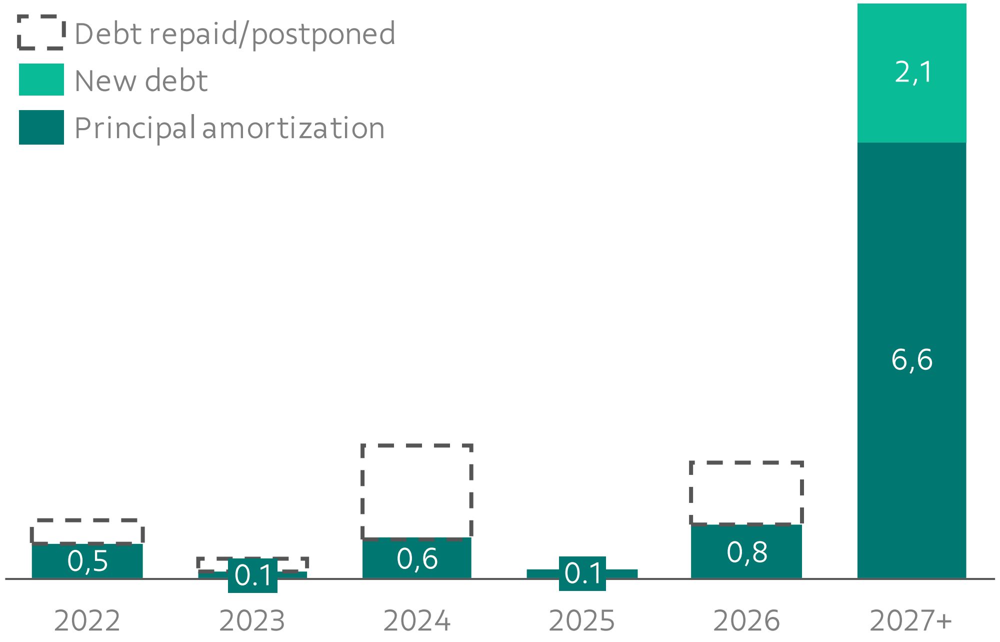
- Higher bunker prices: – US$ 2.7/t
- Avg. freight cost 30% lower than C3 spot prices
- US$ 2.4/t of cost avoidance by scrubbers' installation

- Negative mix effect: US$ 3.0/t
- Lower unit premium: US$ 0.3/t

- Seasonal dividends received: US$ 1.0/t
- Higher pellet premiums and mix: US$ 0.5/t
- 44% higher contractual premiums for Q3

Liability management focused on extending the debt maturity

Debt amortization schedule[1]
US$ billion



US$ 1.3 billion[1] of a cash tender offer in 2Q22

US$ 1.7 billion[1] of debt repaid/postponed for the next 5 years

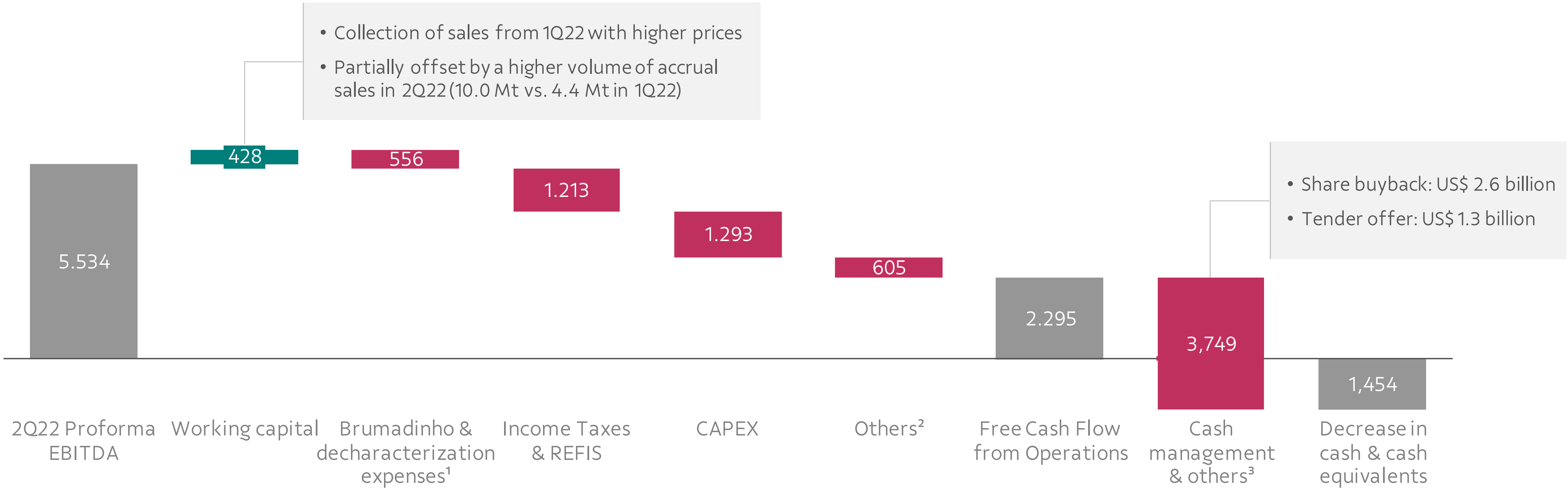
Average maturity from 8.7 years[2] to **9.1 years**

No relevant amortization in the next **5 years**

[1] As June 30th, 2022. Includes principal and does not include interest and accrued interest. [2] As of December 31st, 2021.

EBITDA–to–cash conversion of 41%

Free cash flow – 2Q22
US$ million



[1] Includes US$ 402 million of disbursement of Brumadinho provisioned expenses and US$ 154 million of Brumadinho incurred expenses. [2] Includes shareholders debentures, interest on loans, derivatives, leasing, dividends paid to noncontrolling interest, and others. [3] Includes US$ 2.596 billion of share buyback, US$ 1.233 billion of debt repurchased, and US$ 80 million from the sale of the coal assets.

Closing remarks

Significant progress on the social and de-characterization agenda

Reshaped towards leaner asset portfolio, exposed to energy transition trend

New production targets following maintenance and market conditions

Capital discipline and superior return to shareholders to remain a priority

VALE

Vale

80 years in Brazil

On June 1, 2022, Vale completed 80 years of operations, always with the purpose of improving life and transforming the future.

VALE'S PERFORMANCE IN 2Q22

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Conference call and webcast on Friday, July 29

In English with simultaneous translation to Portuguese at 11:00 a.m. Brasilia time (10:00 a.m. New York time, 3:00 p.m. London time).

The conference calls will be transmitted live through our website at www.vale.com/investors

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Access code: VALE

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, Mineração Corumbaense Reunida S.A., Minerações Brasileiras Reunidas S.A. PT Vale Indonesia Tbk, Salobo Metais S.A, Vale Holdings B.V., Vale Canada Limited, Vale International S.A., Vale Manganês S.A., Vale Malaysia Minerals Sdn. Bhd., Vale Moçambique S.A., Vale Oman Pelletizing Company LLC and 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.

Vale's performance in review

Rio de Janeiro, July 28, 2022 – "*As we celebrate our 80 years of operations in Brazil, we take this opportunity to reflect on our journey, challenges, and evolution. We are reinventing the way we operate, while committed to becoming one of the industry's safest and most reliable companies in the world. We move ahead with the conviction that mining is essential for the development of society and that it only serves its purpose by generating prosperity for all and taking care of the planet. In that sense, we continued to make progress in our decarbonization agenda and strengthening relationships with our neighbor communities. With the substantial reshaping of our business, such as the sale of the Midwestern System, the company is much better prepared to deliver on its production recovery agenda. We stay committed to a disciplined capital allocation and to generating and returning value to our shareholders, as further evidenced by the announcement to pay US$ 3 billion in dividends", commented Eduardo Bartolomeo, Chief Executive Officer.*

Highlights of 2Q22

Our operations

Vale is uniquely positioned to thrive in the mining structural growth trends, and we continue to advance with our plans to enhance our position.

- At the steel decarbonization front, we secured natural gas supply to our pellet plant in São Luís, Maranhão, which will allow for the usage of natural gas in 100% of our pelletizing plants by 2024. This is a major step towards our goal to reduce scopes 1 and 2 emissions by 33% by 2030.

- As part of our Powershift program, we received our second 100%-electric battery-powered locomotive. The equipment will initially operate at the Ponta da Madeira Terminal's switchyard in São Luis (MA), with autonomy to operate up to 10 hours without stops for recharging.

- In April, we signed a MoU with Nippon Steel Corporation to pursue ironmaking solutions focused on the carbon neutral steelmaking process, in line with our commitment to reducing 15% of net Scope 3 emissions by 2035. We are jointly studying (i) metallics usage solutions such as direct reduced iron (DRI) and pig iron produced by Tecnored technology; and (ii) usage of Vale's green briquettes and pellets in ironmaking process. Since 2021, we engaged with clients representing almost 50% of our Scope 3 emissions.

- In July, in partnership with Shagang and Ningbo Zhoushan Port, we started implementing the Zhongzhai Pre-blending Project to develop silo-blending facilities in the Zhongzhai Ore Terminal in Zhejiang Province, China. The innovative pre-blending service is part of our drive to extend supply chain services and deliver value for our clients by improving the iron ore blend's quality, logistics efficiency and reducing raw material inventories at our clients'.

- We also advanced in our agenda for alternative fuel in shipping with the granting of an Approval in Principle (AIP) to a pioneering project for multi-fuel tanks on iron ore carriers. The system will allow vessels to be adapted to store liquefied natural gas (LNG), methanol, and ammonia. A preliminary study for Guaibamaxes estimates 40% to 80% emission reduction with methanol and ammonia, or up to 23% with LNG. This project is under development in partnership with Norwegian companies Brevik Engineering AS and Passer Marine.

- In our Base Metals operations, we had important advancements in de-risking with the conclusion of the planned maintenance of the Copper Cliff Smelter and Refinery and Long Harbour, Clydach and Matsusaka refineries. We finished the rebuild of PTVI's Furnace 4 and heating up has started in mid-June. Ontario mines' run rates improved throughout Q2, allowing for an inventory build-up to cover for planned mill-mines maintenance in Q3.

- Additionally, we concluded the pre-feasibility study for a 110ktpy nickel sulfate project, the chemical compound used to produce nickel-based lithium-ion batteries. The project, which will require 25ktpy input nickel units, to be developed in Quebec, Canada, is the first-of-its-kind to serve the North American market, leveraging current and future low carbon and high-grade predominantly Class 1 nickel production from our Canadian operations.

Our commitments to society

- In July, we celebrated 40 years of relationship with the Xikrin do Cateté indigenous people. We recently settled an historic agreement ending a 15-year dispute and initiated a new phase with the Xikrin community, guided by constant dialogue and joint construction.

We achieved important milestones in the de-characterization of our dams:

- In July, we concluded Baixo João Pereira and Dike 4 de-characterizations[1], being the first two of five structures to be eliminated this year.

- The works are progressing on the other three structures. We expect that 40% of the de-characterization program will be complete by the end of 2022. At Ipoema, the de-characterization started in July, and we expect to conclude the works by the end of 2022.

- In Itabira, we have concluded the backup dam for Coqueirinho, increasing safety during de-characterization activities for Dique Minervino and Cordão Nova Vista, which we expect to eliminate by 2029.

- We have removed approximately 40% of the tailings from the B3/B4 dam, currently at emergency level 3, and we expect to finalize its decharacterization by 2025.

For further details on the reparation progress, an overview of ongoing works and projects, and the terms of the Integral Reparation Agreement, please visit www.vale.com/esg .

Focusing on the core business

- Our reshaping agenda advanced as we concluded the sale of the Midwestern System's iron ore, manganese, and logistics assets.

- We also entered, together with our partners Posco and Dongkuk, into a binding agreement with ArcelorMittal to sell Companhia Siderúrgica do Pecém - CSP".

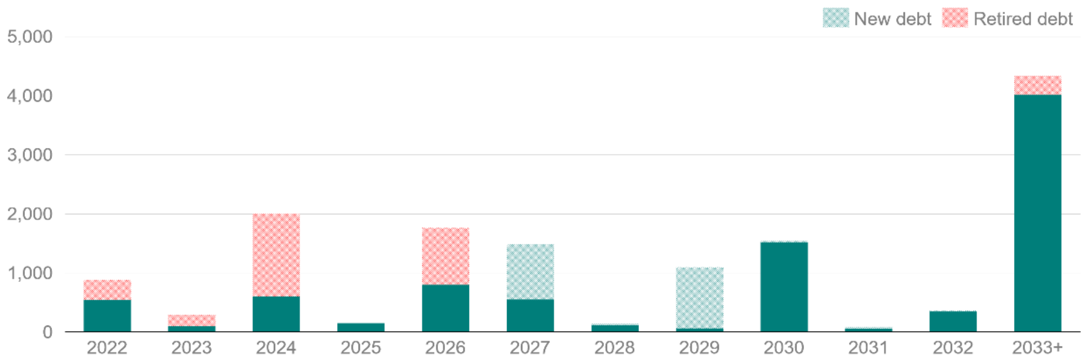
[1] Dike 4 decharacterization was completed and final works in the site will continue along the second half of this year.

- In Base Metals, PTVI, Huayou, and Ford Motor Co. signed a memorandum of understanding to create a three-party relationship in Indonesia to process nickel ore mined by PTVI at Pomalaa Block, Kolaka, Southeast Sulawesi. This builds on the framework co-operation agreement for the Pomalaa HPAL project signed in April by PTVI and Huayou, reaffirming our commitment to a sustainable operation in Indonesia and to benefit the local economy.

Discipline in capital allocation and sharing value

- As part of our liability management program, we successfully concluded the US$ 1.3 billion tender offer for our notes in June, jointly with the renegotiation of bilateral loans, reducing the next five years' liquidity needs and extending our debt's average tenor.

Liability management and financial debt profile
US$ million



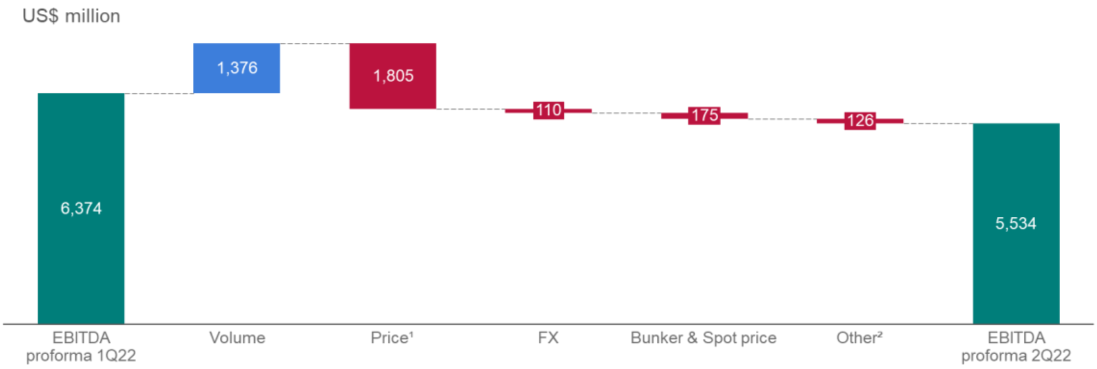
- Today, our Board of Directors approved US$ 3.0 billion dividends and Interest on Capital to be paid in September. The amount distributed was calculated based on the year's first half results, in line with our Shareholder Remuneration Policy.
- We progressed with our third consecutive share buyback program of 500 million shares, which is 23% complete[2], reflecting management's confidence in creating and sharing value with our shareholders.

[2] As of the date of this report, we spent US$ 1.8 billion to repurchase around 114 million shares related to the April 2022 repurchase program. As reflected in our 2Q22 Financial Statement, until June 30, 2022, the Company had repurchased approximately 70 million ordinary shares in the total amount of US$ 1.133 billion.

Vale's performance 2Q22

In 2Q22, Vale reported a proforma adjusted EBITDA from continued operations of US$ 5.534 billion, US$ 840 million lower than 1Q22, reflecting the decline in iron ore and copper prices at the end of the quarter, but partially compensated by higher iron ore sales.

Proforma EBITDA - 2Q22 vs. 1Q22



[1] Includes the impact of third-party purchase, royalties, distribution center, and leasing. [2] Includes costs and expenses, the impact of trading operations, the impact of by-products, and others.

Selected financial indicators

US$ million	2Q22	1Q22	2Q21
Net operating revenues	11,157	10,812	16,514
Total costs and expenses (ex-Brumadinho and de-characterization of dams)	(6,504)	(5,124)	(6,002)
Expenses related to Brumadinho event and de-characterization of dams	(280)	(160)	(185)
Adjusted EBIT from continuing operations	4,444	5,528	10,370
Adjusted EBIT margin (%)	40%	51%	63%
Adjusted EBITDA from continuing operations	5,254	6,214	11,202
Adjusted EBITDA margin (%)	47%	57%	68%
Proforma adjusted EBITDA from continuing operations[1]	5,534	6,374	11,403
Net income from continuing operations attributable to Vale's stockholders	4,093	4,456	8,147
Net debt [2]	5,375	4,911	(738)
Capital expenditures	1,293	1,136	1,103

[1] Excluding expenses related to Brumadinho and donations associated with COVID-19.
[2] Including leases (IFRS 16).

- In 2Q22, we invested US$ 1.293 billion in growth and sustaining projects, up US$ 157 million from 1Q22, mainly due to advances in construction works and acquisition of equipment at Sol do Cerrado, Salobo III and VBME projects.

- Free Cash Flow from Operations increased by US$ 1.066 billion q/q, reaching US$ 2.295 billion, a cash conversion of more than 41% of the proforma EBITDA. The better result is mainly explained by the positive impact of working capital in Q2 and the seasonally-higher income tax paid in 1Q22.

- Gross debt and leases totaled US$ 12.608 billion as of June 30, 2022, US$ 1.407 billion lower q/q, mainly due to the tender offer for Vale's notes. Expanded net debt decreased to US$ 18.558 billion, mostly attributed to the Brazilian Real depreciation effect on the commitments denominated in local currency, partially offset by the mark-to-market losses on the foreign exchange hedge positions.

Performance of business segments in 2Q22

Ferrous Minerals EBITDA of US$ 5.147 billion

- Ferrous Minerals EBITDA was US$ 655 million lower than 1Q22, due to lower iron ore fines realized prices and higher C1 and freight costs, partially compensated by higher sales volumes.
- Iron ore fines' average realized price was US$ 113.3/t, down US$ 28.1/t q/q, primarily due to: (i) the US$ 38.2/t lower provisional price at the end of 2Q22, reflecting the lower end-of-quarter forward curves, and (ii) lower premiums, driven by a larger high-silica products share in the sales mix.
- C1-cost, ex-third-party purchases, was US$ 20.9/t, US$ 2.2/t higher q/q, mainly due to the negative impact of the average Brazilian real appreciation, sale of higher-cost inventories built in Q1, and higher service and fuel costs, partially offset by fixed costs dilution.
- Freight cost for iron ore fines was US$ 21.3/t in 2Q22, US$ 3.2/t higher than in 1Q22, primarily driven by higher bunker costs.

