

# PARTICIPATING DEBENTURES REPORT 2H22

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Any additional information about the participating debentures, including the Prospectus for Public Trading of Participating Debentures, can be obtained on our website, [www.vale.com/Investors/Equity](http://www.vale.com/Investors/Equity) and Debt/Participating debentures, from GDC Partners Serviços Fiduciários DTVM Ltda. as fiduciary agent for the debentures, [www.gdcdtvm.com.br](http://www.gdcdtvm.com.br), and from the CVM (Brazilian Securities and Exchange Commission).



## Second half of 2022 (2H22)