Base Metals EBITDA was US$ 603 million in 2Q22, US$ 148 million lower than 1Q22

- Nickel EBITDA was US$ 580 million in 2Q22, a sequential improvement of US$ 55 million, which was driven by (i) higher nickel realized prices, following the 10% increase in LME prices, and (ii) a solid performance at Onça Puma. In contrast, we had lower byproducts credit following the lower copper price in 2Q22.
- Copper business EBITDA was US$ 23 million in 2Q22, US$ 203 million lower q/q, mainly due to (i) provisional price adjustments, following the 20% lower LME forward prices at the end of the quarter and (ii) higher maintenance and material costs at Salobo and Sossego.

Adjusted EBITDA

Adjusted EBITDA

US$ million	2Q22	1Q22	2Q21
Net operating revenues	11,157	10,812	16,514
COGS	(5,950)	(4,622)	(5,465)
SG&A	(127)	(121)	(132)
Research and development	(151)	(121)	(139)
Pre-operating and stoppage expenses	(111)	(154)	(191)
Expenses related to Brumadinho event & de-characterization of dams	(280)	(160)	(185)
Expenses related to COVID-19 donations	-	-	(16)
Other operational expenses	(165)	(106)	(59)
Dividends and interests on associates and JVs	71	-	43
Adjusted EBIT from continuing operations	**4,444**	**5,528**	**10,370**
Depreciation, amortization & depletion	810	686	832
Adjusted EBITDA from continuing operations	**5,254**	**6,214**	**11,202**
Proforma Adjusted EBITDA from continuing operations[1]	**5,534**	**6,374**	**11,403**
Discontinued operations - Coal	-	171	(164)
Adjusted EBITDA total	**5,254**	**6,385**	**11,038**
Proforma Adjusted EBITDA total[1]	**5,534**	**6,545**	**11,239**

[1] Excluding expenses related to Brumadinho and COVID-19 donations.

Proforma Adjusted EBITDA from continuing operations, by business area

US$ million	2Q22	1Q22	2Q21
Ferrous Minerals	**5,147**	**5,802**	**10,633**
Iron ore fines	3,975	4,934	9,160
Pellets	1,140	837	1,438
Other Ferrous Minerals	32	31	35
Base Metals	**603**	**751**	**866**
Nickel	580	525	430
Copper	23	226	436
Others	**(216)**	**(179)**	**(96)**
Total	**5,534**	**6,374**	**11,403**

Net operating revenue by business area

US$ million	2Q22	%	1Q22	%	2Q21	%
Ferrous Minerals	**9,025**	**81%**	**8,734**	**81%**	**14,178**	**86%**
Iron ore fines	7,113	64%	7,255	67%	12,081	73%
ROM	29	0%	23	0%	14	0%
Pellets	1,780	16%	1,364	13%	1,947	12%
Manganese ore	5	0%	12	0%	29	0%
Ferroalloys	1	0%	3	0%	23	0%
Others	97	1%	77	1%	84	1%
Base Metals	**1,875**	**17%**	**1,932**	**18%**	**2,180**	**13%**
Nickel	1,032	9%	866	8%	815	5%
Copper	330	3%	534	5%	711	4%
PGMs	65	1%	110	1%	169	1%
Gold as by-product	117	1%	115	1%	163	1%
Silver as by-product	8	0%	8	0%	13	0%
Cobalt	37	0%	32	0%	24	0%
Others[1]	286	3%	267	2%	285	2%
Others	**257**	**2%**	**146**	**1%**	**156**	**1%**
Total of continuing operations	**11,157**	**100%**	**10,812**	**100%**	**16,514**	**100%**

[1] Includes marketing activities

COGS by business segment

US$ million	2Q22	%	1Q22	%	2Q21	%
Ferrous Minerals	4,248	71.4	3,108	67.2	3,800	69.5
Base Metals	1,424	23.9	1,334	28.9	1,459	26.7
Others	278	4.7	180	3.9	206	3.8
Total COGS of continuing operations[1]	**5,950**	**100.0**	**4,622**	**100.0**	**5,465**	**100**
Depreciation	777		645		783	
COGS of continuing operations, ex-depreciation	**5,173**		**3,977**		**4,682**	

[1] COGS currency exposure in 2Q22 was as follows: 52.2% USD, 45.1% BRL, 2.6% CAD and 0.1% Other currencies.

Operating expenses

US$ million	2Q22	1Q22	2Q21
SG&A	127	121	132
Administrative	103	103	108
Personnel	44	54	52
Services	30	23	22
Depreciation	12	11	10
Others	17	15	24
Selling	24	18	24
R&D	151	121	139
Pre-operating and stoppage expenses	111	154	191
Expenses related to Brumadinho event and de-characterization of dams	280	160	185
Expenses related to COVID-19 donations	-	-	16
Other operating expenses	165	106	59
Total operating expenses	**834**	**662**	**720**
Depreciation	33	42	49
Operating expenses, ex-depreciation	**801**	**621**	**673**

Impact of Brumadinho and De-characterization in 2Q22

US$ million	Provisions balance 31mar22	EBITDA impact	Payments	FX and other adjustments[2]	Provisions balance 30jun22
De-characterization	4,075	-	(83)	(448)	3,544
Agreements & donations[1]	4,192	126	(319)	(319)	3,680
Total Provisions	**8,267**	**126**	**(402)**	**(767)**	**7,224**
Incurred Expenses	-	154	(154)	-	-
Total	**8,267**	**280**	**(556)**	**(767)**	**7,224**

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

Impact of Brumadinho and De-characterization from 2019 until 2Q22

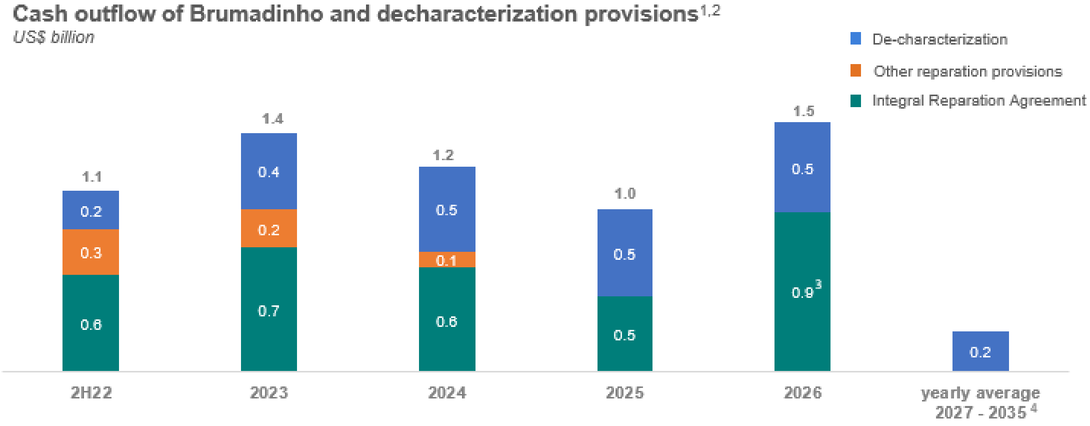
US$ million	EBITDA impact	Payments	PV & FX adjust [2]	Provisions balance 30/jun/22
De-characterization	5,003	(941)	(518)	3,544
Agreements & donations[1]	8,383	(4,291)	(412)	3,680
Total Provisions	**13,386**	**(5,232)**	**(930)**	**7,224**
Incurred expenses	2,167	(2,167)	-	-
Others	122	-	-	-
Total	**15,675**	**(7,399)**	**(930)**	**7,224**

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

Total provisions for Brumadinho agreements and dams de-characterization decreased by US$ 1.043 billion to US$ 7.224 billion, mostly due to the Brazilian Real 11% devaluation in the quarter.

Cash outflow of Brumadinho and decharacterization provisions[1,2]

US$ billion



[1] Estimate cash outflow for 2022 - 2035 period, given BRL-USD exchange rates of 5.238
[2] Amounts stated without discount to present value and net of judicial deposits.
[3] Comprises US$ 0.5 billion of inflation adjustments related to performance obligations which projects timeline are not defined by the parties in the Agreement.
[4] Estimate annual average cash flow for Decharacterization provisions in the 2027-2035 period is US$ 245 million per year.

Net income

Reconciliation of proforma EBITDA to net income

US$ million	2Q22	1Q22	2Q21
EBITDA Proforma	**5,534**	**6,545**	**11,239**
Brumadinho event and de-characterization of dams & COVID-19 donations	(280)	(160)	(201)
EBITDA Coal (Discontinued operation)	-	(171)	(164)
Adjusted EBITDA from continuing operations	**5,254**	**6,214**	**11,202**
Impairment & disposal of non-current assets	(82)	1,072	(41)
Dividends received	(71)	-	(43)
Equity results	(108)	189	(455)
Financial results	821	(242)	389
Income taxes	(911)	(2,091)	(2,073)
Depreciation, depletion & amortization	(810)	(686)	(832)
Net income from continuing operations attributable to Vale's stockholders	**4,093**	**4,456**	**8,147**

Main factors that affected net income for 2Q22 vs. 1Q22

	US$ million	
1Q22 Net income from continuing operations attributable to Vale's stockholders	**4,456**	
Δ EBITDA proforma	(1,011)	Mainly due to lower iron ore fines and copper realized prices, partially offset by higher ferrous sales volumes
Δ Brumadinho event and de-characterization of dams & COVID-19 donations	(120)	
Δ EBITDA Coal (Discontinued operation)	+171	
Δ Impairment & disposal of non-current assets	(1,154)	Positive impact of agreement to divest Midwestern System recorded in 1Q22
Δ Dividends received	(71)	
Δ Equity results	(297)	Additional US$ 89 million Renova Foundation provision due to review of program costs estimates
Δ Financial results	+1,063	Positive mark-to-market impact of shareholder debentures
Δ Income taxes	+1,180	1Q22 included income tax adjustments
Δ Depreciation, depletion & amortization	(124)	
2Q22 Net income from continuing operations attributable to Vale's stockholders	**4,093**	

Δ: difference between 2Q22 and 1Q22 figures

Financial results

US$ million	2Q22	1Q22	2Q21
Financial expenses	**(372)**	**(295)**	**(267)**
Gross interest	(162)	(161)	(160)
Capitalization of interest	17	14	14
Others	(188)	(116)	(111)
Financial expenses (REFIS)	(39)	(32)	(10)
Financial income	**137**	**150**	**76**
Shareholder Debentures	**537**	**(249)**	**(278)**
Financial Guarantee	**356**	**123**	**401**
Derivatives[1]	**(270)**	**861**	**856**
Currency and interest rate swaps	(293)	863	788
Others (commodities, etc)	23	(2)	68
Foreign Exchange	**464**	**(817)**	**(374)**
Monetary variation	**(31)**	**(15)**	**(25)**
Financial result, net	**821**	**(242)**	**389**

[1] The cash effect of the derivatives was a loss of US$ 42 million in 2Q22.

CAPEX

Growth and sustaining projects execution

US$ million	2Q22	%	1Q22	%	2Q21	%
Growth projects	**449**	**34.7**	**337**	**29.7**	**210**	**19.0**
Ferrous Minerals	199	15.4	182	16.0	113	10.2
Base Metals	90	7.0	67	5.9	69	6.3
Energy and others	160	12.4	88	7.7	28	2.5
Sustaining projects	**844**	**65.3**	**799**	**70.3**	**893**	**81.0**
Ferrous Minerals	477	36.9	499	43.9	531	48.1
Base Metals	343	26.5	270	23.8	357	32.4
Energy and others	24	1.9	30	2.6	5	0.5
Total	**1,293**	**100.0**	**1,136**	**100.0**	**1,103**	**100.0**

Growth projects

Investments in growth projects execution totaled US$ 449 million in 2Q22, 33% higher q/q, driven by (i) higher solar photovoltaic panels purchases in Sol do Cerrado project; and (ii) the acceleration of civil works and the purchase of equipment for the ball mill in Salobo III, both in line with the projects' disbursement plan.

Growth projects progress indicator[3]

Projects	Capex 2Q22	Financial progress[1]	Physical progress	Comments
Ferrous Minerals				
Northern System 240 Mtpy *Capacity: 10 Mtpy* *Start-up: 2H22* *Capex: US$ 772 MM*	46	59%	97%[2]	Testing of the 5th stockpile yard stacking circuit began at the plant. Mine-plant project front is expected to commence in the next months, adding flexibility to S11D. In the logistics front, the environmental license required for implementation of remaining scope of EFC is still pending and the works at Ponta da Madeira Maritime Terminal are in line with planning.
Capanema's Maximization[3] *Capacity: 18 Mtpy* *Start-up: 1H25* *Capex: US$ 913 MM*	20	8%	18%	In July we approved a new project named Capanema Maximization, which was designed to achieve a joint production of up to 26 Mtpy at Fábrica Nova and Capanema mines. In addition to previous project's scope, which included resuming facilities and acquiring new equipment to Capanema mine, constructing a long-distance belt conveyor and adjustments in the Timbopeba stockyards, the new project entails the resumption of Capanema's processing plant and the development of the waste pile Noroeste, granting greater operational flexibility to the Mariana Complex.
Serra Sul 120 Mtpy[4] *Capacity: 20 Mtpy* *Start-up: 2H25* *Capex: US$ 1,502 MM*	68	20%	18%	The start-up was postponed to 2H25 (previously 1H25) due to licensing delays. The installation license required for works progress was granted in July. In Q2, the project progressed with the replacement of the tertiary crushers at Plants A, B and C.
Briquettes Tubarão *Capacity: 6 Mtpy* *Start-up: 1H23 (Plant 1) and 2H23 (Plant 2)* *Capex: US$ 182 MM*	21	26%	44%	Project consists of converting the existing pelletizing Plants 1 and 2 to produce briquettes at the Tubarão site.
Base Metals				
Salobo III *Capacity: 30-40 ktpy* *Start-up: 2H22* *Capex: US$ 1,056 MM*	79	76%	95%	Project progressed with the start of commissioning activities at primary crushing and stockpile areas, successful completion of the tests in the process water tank, energization of HPGR's substation and continuation of the electromechanical activities in remaining areas. The remediation works for the January 2022 landslide were completed.

[1] CAPEX disbursement until end of 2Q22 vs. CAPEX expected.
[2] Considering mine-plant project front physical progress.
[3] The previous project named "Capanema" was expected to start-up in 2H23 with an estimated Capex of US$ 495 million.
[4] The project consists of increasing the S11D mine-plant capacity by 20 Mtpy.

[3] 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$ 844 million in 2Q22, up 6% q/q, driven by (i) advances in the construction works in Voisey's Bay Mine Extension project after Covid-related labor shortage in Q1; and (ii) greater investments in railways in Ferrous Minerals business; which were partially offset by lower disbursements in tailings' filtration plants.

Sustaining projects progress indicator[4]

Projects	Capex 2Q22	Financial progress[1]	Physical progress	Comments
Ferrous Minerals				
Gelado *Capacity: 10 Mtpy* *Start-up: 2H22* *Capex: US$ 428 MM*	20	69%	94%	Construction of the recovery system in the final stage of construction, with progress in commissioning (currently at approximately 40%). Start-up is expected in the next months.
Base Metals				
Voisey's Bay Mine Extension *Capacity: 45 ktpy* *Start-up: 1H21[2]* *Capex: US$ 2,690 MM*	113	62%	74%	Advances in both surface and underground construction activities. On the surface, commissioning activities are ongoing within the Eastern Deeps Powerhouse and the port fuel tanks. Civil works continue for the balance of facilities, with civil completion planned by the end of 2022. In the underground, the priority in Reid Brook is completing infrastructure, focusing on the Material Handling System, for which the surface conveyor gallery modules have been placed. For Eastern Deeps, lateral development advancement remains the priority.

[1] CAPEX disbursement until end of 2Q22 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 - 2Q22

US$ million	Ferrous Minerals	Base Metals	Energy and others	Total
Enhancement of operations	231	173	5	409
Replacement projects	27	131	-	158
Filtration and dry stacking projects	68	-	-	68
Dam management	10	2	-	12
Other investments in dams and waste dumps	43	4	-	47
Health and Safety	46	24	-	70
Social investments and environmental protection	25	4	-	29
Administrative & Others	27	5	19	51
Total	**477**	**343**	**24**	**844**

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

Projects under evaluation and growth options

Projects	Project scope / capacity	Comments
Copper		
Alemão	• 60ktpy Cu + 115 kozpy Au as byproduct • Underground mine	Stage: FEL3 / Invest decision: 2023
South Hub life of mine extension or Upsides	*Cristalino* • 80ktpy • Replacement project. Maintain Sossego plant operating at full capacity	Stage: FEL3
	Bacaba • 60 - 70 ktpy Cu • Open Pit mine • Replacement or optionality to increase production	Stage: FEL3
	118, Visconde and Barão • Satellite deposits being developed to assess potential options to increase production	Stage: FEL 1
North Hub	• 70-100ktpy Cu potential in North Hub • Growth Project	Stage: FEL 1
Salobo IV	• +30ktpy potential • Growth project	Stage: FEL1
Victor	• 20ktpy Cu + 4ktpy Ni	JV partnership under discussion Stage: FEL2
Hu'u	• +300-350 ktpy[1] Cu potential + 200koz Au • Underground block cave • Growth Project	Stage: FEL2
Nickel		
Onça Puma 2nd furnace	• +50 yrs LoM • +12 - 15ktpy Ni	Stage: FEL3 / Invest decision: 2022
Bahodopi	• 20-year mine saprolite ore • RKEF FeNi smelter plant • Production: 73ktpy Ni	Mine owned by PTVI, FeNi plant owned through JV Stage: FEL3 / Invest decision: 2022
Pomalaa	• Up to 25-year mine limonite and saprolite ore • HPAL plant • Production: Up to 120ktpy Ni + 15ktpy Co as byproduct	Mine owned by PTVI, HPAL plant owned through JV Stage: FEL3 / Invest decision: 2023
CCM PH 3&4	• Replacement • Underground mine	Stage: FEL2
Thompson Mine Extension PH2	• Life extension • Underground mine	Stage: FEL2
Iron ore		
Serra Norte N1/N2	• Replacement project of 50 Mtpy of ROM in Serra Norte	Stage: FEL3 Invest decision: 2024 Start-up: 2027
Dry concentration in Oman	• Cleaner to produce direct reduction feed	Stage: FEL3 Invest decision: 2022/23 Start-up: 2024/25
Serra Leste expansion	• Growth project • Project's capacity under evaluation	Stage: FEL2 Invest decision: 2023 Start-up: 2026
S11C	• Expand Serra Sul to ore body C due to S11D depletion. • Replacement project.	Stage: FEL2
Briquettes' plants	• VGR's plant designed to 0.75 Mtpy • 8 other plants under engineering stage	Stage: FEL3 (two plants) Invest decision: 2022/2028 Start-up: 2023/2032

[1] Considering full equity in Sumbawa Timur Mining and based on initial studies arising from the ongoing prefeasibility study.

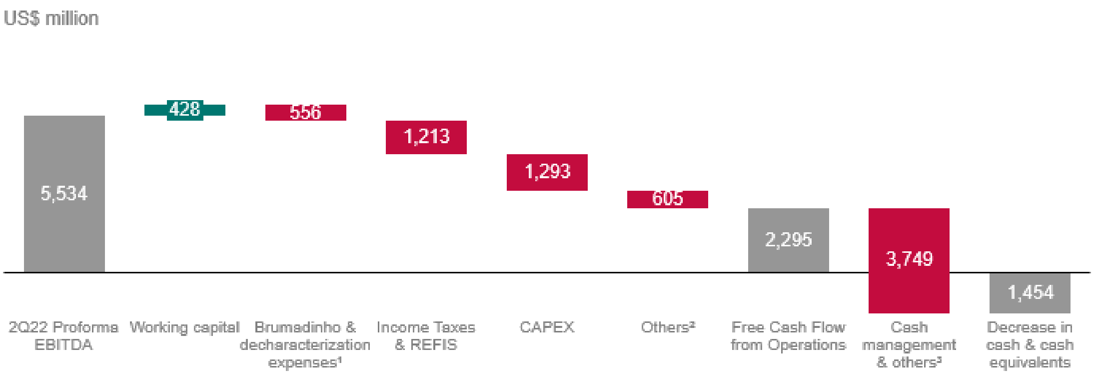
Free cash flow

Free Cash Flow from Operations increased by US$ 1.066 billion q/q, reaching US$ 2.295 billion, despite the US$ 840 million decrease in the Proforma EBITDA, mainly due to the positive impact on working capital, and the seasonally higher income tax paid in 1Q22.

The improved working capital is explained by the US$ 902 million decline in accounts receivables, following the collection of higher-priced sales recognized in 1Q22, but partially offset by (i) the higher volume of accrual sales in 2Q22 (10.0Mt versus 4.4 Mt in 1Q22), and (ii) the payment of EFC[5] railway concession extension (US$ 168 million).

Cash & cash equivalents decreased by US$ 1.454 billion mainly due to the US$ 2.596 billion share buyback disbursement in the quarter and the US$ 1.291 billion cash tender offer for debt notes.

Free Cash Flow 2Q22



[1] Includes US$ 402 million of disbursement of Brumadinho provisioned expenses and US$ 154 million of Brumadinho incurred expenses.
[2] Includes shareholders debentures, interest on loans, derivatives, leasing, dividends paid to noncontrolling interest and others.
[3] Includes US$ 2.596 billion of share buyback, US$ 1.233 billion of debt repurchased, US$ 80 million from the sale of the coal assets.

[5] Estrada de Ferro Carajás

Debt

Gross debt and leases totaled US$ 12.608 billion as of June 30, 2022, US$ 1.407 billion lower q/q, mainly due to the US$ 1.291 billion tender offer for debt notes, as part of the company's liability management strategy.

Expanded net debt decreased to US$ 18.558 billion, US$ 814 million lower q/q, from the lower gross debt and the US$ 1.7 billion effect of the Brazilian real 11% depreciation, partially offset by lower cash position and mark-to-market losses in foreign exchange hedge positions.

Debt indicators

US$ million	2Q22	1Q22	2Q21
Gross debt [1]	**11,031**	**12,349**	**12,154**
Lease (IFRS 16)	1,577	1,666	1,708
Gross debt and leases	**12,608**	**14,015**	**13,862**
Cash, cash equivalents and short-term investments	7,233	9,104	14,600
Net debt	**5,375**	**4,911**	**(738)**
Currency swaps[2]	241	(89)	357
Refis	2,332	2,634	2,692
Brumadinho provisions	3,680	4,192	4,491
De-characterization provisions	3,544	4,075	2,155
Samarco & Renova Foundation provisions	3,386	3,649	2,491
Expanded net debt	**18,558**	**19,372**	**11,448**
Average debt maturity (years)	9.1	8.5	8.9
Cost of debt after hedge (% pa)	5.0	4.9	4.6
Total debt / adjusted LTM EBITDA (x)	0.5	0.5	0.5
Net debt / adjusted LTM EBITDA (x)	0.2	0.2	(0.0)
Adjusted LTM EBITDA / LTM gross interest (x)	38.1	47.7	39.1

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

[2] Includes interest rate swaps.

Performance of the business segments

Segment information 2Q22, as per footnote of financial statements

US$ million	Net operating revenues	Cost[1]	Expenses: SG&A and others[1]	Expenses: R&D[1]	Expenses: Pre operating & stoppage[1]	Dividends received from associates and JVs	Adjusted EBITDA
Ferrous Minerals	**9,025**	**(3,771)**	**(46)**	**(46)**	**(86)**	**71**	**5,147**
Iron ore fines	7,113	(2,971)	(48)	(45)	(74)	-	3,975
Pellets	1,780	(707)	2	-	(6)	71	1,140
Others ferrous	132	(93)	-	(1)	(6)	-	32
Base Metals	**1,875**	**(1,197)**	**(15)**	**(57)**	**(3)**	**-**	**603**
Nickel[2]	1,547	(929)	(12)	(26)	-	-	580
Copper[3]	328	(268)	(3)	(31)	(3)	-	23
Brumadinho event and de-characterization of dams	**-**	**-**	**(280)**	**-**	**-**	**-**	**(280)**
Others	**257**	**(205)**	**(219)**	**(48)**	**(1)**	**-**	**(216)**
Total	**11,157**	**(5,173)**	**(560)**	**(151)**	**(90)**	**71**	**5,254**

[1] Excluding depreciation, depletion and amortization.

[2] Including copper, by-products from our nickel operations and marketing activities.

[3] Including by-products from our copper operations.

Ferrous Minerals

The decline in EBITDA is mainly attributed to (i) lower iron ore fines realized prices, driven by negative pricing mechanism effect and smaller iron ore fines premiums, and (ii) higher C1 and freight unit costs, which were partially offset by 23% higher sales volumes of iron ore fines and pellets.

Ferrous Minerals EBITDA Variation 2Q22 vs 1Q22

US$ million	1Q22	Drivers			Total variation	2Q22
		Volume	Prices	Others		
Iron ore fines	4,934	1,132	(1,758)	(333)	(959)	3,975
Pellets	837	213	65	25	303	1,140
Other	31	15	(21)	7	1	32
Ferrous Minerals	**5,802**	**1,360**	**(1,714)**	**(301)**	**(655)**	**5,147**

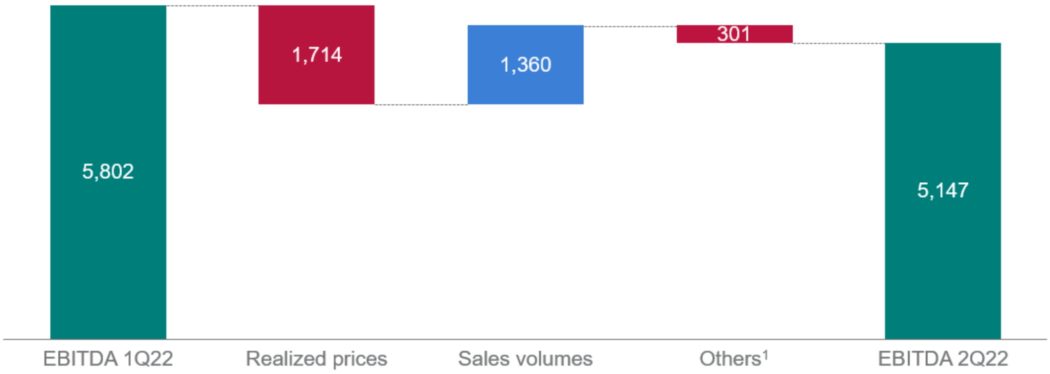
Ferrous Minerals' volumes, prices, premiums and revenues

	2Q22	1Q22	2Q21
Volume sold ('000 metric tons)			
Iron ore fines	62,769	51,311	65,370
ROM	1,550	1,035	479
Pellets	8,843	7,011	7,647
Share of premium products[1] (%)	77%	84%	83%
Average prices (US$/t)			
Iron ore - 62% Fe reference price	137.9	141.6	200.0
Iron ore - Metal Bulletin 62% low alumina index	141.6	146.6	202.1
Iron ore - Metal Bulletin 65% index	160.8	170.2	232.9
Provisional price at the end of the quarter	119.9	158.1	206.9
Iron ore fines Vale CFR reference (dmt)	128.9	156.2	204.5
Iron ore fines Vale CFR/FOB realized price	113.3	141.4	184.8
Pellets CFR/FOB (wmt)	201.3	194.6	254.7
Iron ore fines and pellets quality premium (US$/t)			
Iron ore fines quality premium	1.1	4.4	3.1
Pellets weighted average contribution	6.2	4.7	5.4
Total	7.3	9.1	8.5
Net operating revenue by product (US$ million)			
Iron ore fines	7,113	7,255	12,081
ROM	29	23	14
Pellets	1,780	1,364	1,947
Others	103	92	136
Total	**9,025**	**8,734**	**14,178**

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

Ferrous minerals EBITDA variation – 2Q22 vs. 1Q22

US$ million



[1] Including changes in costs and expenses (-US$ 113 million), dividend received (US$ 71 million), freight costs (US$ 172 million), and foreign exchange impact (-US$ 87 million),

The share of premium products in total sales decreased to 77% in 2Q22. Vale sold a higher percentage of high-silica ores to anticipate sales and to benefit from 2Q22 higher market prices for such products. Vale's supply-chain flexibility allows for sales strategy adjustments according to market conditions.

Iron ore premium reached US$ 7.3/t in 2Q22 (vs. US$ 9.1/t in 1Q22). The sequential decline in premium was mostly due to a larger high-silica products share in the sales mix, which was partially compensated by better pellets mix and premium.

Iron ore fines, excluding Pellets and ROM

Revenues and price realization

Iron ore fines' net revenues declined slightly (-2% q/q), driven by lower realized prices (US$ 1.8 billion), which was partially offset by 22% higher sales volumes in the quarter (US$ 1.6 billion).

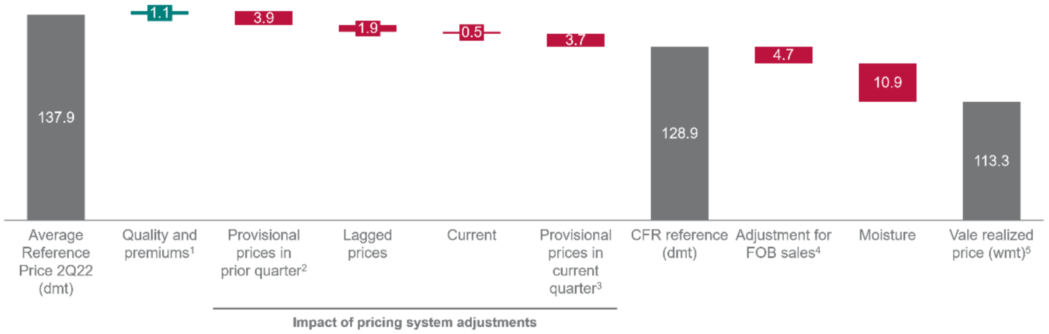
Vale's realized price reached US$ 113.3/t, US$ 28.1/t lower than in 1Q22, mainly due to:

(i) the negative pricing adjustment of sales from previous quarter (US$ 15.5/t), with 12 Mt of 1Q22 sales provisioned at US$ 158.1/t;

(ii) the negative effect of provisional prices in the current quarter (US$ 7.4/t), as 21% of the sales volumes were provisionally set at US$ 119.9/t at the end of 2Q22 vs. the average benchmark price of US$ 137.9/t in the quarter; and

(iii) lower premiums and quality adjustments (US$ 3.3/t) driven by a higher percentage of high-silica ores to benefit from 2Q22 higher market prices for such products.

Price realization iron ore fines – US$/t, 2Q22



[1] Includes quality (US$ 0.0/t) and premiums/discounts and commercial conditions (US$ 1.1/t)
[2] Adjustment as a result of provisional prices booked in 1Q22 at US$ 158.1/t.
[3] Difference between the weighted average of the prices provisionally set at the end of 2Q22 at US$ 119.9/t based on forward curves and US$ 137.9/t from the 2Q22 62% Fe reference price.
[4] Includes freight pricing mechanisms of CFR sales freight recognition.
[5] Vale's price is net of taxes.

Iron Ore fines pricing system breakdown (%)

	2Q22	1Q22	2Q21
Lagged	16	18	14
Current	63	59	58
Provisional	21	23	28
Total	**100**	**100**	**100**

Costs

Iron ore fines cash cost and freight

	2Q22	1Q22	2Q21
Costs (US$ million)			
Vale's iron ore fines C1 cash cost (A)	1,520	1,088	1,431
Third-party purchase costs[1] (B)	302	181	378
Vale's C1 cash cost ex-third-party volumes (C = A – B)	1,218	907	1,053
Sales Volumes (Mt)			
Volume sold (ex-ROM) (D)	62.8	51.3	65.4
Volume sold from third-party purchases (E)	4.5	2.7	4.8
Volume sold from own operations (F = D – E)	58.2	48.6	60.6
Iron ore fines cash cost (ex-ROM, ex-royalties), FOB (US$ /t)			
Vale's C1 cash cost ex-third-party purchase cost (C/F)	20.9	18.7	17.4
Average third-party purchase C1 cash cost (B/E)	66.6	67.0	78.6
Vale's iron ore cash cost (A/D)	24.2	21.2	21.9
Freight			
Maritime freight costs (G)	1,053	733	905
% of CFR sales (H)	79%	79%	79%
Volume CFR (Mt) (I = D x H)	49.4	40.5	51.7
Vale's iron ore unit freight cost (US$/t) (G/I)	21.3	18.1	17.5

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

Iron ore COGS - 1Q22 x 2Q22

US$ million	1Q22	Drivers: Volume	Drivers: Exchange rate	Drivers: Others	Total variation	2Q22
C1 cash costs	1,088	257	51	124	432	1,520
Freight	733	161	-	159	320	1,053
Distribution costs	87	20	-	30	50	137
Royalties & others	211	46	1	3	50	261
Total costs before depreciation and amortization	**2,119**	**484**	**52**	**316**	**852**	**2,971**
Depreciation	266	61	8	(1)	68	334
Total	**2,385**	**545**	**60**	**315**	**920**	**3,305**

Vale's C1 cash cost, ex-third-party purchases, increased by US$ 2.2/t q/q, mainly driven by (i) negative effect of exchange rate on costs; (ii) consumption of inventories from Q1 with higher costs; (iii) higher logistics costs from Southern System, driven by the greater share in the sales mix; and (iv) higher fuel costs, as a result of the increase in diesel price; which were partially compensated by the higher fixed costs dilution due to seasonally higher volumes vs. Q1.

Vale's C1 cash cost totaled US$ 24.2/t, an increase of US$ 3.0/t vs. 1Q22, which is largely explained by the normalization of third-party purchases, which were significantly impacted by heavy rains in 1Q22.

C1 cash cost variation (excluding 3rd party purchases) – US$/t (2Q22 x 1Q22)

Vale's maritime freight cost was US$ 21.3/t in 2Q22, US$ 3.2/t higher q/q, primarily driven by higher bunker costs, reflecting the surge in Brent oil prices globally.

CFR sales totaled 49.4 Mt in 2Q22, representing 79% of total sales volumes in 2Q22 and in line with Q1.

EXPENSES

Iron ore fines expenses, net of depreciation, amounted to US$ 167 million in 2Q22, 17% lower q/q, mainly driven by lower Brumadinho stoppage expenses at Brucutu site with a higher quarterly production after the heavy rains in Q1.

Expenses - Iron Ore fines

US$ millions	2Q22	1Q22	2Q21
SG&A	**16**	**13**	**16**
R&D	**45**	**34**	**43**
Pre-operating and stoppage expenses	**74**	**113**	**74**
Other expenses	**32**	**42**	**44**
Total expenses	**167**	**202**	**177**

Iron ore pellets

Pellets – EBITDA

US$ million	2Q22	1Q22	2Q21	Comments
Net revenues / Realized prices	1,780	1,364	1,947	Driven by 26% higher volumes q/q (US$ 351 million) and stronger realized prices (US$ 65 million), despite the lower 65% Fe index. Realized prices averaged US$ 201.3/t in 2Q22 (+US$ 6.6/t q/q), driven by a positive effect from pricing mechanisms.
Dividends from leased pelletizing plants	71	0	22	Seasonal dividend receiveds from Tubarão pellet plants'JVs.
Cash costs (Iron ore, leasing, freight, overhead, energy and other)	(707)	(526)	(520)	Increase mainly driven by higher volumes (US$ 138 million) and the negative exchange rate effect (US$ 20 million).
Pre-operational & stoppage expenses	(6)	(5)	(13)	
Expenses (Selling, R&D and other)	2	4	2	
EBITDA	**1,140**	**837**	**1,438**	
EBITDA/t	**129**	**119**	**188**	

Iron ore fines and pellets cash break-even landed in China[6]

US$/t	2Q22	1Q22	2Q21
Vale's C1 cash cost ex-third-party purchase cost	20.9	18.7	17.4
Third party purchases cost adjustments	3.3	2.5	4.5
Vale's iron ore cash cost (ex-ROM, ex-royalties), FOB (US$ /t)	24.2	21.2	21.9
Iron ore fines freight cost (ex-bunker oil hedge)	21.3	18.1	17.5
Iron ore fines distribution cost	2.2	1.7	1.2
Iron ore fines expenses[1] & royalties	6.9	8.0	7.8
Iron ore fines moisture adjustment	4.9	4.4	4.2
Iron ore fines quality adjustment	(1.1)	(4.4)	(3.1)
Iron ore fines EBITDA break-even (US$/dmt)	**58.4**	**49.0**	**49.5**
Iron ore fines pellet adjustment	(6.2)	(4.7)	(5.4)
Iron ore fines and pellets EBITDA break-even (US$/dmt)	**52.2**	**44.3**	**44.1**
Iron ore fines sustaining investments	6.8	8.9	7.6
Iron ore fines and pellets cash break-even landed in China (US$/dmt)	**59.0**	**53.2**	**51.7**

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

[6] 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.

Volume sold by destination – Iron ore and pellets

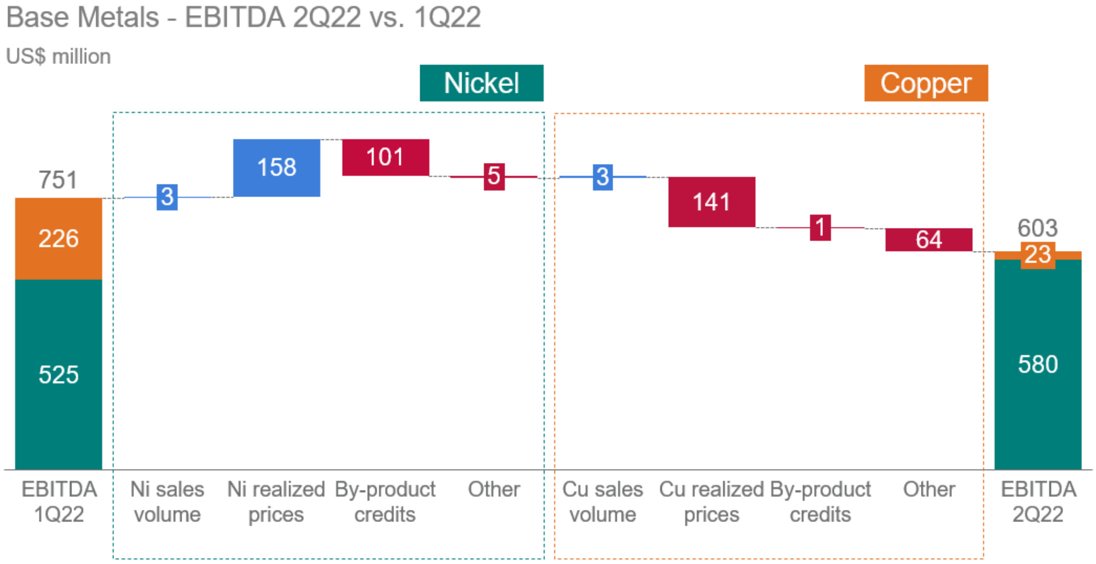
'000 metric tons	2Q22	1Q22	2Q21
Americas	**9,422**	**8,624**	**8,569**
Brazil	8,551	7,761	7,060
Others	871	863	1,509
Asia	**55,498**	**43,366**	**56,381**
China	43,668	33,560	45,142
Japan	6,666	5,436	6,054
Others	5,164	4,370	5,185
Europe	**5,265**	**5,019**	**6,215**
Germany	753	980	825
France	972	1,085	1,539
Others	3,540	2,954	3,851
Middle East	**1,510**	**1,079**	**1,566**
Rest of the World	**1,466**	**1,270**	**765**
Total	**73,161**	**59,358**	**73,496**

Selected financial indicators - Ferrous Minerals

US$ million	2Q22	1Q22	2Q21
Net Revenues	9,025	8,734	14,178
Costs[1]	(3,771)	(2,723)	(3,374)
SG&A and Other expenses[1]	(46)	(52)	(58)
Pre-operating and stoppage expenses[1]	(86)	(121)	(91)
R&D expenses	(46)	(36)	(44)
Dividends and interests on associates and JVs	71	-	22
Adjusted EBITDA	**5,147**	**5,802**	**10,633**
Depreciation and amortization	(497)	(416)	(446)
Adjusted EBIT	**4,650**	**5,386**	**10,187**
Adjusted EBIT margin (%)	**51.5**	**61.7**	**71.9**

[1] Net of depreciation and amortization

Base Metals



Base Metals EBITDA variation - US$ million (2Q22 x 1Q22)

		Drivers					
US$ million	1Q22	Volume	Prices	By-products	Others	Total variation	2Q22
Nickel	525	3	158	(101)	(5)	54	580
Copper	226	3	(141)	(1)	(64)	(203)	23
Base Metals	**751**	**6**	**17**	**(102)**	**(69)**	**(149)**	**603**

The US$ 148 million-lower EBITDA in the quarter can be mainly attributed to:

- Lower copper realized prices from spot and forward LME price declines.
- Higher copper costs mainly due to planned and corrective maintenance in Salobo during the quarter.
- Lower by-products revenues due to lower prices of copper and PGM's.

These effects were partially offset by:

- Higher nickel realized prices mainly due to greater LME prices in the quarter.

Base Metals EBITDA overview – 2Q22

US$ million	North Atlantic	PTVI (site)	Onça Puma	Sossego	Salobo	Others	Subtotal Base Metals	Marketing activities	Total Base Metals
Net Revenues	1,146	329	168	3	325	(381)	1,590	285	1,875
Costs	(787)	(160)	(75)	(56)	(212)	370	(920)	(277)	(1,197)
Selling and other expenses	(4)	(5)	(5)	(3)	-	2	(15)	-	(15)
Pre-operating and stoppage expenses	-	-	-	(1)	(2)	-	(3)	-	(3)
R&D	(21)	(1)	(1)	(8)	(1)	(25)	(57)	-	(57)
EBITDA	**334**	**163**	**87**	**(65)**	**110**	**(34)**	**595**	**8**	**603**

Average prices

US$/ metric ton	2Q22	1Q22	2Q21
Nickel – LME	28,940	26,395	17,359
Copper – LME	9,513	9,997	9,700
Nickel – realized prices	26,221	22,195	17,183
Copper - realized prices[1]	6,493	10,848	9,653
Gold (US$/oz)	1,884	1,862	1,708
Silver (US$/oz)	20.56	23.47	25.05
Cobalt (US$/t)	81,915	78,085	43,039

[1]Considers Salobo and Sossego operations.

Nickel operations

Nickel operations, ex-marketing activities – EBITDA by operation

US$ million	2Q22	1Q22	2Q21	2Q22 Comments
North Atlantic operation[1]	334	373	317	Lower q/q mainly due to lower by-product revenues, which was partially offset by higher prices.
PTVI	163	116	72	Higher q/q mainly due to higher nickel prices, which was partially offset by the planned furnace rebuild in the quarter and inflationary impacts on fuel.
Onça Puma	87	37	35	Higher q/q mainly due higher nickel sales volumes and realized prices.
Others[2]	(12)	(31)	5	
Total	**572**	**495**	**429**	

[1] Includes the operations in Canada and in the United Kingdom.
[2] Includes the PTVI, intercompany sales eliminations, purchase of finished nickel. Hedge results have been relocated to each nickel business operation.

Product type by operation

% of source sales	North Atlantic	PTVI	Onça Puma	Total 2Q22	Total 1Q22
Upper Class I	71.9	-	-	50.3	50.2
Lower Class I	24.7	-	-	17.2	13.5
Class II	2.2	70.9	100	28.1	23.4
Intermediates	1.1	29.1	-	4.4	12.9

Nickel volumes, prices, premiums and revenues

Nickel volumes, prices and revenues

	2Q22	1Q22	2Q21
Volume sold ('000 metric tons)			
Nickel[1]	39	39	47
Copper	17	16	18
Gold as by-product ('000 oz)	10	8	11
Silver as by-product ('000 oz)	198	215	333
PGMs ('000 oz)	46	49	69
Cobalt (metric ton)	450	415	568
Average realized prices (US$/t)			
Nickel	26,221	22,195	17,183
Copper	6,240	10,139	9,399
Gold (US$/oz)	1,780	1,750	1,618
Silver (US$/oz)	19	23	24
Cobalt	81,915	78,085	43,039
Net revenue by product - ex marketing activities (US$ million)			
Nickel	1,032	866	815
Copper	105	164	173
Gold as by-product (US$/oz)	18	14	18
Silver as by-product (US$/oz)	4	5	8
PGMs	65	110	169
Cobalt	37	32	24
Others	1	6	5
Total	**1,262**	**1198**	**1213**

[1] Nickel sales volumes were adjusted in the financial report to reflect VNC divestment

Volumes, nickel realized price and premium

	2Q22	1Q22	2Q21
Volumes (kt)			
Upper Class I nickel	19.8	20	26
- of which: EV Battery	1.0	1.3	2.2
Lower Class I nickel	6.8	5	8
Class II nickel	11.1	9	10
Intermediates	1.7	5	3
Nickel realized price (US$/t)			
LME average nickel price	28,940	26,395	17,359
Average nickel realized price	26,221	22,195	17,183
Contribution to the nickel realized price by category:			
Nickel average aggregate premium	100	(110)	-
Other timing and pricing adjustments contributions	(2,819)	(4,090)	(176)
Premium/discount by product (US$/t)			
Upper Class I nickel	1,540	1,250	820
Lower Class I nickel	770	550	170
Class II nickel	(1,880)	90	(760)
Intermediates	(6,100)	(6,480)	(4,040)

Nickel realized price in 2Q22 increased 18% q/q largely due to 10% higher LME average price and better average aggregate premium.

Other timing and pricing adjustments had an aggregate negative impact of US$ 2,819/t in 2Q22, mainly due to (i) US$ 2,885/t[7] negative effect from nickel revenues hedging, and (ii) US$ 261/t negative from fixed-price sales, which were partially offset by US$ 317/t positive from the quotational period adjustments, following the sales distribution during the quarter, as well as the differences between the LME price at the moment of sale and the LME average price.

Nickel Costs and Expenses

Nickel COGS, excluding marketing activities - 1Q22 x 2Q22

		Drivers				
US$ million	1Q22	Volume	Exchange rate	Others	Total variation	2Q22
Nickel operations	678	5	(3)	(28)	(27)	651
Depreciation	165	7	(1)	21	27	192
Total	**843**	**12**	**(4)**	**(7)**	**0**	**843**

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

US$/t	2Q22	1Q22	2Q21	2Q22 Comments
North Atlantic operations¹	17,484	9,505	5,840	Negatively impacted q/q by lower by-products credits and by higher costs related to maintenance at the surface plants.
PTVI	11,876	8,792	8,492	Negatively impacted q/q by higher fuel costs including coal.
Onça Puma	10,678	11,919	8,248	Decreased q/q mainly due to higher dilution of fixed costs.

[1] North Atlantic figures include Clydach refining costs.
[2] A large portion of North Atlantic finished nickel production is derived from intercompany transfers, as well as from the purchase of ore or nickel intermediates from third parties. These transactions are valued at fair market value.

Selling expenses and other expenses totaled US$ 12 million in 2Q22 (increase of US$ 4 million q/q mainly due to mines placed in care and maintenance in North Atlantic).

R&D expenses were US$ 26 million in 2Q22, these expenses encompass R&D initiatives for further operational improvements in North Atlantic.

[7] In 1Q22 we started the implementation of the Nickel Revenue Hedging Program for 2023. While the nickel realized price for 2Q22 was impacted by strike price of circa US$ 20,252/t, the average price for the complete hedge position has increased from US$ 21,436/t to US$ 23,117/t, reflecting the higher price fixed for the new positions added on 2Q22.

EBITDA break-even – nickel operations[8]

US$/t	2Q22	1Q22	2Q21
COGS[1]	16,591	17,410	14,294
By-product revenues[1]	(5,863)	(8,501)	(8,381)
COGS after by-product revenues	10,728	8,909	5,912
Other expenses	592	609	2,178
Total Costs	**11,320**	**9,518**	**8,090**
Nickel average aggregate premium (discount)	**100**	**(110)**	**(20)**
EBITDA breakeven	**11,220**	**9,628**	**8,110**

[1] Excluding marketing activities
[2] Includes R&D, sales expenses and pre-operating & stoppage

Selected financial indicators - Nickel operations, ex- marketing activities

US$ million	2Q22	1Q22	2Q21
Net Revenues	1,262	1,198	1,228
Costs[1]	(652)	(679)	(696)
SG&A and other expenses[1]	(12)	(8)	(25)
Pre-operating and stoppage expenses[1]	-	-	(60)
R&D expenses	(26)	(16)	(18)
Adjusted EBITDA	572	495	429
Depreciation and amortization	(192)	(165)	(212)
Adjusted EBIT	380	330	217
Adjusted EBIT margin (%)	30.1	27.6	17.7

[1] Net of depreciation and amortization

Copper operations – Salobo and Sossego

Copper – EBITDA by operation

US$ million	2Q22	1Q22	2Q21	Comments
Salobo	110	260	351	Sequential decrease is mainly attributed to lower copper realized prices and higher costs related to preventive and corrective maintenance.
Sossego	(65)	(15)	100	Sequential decrease is largely explained by lower copper realized prices and sales volumes. Negative EBITDA is associated to the extended SAG mill scheduled maintenance, resulting in higher costs and significantly lower production and sales volumes.
Others Copper[1]	(22)	(19)	(15)	
Total	**23**	**226**	**436**	

[1] Includes research expenses related to the Hu'u project.

[8] Considering only the cash effect of US$ 400/oz that Wheaton Precious Metals pays for 70% of Sudbury's gold by-product, nickel operations EBITDA break-even would increase to US$ 11,515/t.

Copper revenue and realized price

Volumes, prices and revenue

US$ million	2Q22	1Q22	2Q21
Volume sold (000 metric tons)			
Copper	35	34	56
Gold as by-product	52	54	84
Silver as by-product	193	126	188
Average prices (US$/t)			
Average LME copper price	9,513	9,997	9,700
Average copper realized price	**6,493**	**10,848**	**9,653**
Gold (US$/oz)	1,904	1,879	1,720
Silver (US$/oz)	22	24	26
Revenue (US$ million)			
Copper	225	370	538
Gold as by-product	99	101	145
Silver as by-product	4	3	5
Total	**328**	**475**	**688**

Price realization – copper operations

US$/t	2Q22	1Q22	2Q21
Average LME copper price	9,513	9,997	9,700
Current period price adjustments	(1,119)	555	(189)
Copper gross realized price	8,394	10,552	9,511
Prior period price adjustments	(1,436)	752	580
Copper realized price before discounts	**6,958**	**11,304**	**10,090**
TC/RCs, penalties, premiums and discounts	(465)	(456)	(438)
Average copper realized price	**6,493**	**10,848**	**9,653**

Vale's copper products are sold on a provisional pricing basis[9] during the quarter, with final prices determined in a future period, generally one to four months forward.

- Current-period price adjustments: at the end of the quarter, mark-to-market of open invoices based on the copper price forward curve[10]
- 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
- TC/RCs, penalties, premiums, and discounts for intermediate products

The negative effects of the prior-period price adjustments of US$ 1,436/t and the current-period price adjustments US$ 1,119/t were mainly due to the forward price decrease during the second quarter.

[9] On June 30th, 2022, Vale had provisionally priced copper sales from Sossego and Salobo totaling 31,738 tons valued at a weighted average LME forward price of US$ 8,256/t, subject to final pricing over the following months.
[10] Includes a small number of final invoices that were provisionally priced and settled within the quarter.

Copper Costs and Expenses

Copper COGS - 1Q22 x 2Q22

		Drivers				
US$ million	1Q22	Volume	Exchange rate	Others	Total variation	2Q22
Copper operations	228	(6)	10	36	40	268
Depreciation	33	(2)	2	2	2	35
Total	**261**	**(8)**	**12**	**38**	**42**	**304**

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

US$/t	2Q22	1Q22	2Q21	Commments
Salobo	3,329	1,624	422	Increased q/q mainly due to lower dilution of fixed costs and higher costs related to preventive and corrective maintenance.
Sossego	40,407	13,917	3,623	Increased q/q as a result of lower dilution of fixed costs as a result of the SAG mill extended scheduled maintenance.

Selling and other expenses were US$ 3 million. Pre-operational and stoppage expenses totaled US$ 3 million in 2Q22. Research and development expenses were US$ 31 million in 2Q22, with Hu'u-related expenditures amounting to US$ 22 million and Sossego-related expenses amounting to US$ 8 million.

EBITDA break-even – copper operations[11]

The realized price to be compared to the EBITDA break-even should be the copper realized price before discounts (US$ 6,958/t), given that TC/RCs, penalties and other discounts are already part of the EBITDA break-even table.

US$/t	2Q22	1Q22	2Q21
COGS	7,734	6,661	4,113
By-product revenues	(2,977)	(3,055)	(2,682)
COGS after by-product revenues	**4,757**	**3,606**	**1,431**
Other expenses[1]	1,051	611	402
Total costs	**5,808**	**4,217**	**1,833**
TC/RCs penalties, premiums and discounts	465	456	438
EBITDA breakeven	**6,273**	**4,673**	**2,271**

[1] Includes sales expenses, R&D, pre-operating & stoppage and other expenses.

[11] Considering only the cash effect of US$ 400/oz that Wheaton Precious Metals pays for 75% of Salobo's gold by-product, copper operations EBITDA break-even would increase to US$ 8,577/t.

Selected financial indicators - Copper operations, ex-marketing activities

US$ million	2Q22	1Q22	2Q21
Net Revenues	328	474	688
Costs[1]	(268)	(227)	(229)
SG&A and other expenses[1]	(3)	6	(1)
Pre-operating and stoppage expenses[1]	(3)	(2)	(1)
R&D expenses	(31)	(25)	(21)
Adjusted EBITDA	23	226	436
Depreciation and amortization	(35)	(33)	(40)
Adjusted EBIT	(12)	193	396
Adjusted EBIT margin (%)	(3.7)	40.7	57.5

[1] Net of depreciation and amortization

Annexes

Simplified financial statements

Income Statement

US$ million	2Q22	1Q22	2Q21
Net operating revenue	**11,157**	**10,812**	**16,514**
Cost of goods sold and services rendered	(5,950)	(4,622)	(5,465)
Gross profit	**5,207**	**6,190**	**11,049**
Gross margin (%)	46.7	57.3	66.9
Selling and administrative expenses	(127)	(121)	(132)
Research and evaluation expenses	(151)	(121)	(139)
Pre-operating and operational stoppage	(111)	(154)	(191)
Brumadinho event and de-characterization of dams	(280)	(160)	(185)
Other operational expenses, net	(165)	(106)	(75)
Impairment reversal (impairment and disposals) of non-current assets	(82)	1,072	(41)
Operating income	**4,291**	**6,600**	**10,286**
Financial income	137	150	76
Financial expenses	(372)	(295)	(267)
Other financial items, net	1,056	(97)	580
Equity results and other results in associates and joint ventures	(56)	211	(443)
Income before income taxes	**5,056**	**6,569**	**10,232**
Current tax	(1,181)	(253)	(1,201)
Deferred tax	270	(1,838)	(872)
Net income from continuing operations	**4,145**	**4,478**	**8,159**
Net income attributable to noncontrolling interests	52	22	12
Net income from continuing operations attributable to Vale's stockholders	**4,093**	**4,456**	**8,147**
Discontinued operations			
Net income (Loss) from discontinued operations	2,058	2	(622)
Net income (Loss) from discontinued operations attributable to noncontrolling interests	-	-	(61)
Net income (Loss) from discontinued operations attributable to Vale's stockholders	**2,058**	**2**	**(561)**
Net income	**6,203**	**4,480**	**7,537**
Net income (Loss) attributable to Vale's to noncontrolling interests	52	22	(49)
Net income attributable to Vale's stockholders	**6,151**	**4,458**	**7,586**
Earnings per share (attributable to the Company's stockholders - US$):			
Basic and diluted earnings per share (attributable to the Company's stockholders - US$)	1.32	0.93	1.49

Equity income (loss) by business segment

US$ million	2Q22	%	1Q22	%	2Q21	%
Ferrous Minerals	52	85	16	62	55	47
Base Metals	1	2	2	8	-	-
Others	8	13	8	30	61	53
Total	**61**	**100**	**26**	**100**	**116**	**100**

Balance sheet

US$ million	6/30/2022	3/31/2022	6/30/2021
Assets			
Current assets	**16,022**	**19,465**	**25,403**
Cash and cash equivalents	7,185	9,061	13,649
Short term investments	48	43	951
Accounts receivable	2,148	3,123	4,954
Other financial assets	229	268	214
Inventories	5,154	5,038	4,701
Recoverable taxes	744	832	668
Others	240	291	266
Non-current assets held for sale	274	809	-
Non-current assets	**13,931**	**15,181**	**14,235**
Judicial deposits	1,328	1,455	1,326
Other financial assets	210	390	1,430
Recoverable taxes	1,147	1,157	1,440
Deferred income taxes	10,360	11,192	9,338
Others	886	987	701
Fixed assets	**54,405**	**58,503**	**57,078**
Total assets	**84,358**	**93,149**	**96,716**
Liabilities			
Current liabilities	**12,117**	**14,668**	**14,335**
Suppliers and contractors	3,664	3,446	3,777
Loans, borrowings and leases	935	1,103	992
Other financial liabilities	1,584	2,362	1,547
Taxes payable	331	927	1,678
Settlement program (REFIS)	356	387	356
Provisions	835	750	959
Liabilities related to associates and joint ventures	1,783	2,361	1,467
Liabilities related to Brumadinho	1,060	1,385	2,223
De-characterization of dams and asset retirement obligations	692	646	651
Others	750	845	685
Liabilities associated with non-current assets held for sale	127	456	-
Non-current liabilities	**35,259**	**39,992**	**40,022**
Loans, borrowings and leases	11,673	12,912	12,870
Participative stockholders' debentures	3,219	4,299	4,045
Other financial liabilities	1,820	2,348	3,669
Settlement program (REFIS)	1,976	2,247	2,336
Deferred income taxes	1,759	1,830	1,985
Provisions	2,477	2,782	3,815
Liabilities related to associates and joint ventures	1,603	1,288	1,024
Liabilities related to Brumadinho	2,620	2,807	2,268
De-characterization of dams and asset retirement obligations	6,238	7,610	5,889
Streaming transactions	1,637	1,683	1,961
Others	237	186	160
Total liabilities	**47,376**	**54,660**	**54,357**
Stockholders' equity	**36,982**	**38,489**	**42,359**
Total liabilities and stockholders' equity	**84,358**	**93,149**	**96,716**

Cash flow

US$ million	2Q22	1Q22	2Q21
Cash flow from operations	**5,738**	**5,531**	**9,791**
Interest on loans and borrowings paid	(277)	(179)	(138)
Cash received (paid) on settlement of Derivatives, net	(42)	(76)	60
Payments related to Brumadinho event	(319)	(64)	(224)
Payments related to de-characterization of dams	(83)	(69)	(79)
Interest on participative stockholders debentures paid	(235)	-	(193)
Income taxes (including settlement program)	(1,213)	(2,577)	(1,280)
Net cash provided by operating activities from continuing operations	**3,569**	**2,566**	**7,937**
Net cash provided by operating activities from discontinued operations	**-**	**41**	**(211)**
Net cash provided by operating activities	**3,569**	**2,607**	**7,726**
Cash flow from investing activities			
Short term investment	101	2	543
Capital expenditures	(1,293)	(1,136)	(1,103)
Dividends received from joint ventures and associates	71	65	43
Proceeds from sale of CSI	-	437	-
Other investment activities, net	48	-	(190)
Net cash used in investing activities from continuing operations	**(1,073)**	**(632)**	**(707)**
Net cash used in investing activites from discontinued operations	**(65)**	**(38)**	**(2,380)**
Net cash used in investing actitivies	**(1,138)**	**(670)**	**(3,087)**
Cash flow from financing activities			
Loans and financing:			
Loans and borrowings from third-parties	200	425	10
Payments of loans and borrowings from third-parties	(1,433)	(395)	(179)
Payments of leasing	(57)	(41)	(46)
Payments to stockholders:			
Dividends and interest on capital paid to stockholders	-	(3,480)	(2,208)
Dividends and interest on capital paid to noncontrolling interest	(4)	(3)	(3)
Share buyback program	(2,596)	(1,788)	(2,004)
Net cash used in financing activities from continuing operations	**(3,890)**	**(5,282)**	**(4,430)**
Net cash used in financing activities from discontinued operations	**-**	**(11)**	**(3)**
Net cash used in financing activities	**(3,890)**	**(5,293)**	**(4,433)**
Increase (decrease) in cash and cash equivalents	**(1,459)**	**(3,356)**	**206**
Cash and cash equivalents in the beginning of the period	9,061	11,721	12,883
Effect of exchange rate changes on cash and cash equivalents	(417)	707	560
Cash and cash equivalents from subsidiaries sold, net	-	(11)	-
Cash and cash equivalents at the end of period	**7,185**	**9,061**	**13,649**
Non-cash transactions:			
Additions to property, plant and equipment - capitalized loans and borrowing costs	17	14	14
Cash flow from operating activities			
Income before income taxes	**5,056**	**6,569**	**10,232**
Adjusted for:			
Provisions for Brumadinho	126	-	-
Provision for de-characterization of dams	-	37	-
Equity results and other results in associates and joint ventures	56	(211)	443
Impairment and disposals (impairment reversal) of non-current assets, net	82	(1,072)	41
Depreciation, depletion and amortization	810	686	832
Financial results, net	(821)	242	(389)
Change in assets and liabilities			
Accounts receivable	902	877	(1,101)
Inventories	(305)	(304)	(147)
Suppliers and contractors	432	(672)	334
Payroll and other compensation	73	(328)	79
Other assets and liabilities, net	(673)	(293)	(533)
Cash flow from operations	**5,738**	**5,531**	**9,791**

Revenues, volumes sold, prices and margins

Net operating revenue by destination

US$ million	2Q22	%	1Q22	%	2Q21	%
North America	**585**	**5.2**	**479**	**4.4**	**578**	**3.5**
USA	474	4.2	313	2.9	449	2.7
Canada	111	1.0	166	1.5	129	0.8
South America	**1,434**	**12.9**	**1,307**	**12.1**	**1,778**	**10.8**
Brazil	1,222	11.0	1,128	10.4	1,529	9.3
Others	212	1.9	179	1.7	249	1.5
Asia	**7,024**	**63.0**	**7,067**	**65.4**	**11,293**	**68.4**
China	5,102	45.7	5,389	49.8	8,929	54.1
Japan	1,014	9.1	861	8.0	1,062	6.4
South Korea	359	3.2	255	2.4	418	2.5
Others	549	4.9	562	5.2	884	5.4
Europe	**1,426**	**12.8**	**1,462**	**13.5**	**2,186**	**13.2**
Germany	315	2.8	508	4.7	617	3.7
Italy	207	1.9	182	1.7	231	1.4
Others	904	8.1	772	7.1	1,338	8.1
Middle East	**348**	**3.1**	**242**	**2.2**	**443**	**2.7**
Rest of the World	**340**	**3.0**	**255**	**2.4**	**236**	**1.4**
Total	**11,157**	**100.0**	**10,812**	**100.0**	**16,514**	**100.0**

Volume sold - Minerals and metals

'000 metric tons	2Q22	1Q22	2Q21
Iron ore fines	62,769	51,311	65,370
ROM	1,550	1,035	479
Pellets	8,843	7,011	7,647
Nickel	39	39	47
Copper	52	50	74
Gold as by-product ('000 oz)	62	62	95
Silver as by-product ('000 oz)	391	341	522
PGMs ('000 oz)	46	49	69
Cobalt (metric ton)	450	415	568

Average realized prices

US$/ton	2Q22	1Q22	2Q21
Iron ore fines Vale CFR reference (dmt)	137.9	141.6	200.0
Iron ore fines Vale CFR/FOB realized price	113.3	141.4	184.8
Pellets CFR/FOB (wmt)	201.3	194.6	254.7
Nickel	26,221	22,195	17,183
Copper	6,411	10,619	9,590
Gold (US$/oz)	1,884	1,862	1,708
Silver (US$/oz)	20.56	23.47	25.05
Cobalt (US$/t)	81,915	78,085	43,039

Operating margin by segment (EBIT adjusted margin)

%	2Q22	1Q22	2Q21
Ferrous Minerals	51.5	61.7	71.9
Base Metals	20.1	28.6	26.4
Total	**39.8**	**51.1**	**62.8**

Reconciliation of IFRS and “non-GAAP” information

(a) Adjusted EBIT

US$ million	2Q22	1Q22	2Q21
Net operating revenues	11,157	10,812	16,514
COGS	(5,950)	(4,622)	(5,465)
Sales and administrative expenses	(127)	(121)	(132)
Research and development expenses	(151)	(121)	(139)
Pre-operating and stoppage expenses	(111)	(154)	(191)
Brumadinho event and dam de-characterization of dams	(280)	(160)	(185)
Other operational expenses, net	(165)	(106)	(75)
Dividends received and interests from associates and JVs	71	-	43
Adjusted EBIT from continuing operations	**4,444**	**5,528**	**10,370**

(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	2Q22	1Q22	2Q21
Adjusted EBITDA from continuing operations	**5,254**	**6,214**	**11,202**
Working capital:			
Accounts receivable	902	877	(1,101)
Inventories	(305)	(304)	(147)
Suppliers and contractors	432	(672)	334
Payroll and other compensation	73	(328)	79
Provisions for Brumadinho	126	-	-
Provision for de-characterization of dams	-	37	-
Others	(744)	(293)	(576)
Cash flow from continuing operations	**5,738**	**5,531**	**9,791**
Income taxes paid - including settlement program	(1,213)	(2,577)	(1,280)
Interest on loans and borrowings paid	(277)	(179)	(138)
Payments related to Brumadinho event	(319)	(64)	(224)
Payments related to de-characterization of dams	(83)	(69)	(79)
Interest on participative shareholders' debentures paid	(235)	-	(193)
Cash received (paid) on settlement of Derivatives, net	(42)	(76)	60
Net cash provided by operating activities from continuing operations	**3,569**	**2,566**	**7,937**
Net cash provided by operating activities from discontinued operations	**-**	**41**	**(211)**
Net cash provided by operating activities	**3,569**	**2,607**	**7,726**

Reconciliation between adjusted EBITDA and net income (loss)

US$ million	2Q22	1Q22	2Q21
Adjusted EBITDA from continuing operations	**5,254**	**6,214**	**11,202**
Depreciation, depletion and amortization	(810)	(686)	(832)
Dividends received and interest from associates and joint ventures	(71)	-	(43)
Impairment reversal (impairment and disposals) of non-current assets	(82)	1,072	(41)
Operating income	**4,291**	**6,600**	**10,286**
Financial results	821	(242)	389
Equity results and other results in associates and joint ventures	(56)	211	(443)
Income taxes	(911)	(2,091)	(2,073)
Net income from continuing operations	**4,145**	**4,478**	**8,159**
Net income (loss) attributable to noncontrolling interests	52	22	12
Net income attributable to Vale's stockholders	**4,093**	**4,456**	**8,147**

(c) Net debt

US$ million	2Q22	1Q22	2Q21
Gross debt	11,031	12,349	12,154
Leases	1,577	1,666	1,708
Cash and cash equivalents[1]	7,233	9,104	14,600
Net debt	**5,375**	**4,911**	**(738)**

[1] Including financial investments

(d) Gross debt / LTM Adjusted EBITDA

US$ million	2Q22	1Q22	2Q21
Gross debt and leases / LTM Adjusted EBITDA (x)	0.5	0.5	0.5
Gross debt and leases / LTM operational cash flow (x)	0.6	0.6	0.5

(e) LTM Adjusted EBITDA / LTM interest payments

US$ million	2Q22	1Q22	2Q21
Adjusted LTM EBITDA / LTM gross interest (x)	38.1	47.7	39.1
LTM adjusted EBITDA / LTM interest payments (x)	23.0	33.4	38.7

(f) US dollar exchange rates

R$/US$	2Q22	1Q22	2Q21
Average	4.9210	5.2299	5.2907
End of period	5.2380	4.7378	5.0022

Local Conference Call
Vale S/A(VALE3)
2Q22 Earnings Results
July 29th, 2022

Operator: Good morning, ladies, and gentlemen. Welcome to Vale's conference call to discuss 2Q22 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 Finance and Investor Relations;
- Mr. Marcello Spinelli – Executive Vice President Iron Ore;
- Mrs. Deshnee Naidoo – Executive Vice President Base Metals;

First, Mr. Eduardo Bartolomeo will proceed to the presentation Vale's 2Q22 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're all well.

We just celebrated 80 years operating in Brazil; it was an opportunity to reflect on our journey, challenges, and evolution to build a better Vale. As you know, we remain focused on re-rating Vale by de-risking and reshaping our company.

Let me guide you through our main accomplishments since the end of the first quarter. We remained firmly committed to the Brumadinho reparation, we disbursed close to US$ 320 million in the second quarter under agreements and donations. In the environmental front, we're now detailing the sanitation projects to the affected communities. In the compensation of individual damages, new indemnification agreements have been reducing as the deadline for extra legal claims closed in January 2022 for most territories. Since 2019 we have indemnified more than 13,000 people, totaling around R$ 3.1 million. On dam safety we concluded the decharacterization of two of the five upstream dam structures to be eliminated in 2022 – I will give you more details on that.

Finally, on the reshaping, this month we completed the sale of our Midwestern System. We also signed a binding agreement with ArcelorMittal for the sale of CSP, our steel joint venture in the Ceará state. To give you a full perspective of how much we progressed since 2019, we sold nine business in five different countries that in their worst moments cost us up to US$ 2 billion in a year of cash drain. We remain committed to making Vale a safer and more reliable company supported by robust cash generation and disciplined capital allocation.

Part of our social ambition involves strengthening relations with communities neighboring our operations. This month we celebrated 40 years of relationship between Vale and the Xikrin do Cateté indigenous people in the state of Pará. The Xikrin´s people supported Vale's professionals when we started exploring Carajás. Their lands are close to Vale's conservation units in the Amazon, and we have also helped to protect their indigenous territory. Still, our relationship with the Xikrin had controversies. We have now begun a new stage in this relationship; after 18 months of negotiations with closed and agreement with the Xikrin community ending a 15 years dispute. To honor our relationship, we visited the village of the Xikrin, and it was a moment of mutual respect and trust. I want to thank the Xikrin people for welcoming us in their home.

It's also important to emphasize that Vale does not carry out any mineral research or mining activities on indigenous land in Brazil. We also believe that all activities that may directly interfere in these territories must strictly respect free, prior, and informed consent.

A key measure to de-risk Vale is our program to eliminate upstream dams in Brazil and we advanced with important milestones. In July we concluded the decharacterization of two structures: Baixo João Pereira dam and Dike 4 were the first ones of the five dams to be eliminated this year. Since 2019 we have eliminated nine structures and by the end of 2022, we will eliminate three more, reaching 40% of the program. The projects are complex and, in some cases, pioneering. This is the case of B3/B4 dam, currently at the emergency level 3. Using only remotely operated equipment, we have already removed close to 40% of the tailings, much faster than our plan. This led us to anticipate these conclusions to 2025. By then, we expect Vale to have no dam under critical safety conditions.

We had an operationally challenging second quarter, which made us revise our iron ore and copper guidance for the year. In Iron Ore, while our Systems in the South had a solid performance, in the Northern System we were impacted by one-off moisture issues and the ongoing restrictions in licensing. Spinelli will talk more about that. In Base Metals, essential maintenance works affected nickel and copper operations, and Deshnee will give you more details.

In our climate change agenda, we reached important milestones towards meeting your targets. As part of our PowerShift Program, we received our second 100% electric locomotive. It will initially operate at the Ponta da Madeira port. In April we signed an MoU with Nippon Steel Corporation to pursue ironmaking solutions including the usage of green briquettes. This is in line with our commitment to reducing 15% of net Scope 3 emissions by 2035. Since 2021 we engaged with clients representing almost 50% of our Scope 3 emissions. In portfolio optimization, we have progress with those two divestments that I have already mentioned.

Finally, in capital allocation we remain committed to returning cash to our shareholders and I'll give you more details in the next slide. Yesterday we announced the distribution of US$ 3 billion in dividends, in line with our policy. Last quarter we announced the third buyback program for up to 500 million shares. We executed close to 23% of this program in a little more than two months. After the completion of the third buyback program, we will have repurchased almost 20% of the company's outstanding shares. This means that we're concentrating future earnings on a per share basis by 25%. We view this as a form of growth without pressuring the supply side and carrying a lower execution risk.

Now I turn the floor over to our Vice-President of Base Metals, Deshnee for her remarks. Thank you and I'll get back to you in the Q&A.

Deshnee Naidoo: Thank you, Eduardo, and good morning, everyone.

I'd like to start this call by highlighting that our Sudbury mines that were impacted by the strike last year and our shaft incident at Totten mine and that had been in ramp-up since Q4 are now running as planned. That said, in the quarter our overall base metals production was impacted by major maintenance works, both planned and unplanned. Most of the planned maintenance related to the backlog we are catching up on, following the two years of deferrals as a result of the COVID-19 pandemic restrictions and controls.

In nickel, we had planned major maintenance at our refineries and smelters across Canada, the UK, and Indonesia, and our sales for the quarter were covered by inventories we built in Q1 in anticipation of this.

In copper, we completed the extended major maintenance at Sossego. This was originally planned for 45 days but extended to replace other key components to mitigate future operations risk. The plant is now operating at required run rates.

At Salobo, additional plant maintenance work was performed during the quarter with additional preventative maintenance being scheduled in the second half to address poorer than expected asset conditions discovered after key maintenance activities performed in the quarter. This can also be attributed to the maintenance deferrals during the COVID-19 restrictions. It is for these reasons we have revised our copper guidance to the 270-285 thousand tons.

I would like to mention, however, that maintenance works at Salobo 1 and Salobo 2 plants do not change the plans for Salobo 3, which is still scheduled for commissioning by the end of this year. For quarter three, we continue with our planned major mine and mill maintenance programs across Canada, whilst our nickel refineries will be running with nickel concentrate inventories largely built up already. We are at the downstream run rates required to meet our nickel guidance. Canadian copper production should be temporarily affected though as we produce and sell concentrates in a much shorter cycle than nickel.

Next slide. Looking at our financial performance in particular price, you will see that despite relatively flat sales volumes quarter over quarter, our price realization lagged market, especially in copper. As you can see in the graph in the left side, copper price realization was largely impacted by provisional pricing as a result of the copper forward curve price falling in the quarter. By the end of quarter one we had some 44,000 tons of copper marked at US$10,400 per ton. At the end of quarter two we had just under 32,000 tons of copper marked at US$ 8,300 per ton. This represents a negative effect of about US$ 3,000 per ton copper.

In nickel we had a positive balance of premium from product mix with a strong price realization achieved for our Class I products and a positive effect from our quotational period. The nickel price lag was primarily due to fixed pricing, specifically our hedging program. In the first quarter we started the implementation of the nickel revenue hedging program for 2023. While the nickel realized price for the second quarter was impacted by the strike price of circa US$ 20,200 per ton, which reflected in the quarter's results the average price for the complete hedge position was increased from circa 21,400 to just over US$ 23,000 per ton, reflecting the higher price fixed for the new positions added on quarter two.

Now let's turn to the future. This quarter we have made good progress in our strategic agenda, we concluded the pre-feasibility study for a proposed nickel sulfate project in Quebec with an expected annual production of 25,000 tons of contained nickel to produce over 110,000 tons of nickel sulfate. This offers us both diversified sales and an accelerated entry point into North America's burgeoning electric vehicle supply chain, as we are seeing from the growing demand of battery production across the continent.

Also, we've continued to advance our agenda in Indonesia. We have just approved at our Board meeting the development of the Bahodopi project in Indonesia together with TISCO and Xinhai, we expect to start-up the 73,000 ton ferronickel facility in 2025. And in line with our overall EV strategy we have signed last week two key MoUs with Ford: one for a 3-way partnership with PTVI and Huayou in the Pomalaa project in Indonesia and the other to explore opportunities with Vale across the EV value chain. This adds to the previously announced MoU with Tesla.

We look forward to working with these like-minded partners who are ESG-focused to supply low carbon nickel into the EV market.

I now hand over to Marcello to take us through the iron ore performance.

Marcello Spinelli: Thank you, Deshnee, good to hear you all, good morning.

I'll start my presentation giving an update about our recovery plan. First, I would like to remind you our journey since Brumadinho. Remember that we lost 25% of our capacity, we always talk about capacity and volume, but I want to emphasize the word “flexibility” here today. The main actions to rebuild the flexibility were based on the resumption itself, the new licenses, and the anticipation of projects.

What were and what are the main challenges that we are considering in these actions? So, regarding the resumption plan, dam safety was the key issue. Remember all the saga of the vibration tests, the blasting, backlogs coming from the stoppage.So we've been overcoming month by month and we brought back all sites, not in the full capacity yet, but all operations are on. The first impact came with the upstream dams, but the main impact came in the Southeastern System with the downstream dams when we temporally lost capacity of the dams in Itabira and in Brucutu.

Regarding licenses, what are the challenges? You may ask “Is this a new challenge?”, the answer is “No and yes”. The licensing process is getting more sophisticated, we have higher level of details in the South and in the North of Brazil. I’m personally engaged in this process with the best team to provide analysis and working close to the agencies to close the gaps.

Finally, regarding projects, we had impacts due to COVID and the macro conditions. As we are anticipating some projects, we may have some adjustments during the implementation.

So, the combination of these three factors is bringing some volatility to our forecast. We were sometimes optimistic, and we are not happy with this planning. So, in summary, we evolved a lot reducing the first impact of Brumadinho, de-risking the dams and the impact in the production. On the other hand, we still have to deal with the licensing process, so we are strengthening the relationship with the agencies to bring reliability to our plan. So updating System by System.

In the North, Gelado project is almost accomplished, we expect the start-up for Q4.

New ore bodies, we overcame an important milestone for N3 project, so we expect the previous license for Q3 this year and the main restriction lies in the rolling licenses. This delay made us increase the waste movement and we are not happy with that and there is a room for improvement in this area also.

In S11D, ABON crushers: done!

+20: I want to drag your attention here, it's a great news. We just received the installation license, so we are allowed to start the implementation of the +20 in S11D.

In the Southeastern System, Itabiruçu is on time, we expect to bring in Q4. Torto dam construction is done, and we are expecting the final permits by the end of Q3, so we expect to bring the asset in Q4 this year.

Now moving to our production guidance, we revised our production guidance for 2022, now is a range between 310 and 320 Mt. What happened here? We've been losing some flexibility during the first half of this year. In the beginning of the year remember the heavy rain season. Secondly we had to change the stockpile formation process in the North due to the moisture management. It was a consequence of a new front in the mine in S11D, all related to safety issues,That brought restriction to the System andwe already addressed most of these restrictions. Theseis effects would bring us close to the lower range of the previous guidance, but with a higher risk, so we adjusted the risk, we also adjusted the Midwestern System production that we just sold, and we also consider that we can have an adjustment in the volumes due to the market conditions. That's the margin over volume mantra here in the production guidance.

Now moving to the sales strategy, you probably noted that we sold more high silica products in Q2, we found a good momentum to do those sales. The decision to produce or to sell more or less involves several elements including price, premiums, and freight costs. We analyze the margins cargo by cargo.That's the beauty of the Vale’s supply chain flexibility: we make daily decisions to maximize our margins. This product high silica we can sell earlier in the chain as a standalone product, we can wait for blending or still can wait more and concentrate in China.

Recently, we announced the partnership with Shagang and Ningbo Port to develop the pre-blending facilities in China. We are advancing in the supply chain and getting closer to our client. Looking forward, in Q3 we expect Vale’s average premium will increase considering the higher volumes from Northern System and additional US$ 30/t higher pellet premiums already negotiated.

So, I'll be here for further questions. Now I’ll handover to Gustavo.

Gustavo Pimenta: Thanks, Marcello, and good morning, everyone.

I'd like to start by walking you through the main drivers of our EBITDA performance in the quarter. As you can see, our second quarter pro forma EBITDA was US$ 5.5 billion, US$ 840 million lower than 1Q22. The decline was caused mainly by the US$ 28/t decrease on iron ore fines realized price and US$ 4.400/t decrease in copper realized prices, following the decline in reference prices during the quarter, which I'll discuss in more detail later. This was partially offset by a 23% higher iron ore fines and pellet sales benefiting from favorable weather conditions and the solid operational performance on our Southeastern and Southern Systems.

Now onto our cost performance, excluding external factors, our EBITDA performance was impacted by US$ 118 million cost increase, mostly explained by corrective maintenances at our base metals business. Despite the high inflationary pressure globally, it is important to highlight that we are on track to deliver our cost efficiency goal for the year, which is to keep our fixed cost plus sustaining Capex flat versus 2021 levels in local currency.

Now focusing on price realization, the quarter of quarter performance was impacted mainly by pricing adjustment as the 1Q22 provisional pricing of US$ 158/t ton for 12 Mt by the end of the quarter was realized at US$ 137/t in the second quarter of the year. Also, 21% of the sales volumes for this quarter were provisioned at US$ 120/t versus US$ 138/t average benchmark following the decline in the forward price curves by the end of the quarter. These two adjustments had a US$ 7.6/t negative impact on price realization versus a US$ 15.2/t positive impact in Q1. This resulted in a difference of US$ 23.0/t between Q1 and Q2.

Now moving to iron ore all-in costs, value C1 cash cost ex-third-party purchases increased by US$ 2.2/t for the first quarter mainly driven by BRL average appreciation, higher fuel costs, and the sale of inventories produced at higher cost in Q1, a carryover effect. Another important cost component is freight, which went from US$ 18.1/t to US$ 21.3/t mainly reflecting the increase in bunker prices. Important to highlight here Vale's competitive advantage on freight strategy, where we have long-term contracted vessels for 70 to 80% of our annual needs. As a result, in Q2 Vale's average freight cost was 30% lower than average Tubarão/Qingdao spot prices.

This performance has also benefited from our strategic decision to install scrubbers in our dedicated fleet back in 2019 as the low to high sulfur bunker spread has widened during the quarter. This strategy represented a US$ 127 million bunker savings in Q2.

Pellet premium is another positive in the quarter with a contribution of US$ 1.5/t on our all-in costs. In Q3 we expect additional improvement as premiums were negotiated close to US$ 90/t.

Now turning to capital allocation, we successfully concluded the US$ 1.3 billion tender offer for Vale's note in June. With that, we maturely advanced our liability management program extending the average tenor of the portfolio with no relevant debt amortization in the next five years. This provide us greater financial flexibility to continue pursuing our strategic objectives.

Our EBITDA to cash conversion was also stronger in the quarter, as you can see in the next slide, we converted 41% of our EBTIDA into free cash and used this incremental liquidity to accelerate our share buyback program. To date, we have already executed 23% of our latest share repurchase program of 500 million shares.

So, before opening up the call for Q&A, I'd like to reinforce the key takeaways from today's call. We continue to advance in our social agenda and in the elimination of our upstream dams. Our reshaping program is mostly completed with yesterday's announcement of the sale of our stake at CSP, allowing management to focus on core assets that will benefit substantially from the energy transition trend. On production, we remain very disciplined on our value over volume strategy, and we continue to strongly believe on the long-term fundamentals of our industry. Finally, we remain highly committed to a disciplined capital allocation process as evidenced by the announcement of a US$ 3 billion dividend payment to be made in September and our continuous progress on the highly accretive share buyback program.

With that I'd like to open up the call for questions. Thank you.

Question and Answer Session

Operator: Thank you. Ladies and gentlemen, we'll now begin the question-and-answer session. We advise that the question 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 start 2. Please, restrict your questions to two at a time.

Our first question comes from Caio Ribeiro, with Bank of America. Mr. Caio, your audio is available.

Caio Ribeiro: Yes, good morning, everyone, thank you for the opportunity. So, my first question is on cash returns. You know, we've seen some other minors toning down expectations on dividends or trimming dividend payments out, right. So, my first question is, you know, given this worsening macro-outlook that we're seeing, you know with recessionary fears building and your debt levels closer to the top of your expanded net debt range, can we assume that you will continue to focus on cash returns and potentially announce new buyback programs once the current one is concluded? And also, what about extraordinary dividends? Is that still on the table?

And then secondly, on provisions associated with Renova, given some recent press articles that the president of the Brazilian Supreme Court wants to renegotiate values, can you give us some color on what's being discussed and also whether this could lead to additional provisions in your view?

Thank you very much.

Gustavo Pimenta: Thanks, Caio. This is Gustavo. So, on dividends and buybacks, look, we've been walking the talk of returning most of the cash and capital generation here to shareholders, right, so if you look at last year, this year, so that's what you should expect us to continue to do. We've done already 23%

of the latest share buyback program, we have 18 months to perform on that one, so we have time. So, we'll see where the market is, right. I think a lot will depend on how the cash generation performs in the second half of the year, but certainly returning cash to our shareholders is one of our key priorities and will continue to do so.

Regarding Renova and provision, look, based on the information we have today, we believe we have the right amount of provisions in our books, you can check that, we've been updating this recently, we've done this in the Q1, so we're feeling good about what we have, as you know we are going through the revision of each one of the programs as we speak, but we are feeling good about where we are given the latest status of the negotiation.

Eduardo Bartolomeo: Gustavo, if I can add just I think on the extraordinary dividends because Caio asked about that specifically, as you said, we are walking the talk, I think we’re the most disciplined in the industry, we have to assess market conditions, you see the volatility in iron ore is huge, but we have to bear in mind that second semester is a very strong semester for the third and fourth quarter, so we're going to assess. Remember the bucket idea, first bucket is safe, the second bucket growth, third bucket policy, fourth bucket buybacks, and if there's any additional, we can pay an extraordinary dividend, yes, but it will depend on market conditions, so that's fundamentally.

But we'll keep no surprises, there will never be surprises, just we keep our business safe, we're going to keep our growth, that's preserved, the policy is sacred, our policy has to be prepared as we did this quarter, buybacks is the next bucket, and third if there is market and market comes better than we expect on the second semester, eventually there will be extraordinary dividends. I hope we answered your question, Caio.

Operator: The next question comes from Carlos de Alba, with Morgan Stanley. Mr. Carlos, your audio is available.

Carlos de Alba: Yes, hello. Thank you very much. So, the question that I have is regarding the cost outlook for iron ore given the cost pressures that we're seeing across the industry and with commodities prices still elevated and prices certainly high, where do you see the evolution, how do you see the evolution of your iron ore cost in the second half of the year? And perhaps an early view of 2023.

And then just stepping back and thinking about the medium to long-term iron ore strategy in terms of volumes, how do you feel about this range of 400 to 450 that you had in the past presented to the market? Is this still something that you will contemplate or is it more likely that you will target around 400 Mt and then just keep really anything above that for flexibility and to improve maybe your product mix, but not really something that we can consider as more likely? Thank you.

Gustavo Pimenta: Thanks, Carlos. Gustavo here. So, I’ll take the first one and then Spinelli will complement the second. Look, Q2 is usually the most challenging quarter for us because we do have the carryover effect from Q1, volumes are not yet at the levels we usually produce in the second half, so as you guys saw in this quarter, we came above the levels that we're pointing to the end of the year, we continue to feel optimistic about what we had presented before, which means a C1 between 18.5 and 19 by the end of the year, so that's what we said in Q1, there's a lot of benefits already accruing and they will accrue even more in the second half regarding the US$ 1 billion savings program that we've announced last year, so we're optimistic there. And the all-in, as we said, we expected to be very much in line with what we had last year, so this quarter was tighter in terms of premiums, as you saw given the strategy that Spinelli laid out, but in the second half of the year with more volumes, likely more volume coming from the North, we should expect all-in to normalize towards what we had, very much in line with last year.

Marcello Spinelli: Hi, Carlos, thank you for the question. Let's firstly emphasize one thing: the production is a consequence of margin over volume. So, when you say that we're going after 400 Mt of level – and I want to emphasize another word that I mentioned of flexibility –, we will go to this level of production if we have a market.

So, two main things here: 400 to 450 is only to give flexibility to the level of production. We say 400 to 450 to have capacity to deliver 400 in a reliable basis, so that's the first thing related to 450. And regarding the 400 level, two points here: the pace to reach this is related to the margin over volume if the market needs or not, so despite we have a variation or deviation in the short-term, 5 Mt or even 10 Mt, the midterm strategy is on, so with mid and long-term strategy is on, and the pace will depend on the market.

So, again, it may take a longer time, but we'll be connected to the necessity of the market. Imagine if you bring 30 Mt to this market today. There is no necessity for that. So, again, 400 Mt is a level of flexibility to go after, we have logistics, we have a great jurisdiction to work, no institutional problems or even commercial problems with our clients, the opposite, we have a very committed and strong relationship with our clients, so we are the best choice to increase the capacity in near future, but we're going to behave as the leader of the market as we are and do not bring nothing more than the market needs.

Operator: The next question comes from Leonardo Correa, with Banco BTG Pactual. Mr. Leonardo, your audio is available.

Leonardo Correa: Yes, good morning, everyone. Thank you. So, bringing Eduardo back to the discussion, Eduardo, Base Metals for you has been a let's say a pet project and a super important angle, you know the business very well, you worked in Canada for several years, we've been… I mean, Vale has been very vocal on the turnaround of Base Metals for the past quarters and clearly all the energy transition scenario has been helping over the past quarters, and now of course things are paused, the world is facing different issues, but I just wanted to hear your sense on how you think things have been progressing, clearly the numbers haven't been there right, I mean, it was a very weak quarter, and in all fairness several non-recurring issues impacting, like maintenance, which are probably going to be reversed, but there is a sensation in the market that the company has been facing more recurring issues and more challenges than what everyone was thinking in terms of the turnaround. So, no one better than you to try to help us out and understand, first of all what the obstacles are, if there's anything new that's happening, and how you think you can overcome these challenges.

And the second point here on my side, maybe Spinelli can help, the investment case on Vale relies on the fact that it's a different iron ore producer and segmentation is a reality and iron ore quality premiums are here to stay, right. Unfortunately, what we saw over the past quarter or so is quality premiums have been declining and, let's say, Vale has been losing this relative advantage and these negative effects have been impacting all around on pricing and on the delivered costs.

So, I just wanted to see if you guys are seeing any relevant changes in how the market is perceiving quality, if this is just a temporary setback given how pressured the steel margin in China is, or if you think there's anything structural happening. Thank you very much.

Eduardo Bartolomeo: OK, Leonardo, thanks for the question. It's my pet, pet project, I 100% agree. Well, let's start with the fundamental. I think you're right on, they don't change, right, we have the best assets, we have the best assets in nickel in the world, in Canada, Indonesia, in Onça Puma for 60 years of life in Onça Puma, we have the best growth projects in copper in Carajás basin, we are actually delivering them, Salobo 3, as Deshnee just mentioned, is coming on time, on budget on this next quarter, so we're pretty confident, we're delivering Voisey's, we are delivering in Copper Cliff, so the growth projects in nickel and copper are coming on stream and the next… - how can I say that? – steps are there. So, there's nothing changed. We have the best resources and reserves, and that's the name of the game, right. In the end, it's what matters.

Short-term we should be very concerned about what you're talking because people look at bump, it's going to be harder, we know exactly what's going on in our business, like we never had problems in Sossego. Sossego had a four-month one-time stoppage because we stayed two years to stop the plant and when we started to execute the maintenance, we discovered that we had to change a trunnion. You never plan a four-month stoppage, so it was 45-day stoppage that ended up being a four-month.

So, again, I'm not concerned on our operational turnaround specifically on Sossego. Salobo had these issues, but as mentioned by Deshnee, we operate very well the mine, so the mine is up and running, so when the plant gets stable, we're going to be able to prove, that's why if you look at our second quarter or second semester guidance, it is pretty strong on copper. And nickel the only issue that we have is the underground mines in Canada, we operate extremely well on the surface plants because they even have idle capacity, we operate extremely well in Clydach , we did a restoration in PTVI for four months in the furnace four extremely complex, first time ever that we do that and it's up and running already as we speak.

So, I'm not really concerned about the turnaround specifically because, as we said and we've been repeating that, we're going to extract value one way or another, even if we have to bring a partner to operate to us if we're not able to complete the turnaround. Then I'm very confident, we have the knowledge, we operate in Canada for 100 years, we operate in Brazil for 80 years, so I'm not thinking that we have an issue to turnaround operationally speaking.

What you mentioned and I think it's important to stress and that might answer a lot of questions that people have is that we believe – and that's a fact – that base metal has a better life in its own. First of all, for obvious reasons, no decision has been taken, but since we've been discussing this idea with you and with our shareholders, we're talking on… what is the end game? We're going to organize the assets after we turnaround and while, not after, while we turn around, while we stabilize the business, while we deliver our growth projects, we're going to structure the "societary" idea and there are always – I mentioned that I think on the last call, on the last presentation that I did – that we have options, like first option just keep doing, we keep executing and market will appreciate the value that this business has is not reflected in our share price or in our value, in our market cap.

Second, why don't you bring a private investor that sees value even in down term? Because fundamentals are business in change, business that can't change at all, nickel prices are healthy, copper is reflecting the slowdown or these concerns about slowing down in the world economy, copper is a GDP-related asset, but people that understand the business know that we have a jewel, that we have a real, real big asset or a real nice reserve. So, I can bring the private, and then when market is good, it might float, why not? And then we capture the value, but as I mentioned, Leo, nothing has changed. We need first execute, second growth, third structure, fourth capture the opportunity, but I'm pretty confident that Deshnee and her team are doing a great job to stabilize the business, is a hangover from COVID, you saw two years waiting for the maintenance in Sossego, two years waiting for the maintenance in the Sudbury smelters, not two years, but the furnace four had to be done in Indonesia. So, I'm pretty confident that we're going to be able to extract the turnaround, the growth projects are coming on line and on budget besides VBME that we had an overrun, we are coming with news with the Bahodopi, as mentioned today, Indonesia is a great place, we're there for 50 years, Pomalaa is there, we're going to bring Onça Puma 2 very soon to the Board, as I mentioned in the beginning, we have a very good relationship with the Xikrin now, we are able to operate that mine stably.

So, you're right, it's my pet project when we're going to cover a huge value in this business. Thanks for the question. and now I pass to Spinelli.

Marcello Spinelli: Leo, you brought two angles here, right, so the market needs for quality and our strategy. So, just to emphasize about the market, we have pellet premium for direct reduction US$ 100, almost US$ 100 over the 65%Fe, for blast furnace, pellets over the 65%Fe and US$90, almost US$ 90 today, low alumina, we have a lack of competitors with low alumina in the market with high premium. You're right when you said about the margins in China, it is a temporary situation due to all the downstream uncertainties that we have, but we are confident that with all the efforts of the government that we'll stabilize this demand, this downstream demand, and by the end of the year we have with the lack of competitors of high grade ores and also the cost of the cokethat is not low, it's not in the lower level as we saw in the past, that we can recover also the IOCJ premium level. So, again, that's a trend, there is no return, but we can have some volatility in short-term.

And regarding our strategy, definitely we are the company that is investing in products and in mining to bring high grade ores. We're sticking to this strategy, we could bring more volumes to the market with low grade ores, we could increase the stockpiles in China and depress the whole portfolio of our company and also the market, but we're not doing that. So, we are sticked to the value over volume, and it is based in iron ore with high grade ores.

Operator: Our next question comes from Thiago Lofiego, with Bradesco BBI. Mr. Thiago, your audio is available.

Thiago Lofiego: Thank you, gentlemen. Two questions here for Spinelli. Spinelli, how are you seeing the iron ore demand environment now in the short-term, maybe in the second half of this year, especially considering the Chinese government target to keep production flat? So, what's your take on this and, again, what are you seeing on the ground in terms of demand?

And then the second question also you commented about premiums, you know, you're expecting improvement in the coming quarters. Can you give us a little bit more color in terms of the product portfolio? Are you expecting maybe less of the high silica product to be sold or how should we think about the product portfolio and the premiums again maybe more for the short-term, maybe second half of this year? Thank you.

Marcello Spinelli: Thank you, Thiago, thank you for the question. So, iron ore demand, let's start with China, I think we started to talk with Leo in the last question, so what we see, you know, the first half we had a huge problem with the COVID strategy and the small business actually we see and we feel in our business more regarding the properties, regarding the constructions, what we have in the second half, and it's good to compare what happened with the last year, so even if we consider that the forecast there will be a flat production, we can have the same pattern of last year in terms of CSP. Inventory is almost the same, inventories of steel are below last year, we don't have any energy goal for this year, even production goal, as we have last year, we don't have any Olympics in the first quarter of next year and we have an economy in totally different curve if you compare with last year. So, we have a delay in the infrastructure investment, they are committed to that, we've been hearing about the 6% GDP in the second half in China that can happen, infrastructure can support, and manufacturing can also support, we expect double digit in this area.

And what we see, they are talking this week about property as a securities problem in China because they can bring this to a problem in their economy. So, there's another level of commitment, I believe that's our forecast, and so we don't see a hard land in the property, probably a soft land. They will decrease, there's a change in their strategy in mid to long-term strategy, yes, but there is a support if you compare with last year in terms of demand.

So, we expect the downstream demand to be hit by the end of this year and especially in the first quarter of next year. And also, we can adjust the value over volume, Thiago, as we mentioned. In ex-China when we see today, we are already booked in the third quarter, we talk about recession, but we don't see recession in their sales at least yet, but in the fourth quarter they are in a more short-term view, the main concerns are related to any restriction regarding the cost and the availability of energy in the coke, the thermal coal, so energy is a key issue by the end of the year in Europe, in part of the world with the problem of the war.

So, again, that is still a problem, but on the other hand, in terms of premium, if you combine a better market in China, better margins and steel price supporting the late growth that will come by the end of the year in China and the necessity to save the coke in the part of the world that they don't have availability or the price should be high, that'll be there… but what we expect a consumption of better products. So, product by product. Today pellets we see a good level for the direct reduction, so we see by the end of the year almost the same level that we see today, probably in blast furnace pellets there is a downstream risk, but not that much, so there will be wider gap between the pellets and we’ve been developing a third wave for the pellets to swing if we have more demand for direct reduction, we can swing part of our production to feed this market or swing to blast furnace, so we will play this game by the next quarter.

And BRBF, as I mentioned, the key point is competition and the IOCJ, as I mentioned, we see a support for upstream risk by the end of the year and the next quarter.

Operator: The next question comes from Daniel Sasson, with Itaú BBA. Mr. Daniel, your audio is available.

Daniel Sasson: Hi, guys, good morning. My first question is on the asset divestment front, you've done a tremendous job on diversifying a way or actually focusing more on your core businesses after selling your cooperation in VNC, CSP, California Steel and so forth, but aside from MRN that you had already disclosed that is on your list for divestments, is there something else?

And on the same lines, can you elaborate a bit further on the potential on the merits of a potential IPO of the Base Metals division, I mean, given that you don't really need, you are in a solid balance sheet position, and you don't really need to raise capital to do the growth portion that Eduardo commented on this business? Is it just a matter of unlocking value or do you see maybe opportunities that could only be tapped with new fresh cash and therefore the IPO of the base metals would make sense?

And if you could maybe, Spinelli, elaborate a little bit further, you commented on the Chinese situation on your previous answer, but if you comment if you're seeing a more important deceleration in activity levels of steel makers in Europe because of the energy crisis situation that you mentioned in your previous question that would be great. Thank you.

Eduardo Bartolomeo: Thank you, Daniel, I'm going to pass your question to Gustavo, but I want to say that you're spot on, it's not about just… it is unlocking value, obviously, because there is no value perceived on Base Metals inside Vale, right, we're perceived as an Iron Ore company, so we want to unlock that value; is not unlock value, and you're exactly right, when we have this structure, we will be able to do different things that we cannot do today.

But I'll let Gustavo detail a little bit more because he's having this discussion together with Deshnee.

Gustavo Pimenta: Sure. Hi, Daniel. So, on the potential transaction, right, we haven't decided, as Eduardo said, if it's an IPO or non-IPO, but I think fundamentally what we're trying to achieve here is a more dedicated governance for base metals, which we see a lot of merits for. We also want to make sure we create a currency for growth. This business is very different from iron ore, right, we have a lot of growth in iron ore by resuming our capacity with limited Capex, but as I think Leo pointed out, we are a cash story today, we appreciate that and we are happy with that and we will continue to pursue that strategy, but base metals is different, right, it's a growth business, there's tremendous amount of momentum for EV transition for electrification of the world. So, all of that it calls for different strategy and we believe it would make sense to have a currency that would support an accelerated growth strategy there.

The final format we'll see, but that's how we are thinking about and that's what you expect us to pursue. Certainly, the market today is not appreciative of a transaction, but we will continue to look into that and bring that to you, guys, once we feel good about it.

On the divestment, MRN is the one we've said publicly and it's quite frankly the last one. So, we could continue to look for ways to optimize the portfolio on the margin, but I think we can certainly say we've done most of the reshaping that we wanted to do at this point.

Eduardo Bartolomeo: And just to complement your points, it's like a growth-Co, and a Yield-Co., but Vale's never going to let go the base metals business, OK? If we want to bring partners, even if is private, even if we go public, it's going to be Vale's and it's going to be a Growth-Co., nobody has these front-end commodities like we do because we believe better governance, we believe better partners could help us grow, but we don't want to lose our growth. Of course, there's a huge amount of opportunities in the electric world, the energy transition world, and we have our Yield-Co. that is really healthy, and it's a matter of resuming capacity, as Spinelli mentioned, as market needs, and we can do that with the timely manner.

So, just remember those two things: Yield-Co., Growth-Co., but they're all Vale-Co..

Marcello Spinelli: So, Daniel, let’s talk more about the Chinese market and also European and the wider view about the world demand. So, in China what we expect for this next half? So, we have the seasonality – don't forget the famous golden September that they restart the downstream demand –, usually there's a peak for the construction, many stimulus coming from the government, a lagging demand coming from infrastructure by the end of the year and Q1 2023 without any effect of the elections, they have the elections by the end of the year in November.

So, again, we see a trend, the COVID risk is there, but even after the elections we see more power, and China they have power, they have capacity to boost their production, so that's the trend that we're working in our forecast. So, Europe, yes, they’re well, so they have good prices, different level from last half, but in a very healthy way, for Q3 sold out, Q4 some concerns about energy.

But let's bring other views about the world demand: Southeast Asia: blooming, they’re going really well; India: they’re back and there's a connection that we need to emphasize also that the supply side of the equation here, so CIS is out of the market with more than the 40 million tons of iron ore, and also, if you consider that India is only producing and without any export about iron ore in the seaborne market, so we have a balanced market for the Q3, and we will produce more in the Q4.. So, we have the same pattern of inventories in China that we can expect that will support in a moodof more demand regarding the downstream effect that we have in China we see Q4 in Q1 2023 in a better shape than last year.

Operator: Our next question comes from Alex Hacking, with Citi. Mr. Alex, your audio is available.

Alex Hacking: Yeah, thank you for the call. First question on iron ore: Any comments on China’s plan to create some centralized buying entity? And the second question on the Base Metals. Just on the ferronickel smelter, the 73,000 tons is that fully incremental to existing production in Indonesia? Can you remind me how the offtake works? Can PTVI market all of that material or just a share of it?

And then on the power if I´m correct it's going to be powered using gas instead of coal or the carbon footprint? Is that still the case even with all the volatility in gas prices recently? Thank you very much.

Marcello Spinelli: Thank you, Alex. Spinelli here. Thank you for a question. Well, regarding this announcement, it's important to see, Vale is a long-term partner of China, so we maintain a great relationship with the Chinese clients, we just announced… actually, we are strengthening this relationship and we announced the pre-blending strategy, we are in more than 17 ports in China in blending facilities, we are concentrating ores in China, so we're expanding our relationship with the Chinese. So, we truly believe that, you know, always the market reflects the supply and demand balance in a timely manner, and we are part of the market, and we do our part bringing more transparency as we bring our products to the market.

And regarding the potentiality to invest in iron ore, they are deploying their strategy, putting in practice their strategy to secure the resource, and in this point, we see as an opportunity for Vale because we have the best assets in the world and the best possibility to bring capacity to the market in a very safe environment and with the logistics in place. So, we are open to them.

Deshnee Naidoo: Alex, thank you for the question on the Bahodopi project. So, this project, as we guided earlier, is an RKEF project and we will produce 73,000 tons of ferronickel in addition to the current PTVI production of around 70… I will say now 76 to 78 thousand tons on the back of the furnace for rebuild that we have just completed. In terms of the structure of the project, we will build 100% of the mine, but the plant, the arcade will be shared 49% with the ChinaCo, and that's TISCO and Xinhai, who would also be the constructor of the plant.

And then in terms of off take, for the first five years this will be… all the off take will go to ChinaCo and after that PTVI will get to market its 49% of the share. And your question on LNG that is still the plan, this plant needs about 500 megawatts, we are talking to some of the local suppliers for LNG, we had brought in third parties as well. The solution hasn't been fully stitched, but just this morning, Alex, we've got word from the government that this project will get into the presidency national strategic projects, which means that this project will be prioritized in terms of the overall energy support as well.

So, we're still sticking with LNG, we know it might be a little difficult to source, the plant itself will be built by Xinhai and, yeah, we will give you a further update in the next results call. Thank you.

Operator: The next question comes from Rodolfo Angele, with JP Morgan. Mr. Rodolfo, your audio is available.

Rodolfo Angele: Thanks. So, I guess most of my key questions, which I think were mostly on what's happened on the cost side and the turnaround of base metals were ready fully discussed, I just wanted to add one more question. I wanted to hear about the licensing process in the North.What's happening? Why is it being a bottleneck to Vale? What's happening there? And that's all for me. Thanks.

Marcello Spinelli: Thank you, Rodolfo. Spinelli here. Well, the environmental process, the licensing process in Brazil and actually in all part of the world is getting more sophisticated, I think is the best word here, and I can see that we have another lead in regarding ESG and also safety restrictions in the mining industry. So, again, that's a level of quality that you need to bring to the licensing process.

In the North it is the same, so we are inside the Amazon, so we are bringing the best analysis to guarantee that we have protection and sustainable development in our area of action in Amazon. So, again, just an example, Rodolfo, the ITV institution that we've been investing more than US$ 140 million in the last 10 years to bring a genome analysis, DNA, to bring a faster analysis to guarantee that we are doing the right thing and working together with the agencies.

So, again, we could blame against that, but that's the reality and we need to work hard and actually work together with agencies to guarantee what we say is our long-term strategy as an ESG compliant company, we need to do our best to guarantee that we are doing the right thing in the licensing process.

So, what we can expect for short-term? We had a delay in what we call these rolling licenses, all the time we have some small licenses that open the pits, especially in Serra Norte, we had delays, we expect another round of small pits for September, the last should be in July, so we already in our guidance we have the September, it's going well. The other good thing that we already have the +20, that's a huge achievement, we have a space for the construction, and we can bring huge capacity to bring flexibility to this area of our business.

So, again, that's a trend, that's the level of the game now, and we need to be good.

Operator: The next question comes from Liam Fitzpatrick, with Deutsch Bank. Mr. Liam, your audio is available.

Liam Fitzpatrick: Thank you. Just a couple of questions on your iron ore strategy. So, we've seen Simandou, it looks like it's finally getting off the ground then we could see first production perhaps in four years, given this is a direct competitor to your product, how is this going to influence your longer-term strategy to next to 400 million tons and potentially higher?

And then linked to the shorter-term, linked to the previous question around kind of the iron ore licensing challenges, you previously told us that you wanted to get to 370 capacity at the end of this year. What's the latest sort of target for the end of this year and when do you think you'll get to that 370 level?

And if I could ask one final one just on base metals, a lot of moving parts in Q2 and costs were quite a bit higher. Can you give us a sense of what unit costs will be doing in H2 or run rate by the end of the year compared to what we've seen in Q2 in the first half? Thank you.

Marcello Spinelli: Thanks, Liam. Spinelli here. Again, you know, projects that we have around the world we don't comment, but we consider them in part of our models that they will come that is part of the game, but don't forget there are a lot of challenges in many of them and we can reinforce that the challenges that we have are regarding the license in the mining side, but we already have in place infrastructure for logistics and ports and an environment that we really know how to manage, and also, don't have any… how can I say that? Institutional issues. So, again, we are in the best place to bring capacity in a structural mode.

Don't forget that quality is the name of the game for the near future and the future, so that's a lack of quality in terms of supply, and even if you bring more like coming from Simandou, there's no risk for the strategy in near future when you see the demand for high grade ores. It's a huge demand.

And the other point about the pace to reach any number, 370 or 400, it depends on the market. And when you talk about our capacity to produce, I pointed that we have three main areas to work, and the first one is related to the impact coming from the dams and we've been evolving in a great journey, we brought back all the operations, we are expecting the two dams that are coming by the end of the year, Itabiruçu and Torto, so it's OK, it's on track, the license delay can be an adjustment that we can do and also the project adjustments.

So, by the end of the year, as usual, we're going to say the level of production for next year in the Vale Day, but again, the main point here is how we can adjust the pace to bring volumes to the market and the trend is quality also, so we're not going to bring products that are not with the demand for them. So, the final numbers will come in the Vale Day.

Deshnee Naidoo: So, Liam, just regarding your question on base metals cost, I absolutely agree that this was not a good quarter, but I think the team and I are very happy about the tough decisions we took in terms of trying to get some of the foundations right with regards to the asset integrity. If I did a turn to cost, I mean, on the copper side, what was driving the copper cost in the quarter was of course the additional maintenance that we had to put both into Sossego andSalobo that affected our unit costs quite materially in the quarter. So, good number for us and if I look at quarter one on an all-in basis for copper, we reduced over US$ 4,500 per ton, in this quarter 6,300.

As Eduardo advised as well, if I look at my quarter or my half-on-half improvement in terms of copper production despite revising the guidance, we still are anticipating a 36% increase, right? And that's because Sossego will be at full capacity, we've revised slightly Salobo for the rest of the year on the basis of the maintenance that we want to do. So, we are hoping by year end we'll get to at least that 4,000, just over US$4,000 per ton in terms of the all-in cost for copper. So, just so that we all are clear, the all-in excludes capital.

But what's happening on nickel? So, if I look at nickel on quarter one and quarter two, you know, we are around 8,500 in the first quarter all-in, and for quarter two US$12,500 per ton, which is a respectable number because on nickel we get to offset a lot of the byproducts. The byproducts in quarter two let us down a bit because not only did we have some challenges in copper in the South Atlantic operations, but we also lost a bit of copper from Coleman from an incident that we had in quarter one, which I also reported on in the quarter and that's from the Coleman seismic event. So, we've lost a bit of byproduct credits that we would typically get.

But again, as Eduardo mentioned in terms of all of the initiatives underway, we are currently at the downstream capacity that we need to maintain the nickel guidance and hence the almost 25% increase half-on-half on nickel as well. So, when it all comes together, we're anticipating around an 11,500 to 11,700 dollars per ton in terms of the full year nickel all-in cost.

So, that's how I would look at the cost, Liam. Thank you.

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

Eduardo Bartolomeo: OK, thank you. Well, first of all, thanks a lot for the interest in our call, a lot of questions, good questions, I think it's great.

I wanted just to emphasize what Gustavo mentioned in his initial remarks. We material de-risk Vale, we're three years and a half after Brumadinho, we're learning a lot, we will never forget Brumadinho, Brumadinho is a driving force, I've been always saying that, the hard dams are totally under control, we're much safer now than we were three years ago, our ESG agenda in the top is embedded in our business, our team did a really great job in reshaping, it made us really proud, we sold nine business in five countries, we cashed like US$ 2 billion in drains, you know the numbers, so it's something that we have to celebrate. It is over, now we have to focus on the core assets, and we have extremely good reserves and resources, and market is in our favor, it's helping us. We don't need to rush, we can do it safely, we can do it properly, we're going to manage that correctly as leaders in nickel, as leaders in iron ore, we are going to do what is needed with safety and we're going to focus that.

I used to say we have a Ferrari, now it's light, now we have to run it, run it like one, and we're going to do it. Later, just to reemphasize, we really trust the fundamentals of the industry, the energy transition is here, besides all the short-term hiccups, we're not here for the… I always say it's not a sprint, it's a marathon, we're not here for one year, we're here for like Vale, for 80 years. We're building the Vale of 100 years, not as a Vale for 81 years.

So, we believe the fundamentals, it is a resilient demand, there are supply hurdles and then geopolitical risks, but we are really truly believing that we have the right moment.

So, do like us, buy Vale. The best investment that you can do it because we are extremely, extremely disciplined. Since day one when we said we have capital allocation, we are doing what we say. So, best investment, best growth opportunity ever that you can have in your hands and that's the exact time to take your risks. So, do like us, buy Vale.

And thanks a lot, and see you again in the next call, and keep safe.

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

Vale
80 years in Brazil

On June 1, 2022, Vale completed 80 years of operations in Brazil, always with the purpose of improving life and transforming the future.

VALE’S PRODUCTION AND SALES IN 2Q22

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Production and sales in 2Q22

Rio de Janeiro, July 19th, 2022

- Iron ore production increased 17% q/q to 74.1 Mt, mainly driven by the Southeastern and Southern Systems' solid performance into the dry season. Northern System production improved 4% q/q, benefiting from favorable weather seasonality with partial offset by one-off stockpiles homogenization activities in Ponta da Madeira to adjust for moisture levels.
  - As a result of this one-off event, the sale of our Midwestern System (~3.5 Mt) and in order to account for greater flexibility in our production due to current market conditions, Vale is revising its annual production guidance for 2022 to 310-320 Mt. The revised guidance is in line with our value over volume philosophy.
- Nickel production was 24% lower q/q mostly due to scheduled maintenance of our downstream facilities, which was partially offset by strong performance at Onça Puma. Mines operated in a steady pace through the quarter, with North Atlantic mines building up feedstock for planned mine-mill maintenance in 3Q22. Sales were largely in line q/q as inventories built in 1Q22 were sold in 2Q22.
- Copper production was in line with Q1 as the effect of Sossego SAG mill resumption in early June and stronger performance of Canadian mines were offset by both planned and corrective maintenance at Salobo plant.
  - As a result of a longer-than-expected maintenance at Sossego mill and additional maintenance at Salobo mill identified for 2022, Vale is revising its annual production guidance for Copper to 270-285 kt.

Production summary

000' metric tons	2Q22	1Q22	2Q21	1H22	1H21	% change 2Q22/1Q22	% change 2Q22/2Q21	% change 1H22/1H21	2022 Guidance
Iron ore[1]	74,108	63,128	75,001	137,236	142,531	17.4%	-1.2%	-3.7%	310-320 Mt[2]
Pellets	8,672	6,924	8,008	15,596	14,295	25.2%	8.3%	9.1%	34-38 Mt
Nickel	34.8	45.8	41.5	80.6	89.9	-24.0%	-16.1%	-10.3%	175-190 kt
Copper	55.9	56.6	73.5	112.5	150.1	-1.2%	-23.9%	-25.0%	270-285[2] kt

[1] Including third-party purchases, run-of-mine and feed for pelletizing plants. Excluding Midwestern System volumes.
[2] Iron ore and copper production guidance were reviewed from 320-335 Mt and 330-355 kt, respectively.

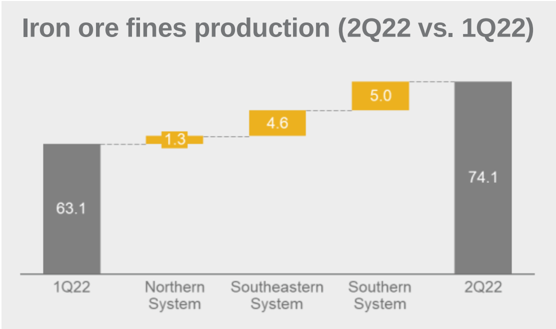
Sales summary

000' metric tons	2Q22	1Q22	2Q21	1H22	1H21	% change 2Q22/1Q22	% change 2Q22/2Q21	% change 1H22/1H21
Iron ore[1]	64,318	52,347	65,849	116,665	123,906	22.9%	-2.3%	-5.8%
Pellets	8,843	7,011	7,647	15,854	13,918	26.1%	15.6%	13.9%
Nickel	39.3	39.0	47.4	78.3	95.4	0.8%	-17.1%	-17.9%
Copper	51.5	50.3	74.2	101.8	145.4	2.4%	-30.6%	-30.0%

[1] Including third-party purchases and run-of-mine. Excluding Midwestern System volumes.

Businesses' highlights in 2Q22

Iron Ore and Pellets operations



- **Northern System production improved** benefiting from better weather seasonality in June while still restricted by tie-in effects from the primary crushers' installation to process jaspilite materials at S11D, which was concluded in May. Moreover, production was negatively impacted by (i) one-off supply chain restrictions as result of changes in stockpile formation procedures in Ponta da Madeira Terminal to manage moisture level in some cargos produced at S11D during the rainy season; and (ii) the ongoing lower ROM availability, caused by slower licensing processes.

- **Improvements in the performance of Southeastern System** are mainly attributed to (i) higher production at Brucutu of products to be concentrated in Chinese beneficiation plants; (ii) higher productivity at Itabira Complex, with the reassessment of tailings management solutions; and (iii) Timbopeba production improvement after the impact of the heavy rains in January and lower maintenance activities vs. 1Q22.

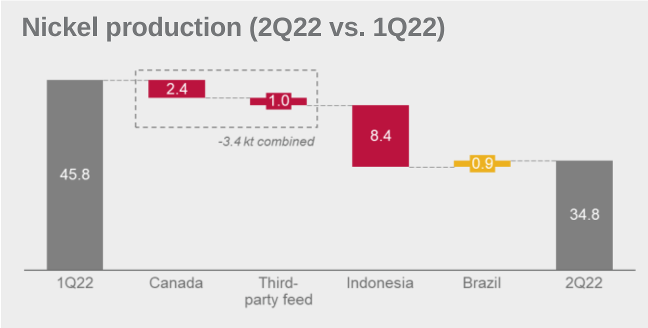
- After being strongly impacted by heavy rains in 1Q22, **production level at Southern System improved**, driven by (i) better performance in all operations, especially at Vargem Grande and Mutuca; and (ii) higher third-party purchase.

- **Pellets production increased** due to (i) lower maintenance activities at Oman plant; and (ii) higher pellet feed availability at Vargem Grande plant.

- **Iron ore fines and pellets sales totalled 73.2 Mt, 23% higher q/q, while all-in premium reached US$ 7.3/t[1] (vs. US$ 9.1/t in 1Q22).** The higher pellet premiums[2] were offset by sales of high-silica ores. High-silica ores can be blended into BRBF, concentrated in China or sold separately. Vale sold a higher percentage of high-silica ores separately to anticipate sales and to benefit from 2Q22 higher market prices for such products. Vale´s supply-chain flexibility allows us to adjust its sales strategy according to market conditions.

[1] Iron ore premium of US$ 1.1/t and weighted average contribution of pellets of US$ 6.2/t.
[2] Including seasonal dividends received from our pellet's JVs in Q2 and Q4.

Nickel operations



- **Production from Sudbury sourced ore was lower q/q mainly due to a 28-day planned maintenance shutdown at the Copper Cliff Smelter and Refinery**, which began in early April and reached full production again in June. Ontario mines' run rates improved during Q2, allowing for an inventory build-up to cover for planned maintenance across the underground mines and at the Clarabelle mill in Q3.

- **Production from Thompson sourced ore was down q/q** due to scheduled maintenance during the quarter at Long Harbour Refinery.

- **Production from Voisey's Bay sourced ore was lower q/q** as we proceed on the ongoing transitional period between the depletion of Ovoid mine and ramp-up to full production of the Voisey's Bay underground project.

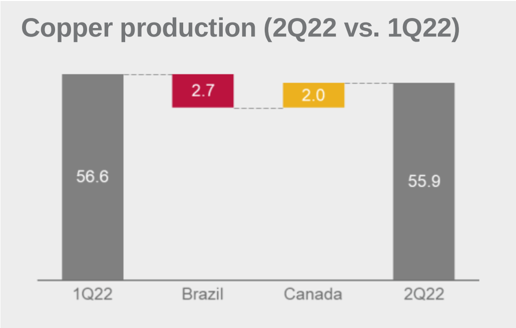
- Meanwhile, consumption of feed from third parties is planned to stay higher than in recent years, aiming to maximize the utilization and performance of our downstream operations. Finished nickel produced from third parties was lower q/q, as nickel downstream facilities were in maintenance.

- **Production of finished nickel from Indonesia source was lower q/q**, mainly due to scheduled maintenance at the Clydach and Matsusaka refineries during the quarter, limiting their consumption of PTVI source ore, as well as the reallocation of direct matte sales to third parties from 2Q22 to 1Q22. Overall PTVI matte deliveries to downstream operations were reduced due to the planned furnace rebuild, which started in December 2021 and concluded in June 2022. Nickel-in-matte production decreased 9% q/q due to a full planned maintenance shutdown in early-June.

- **Production at Onça Puma was higher q/q following maintenance works performed in 1Q22.**

- Nickel sales were relatively in line q/q, outpacing production by 13%, as a result of inventories strategy put in place in 1Q22 in order to fulfil sales commitments for 2Q22 as nickel refineries were in planned maintenance.

Copper operations



- **At Sossego, production has increased as operations resumed in early June after the extended SAG mill maintenance.** During the shutdown in Q1, an assessment of the discharge trunnion revealed the need for a full replacement which was completed during the quarter. In addition, work that had been scheduled for 2023 was brought forward, including GMD (gearless mill drive) rewinding and structural integrity work. This increased maintenance scope led to a total plant stoppage of 4.5 months, from 45 days originally. Sossego mill has been operating at a consistent pace since the end of June.

- **Salobo operations were impacted by maintenance in 2Q22**. Mine movement continued to improve throughout the quarter. However, concentrate production was negatively impacted by plant performance due to delays in ramp-up after planned maintenance and additional corrective maintenance. We expect further maintenance work to continue in 2H22.

- **Production of copper from Canadian sourced ore was higher due to improved Sudbury mine run-rates**. As indicated in the nickel section, a planned maintenance at Sudbury mines and mill will occur in Q3, in addition to scheduled ground control work. This is expected to have a planned temporary impact on copper production from Canadian operations.

- Copper sales[3] were slightly higher q/q as a result of the postponement of a shipment from late 1Q22 to 2Q22.

[3] Sales volumes are lower compared to production volumes due to payable copper vs. contained copper: part of the copper contained in the concentrates is lost in the smelting and refining process, hence payable quantities of copper are approximately 3.5% lower than contained volumes.

ANNEX – Production and sales summary

Iron ore

000' metric tons	2Q22	1Q22	2Q21	1H22	1H21	% change 2Q22/1Q22	2Q22/2Q21	1H22/1H21
Northern System	**39,073**	**37,732**	**43,501**	**76,805**	**85,794**	**3.6%**	**-10.2%**	**-10.5%**
Serra Norte and Serra Leste	22,548	22,586	26,916	45,134	52,216	-0.2%	-16.2%	-13.6%
S11D	16,525	15,147	16,585	31,672	33,578	9.1%	-0.4%	-5.7%
Southeastern System	**19,557**	**14,955**	**18,059**	**34,512**	**31,588**	**30.8%**	**8.3%**	**9.3%**
Itabira (Cauê, Conceição and others)	7,061	6,198	7,233	13,259	12,914	13.9%	-2.4%	2.7%
Minas Centrais (Brucutu and others)	5,950	3,569	5,490	9,519	8,946	66.7%	8.4%	6.4%
Mariana (Alegria, Timbopeba and others)	6,547	5,188	5,337	11,735	9,729	26.2%	22.7%	20.6%
Southern System	**15,477**	**10,441**	**13,441**	**25,918**	**25,149**	**48.2%**	**15.1%**	**3.1%**
Paraopeba (Mutuca, Fábrica and others)	6,968	4,010	5,899	10,978	11,216	73.8%	18.1%	-2.1%
Vargem Grande (Vargem Grande, Pico and others)	8,510	6,432	7,542	14,942	13,933	32.3%	12.8%	7.2%
IRON ORE PRODUCTION[1]	**74,108**	**63,128**	**75,001**	**137,236**	**142,531**	**17.4%**	**-1.2%**	**-3.7%**
IRON ORE SALES[2]	**64,318**	**52,347**	**65,849**	**116,665**	**123,906**	**22.9%**	**-2.3%**	**-5.8%**
IRON ORE AND PELLETS SALES[2]	**73,161**	**59,358**	**73,496**	**132,519**	**137,824**	**23.3%**	**-0.5%**	**-3.8%**

[1] Including third party purchases, run-of-mine and feed for pelletizing plants. Excluding Midwestern System volumes. Vale's product portfolio Fe content reached 62.2%, alumina 1.3% and silica 6.4% in 2Q22.
[2] Including third-party purchases and run-of-mine. Excluding Midwestern System volumes.

Pellets

000' metric tons	2Q22	1Q22	2Q21	1H22	1H21	% change 2Q22/1Q22	2Q22/2Q21	1H22/1H21
Northern System	**836**	**738**	**748**	**1,574**	**1,709**	**13.3%**	**11.8%**	**-7.9%**
São Luis	836	738	748	1,574	1,709	13.3%	11.8%	-7.9%
Southeastern System	**4,088**	**3,689**	**3,963**	**7,777**	**7,572**	**10.8%**	**3.2%**	**2.7%**
Itabrasco (Tubarão 3)	930	310	742	1,240	1,325	200.0%	25.3%	-6.4%
Hispanobras (Tubarão 4)	-	-	-	-	169	-	-	-100.0%
Nibrasco (Tubarão 5 and 6)	921	1,064	974	1,985	1,673	-13.4%	-5.4%	18.6%
Kobrasco (Tubarão 7)	963	969	803	1,932	1,410	-0.6%	19.9%	37.0%
Tubarão 8	1,273	1,346	1,445	2,619	2,996	-5.4%	-11.9%	-12.6%
Southern System	**1,136**	**679**	**975**	**1,815**	**1,631**	**67.3%**	**16.5%**	**11.3%**
Fábrica	-	-	-	-	-	-	-	-
Vargem Grande	1,136	679	975	1,815	1,631	67.3%	16.5%	11.3%
Oman	**2,612**	**1,818**	**2,322**	**4,430**	**3,383**	**43.7%**	**12.5%**	**30.9%**
PELLETS PRODUCTION	**8,672**	**6,924**	**8,008**	**15,596**	**14,295**	**25.2%**	**8.3%**	**9.1%**
PELLETS SALES	**8,843**	**7,011**	**7,647**	**15,854**	**13,918**	**26.1%**	**15.6%**	**13.9%**

Nickel – Finished production by source

000' metric tons	2Q22	1Q22	2Q21	1H22	1H21	% change 2Q22/1Q22	2Q22/2Q21	1H22/1H21
Canada	**16.7**	**18.9**	**20.4**	**35.6**	**45.6**	**-11.6%**	**-18.1%**	**-21.9%**
Sudbury	7.7	8.6	9.0	16.3	21.0	-10.5%	-14.4%	-22.4%
Thompson	2.0	2.9	1.4	4.9	4.2	-31.0%	42.9%	16.7%
Voisey's Bay	6.9	7.5	10.0	14.4	20.4	-8.0%	-31.0%	-29.4%
Indonesia	**9.1**	**17.6**	**14.5**	**26.7**	**29.9**	**-48.3%**	**-37.2%**	**-10.7%**
Brazil	**6.3**	**5.4**	**5.2**	**11.7**	**11.5**	**16.7%**	**21.2%**	**1.7%**
Feed from third-parties[1]	**2.7**	**3.7**	**1.3**	**6.5**	**2.9**	**-27.0%**	**107.7%**	**124.1%**
NICKEL PRODUCTION	**34.8**	**45.8**	**41.5**	**80.5**	**89.9**	**-24.0%**	**-16.1%**	**-10.5%**
NICKEL SALES	**39.3**	**39.0**	**47.4**	**78.4**	**95.4**	**0.8%**	**-17.1%**	**-17.8%**

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

Copper – Finished production by source

000' metric tons	2Q22	1Q22	2Q21	1H22	1H21	% change 2Q22/1Q22	2Q22/2Q21	1H22/1H21
Brazil	**35.0**	**37.7**	**55.2**	**72.7**	**105.2**	**-7.2%**	**-36.6%**	**-30.9%**
Salobo	29.6	33.9	38.7	63.6	72.8	-12.7%	-23.5%	-12.6%
Sossego	5.4	3.8	16.6	9.1	32.5	42.1%	-67.5%	-72.0%
Canada	**20.9**	**18.9**	**18.2**	**39.8**	**44.8**	**10.6%**	**14.8%**	**-11.2%**
Sudbury	16.9	13.9	13.0	30.8	32.4	21.6%	30.0%	-4.9%
Thompson	0.2	0.3	0.1	0.4	0.3	-33.3%	100.0%	33.3%
Voisey's Bay	2.5	3.1	4.5	5.6	10.6	-19.4%	-44.4%	-47.2%
Feed from third parties	1.3	1.6	0.6	2.9	1.7	-18.8%	116.7%	70.6%
COPPER PRODUCTION	**55.9**	**56.6**	**73.5**	**112.5**	**150.1**	**-1.2%**	**-23.9%**	**-25.0%**
COPPER SALES	**51.5**	**50.3**	**74.2**	**101.8**	**145.4**	**2.4%**	**-30.6%**	**-30.0%**
Copper Sales Brazil	34.6	34.1	55.8	68.7	101.2	1.5%	-38.0%	-32.1%
Copper Sales Canada	16.9	16.2	18.4	33.1	44.2	4.3%	-8.2%	-25.3%

Base Metals by-products – Finished production

	2Q22	1Q22	2Q21	1H22	1H21	% change 2Q22/1Q22	2Q22/2Q21	1H22/1H21
COBALT (000' metric tons)	541	755	754	1,296	1,465	-28.3%	-28.2%	-11.5%
PLATINUM (000' oz troy)	21	23	30	44	60	-8.7%	-30.0%	-26.7%
PALLADIUM (000' oz troy)	28	29	36	58	75	-3.4%	-22.2%	-22.7%
GOLD (000' oz troy)[1]	60	71	96	131	182	-15.5%	-37.5%	-28.0%
TOTAL BY-PRODUCTS (000' metric tons Cu eq.)[2 3]	**28**	**32**	**42**	**59**	**85**	**-12.5%**	**-33.3%**	**-30.6%**

[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, cobalt, gold and silver: LME spot; for Platinum and Palladium: NYMEX spot; for other PGMs: Johnson Matthey.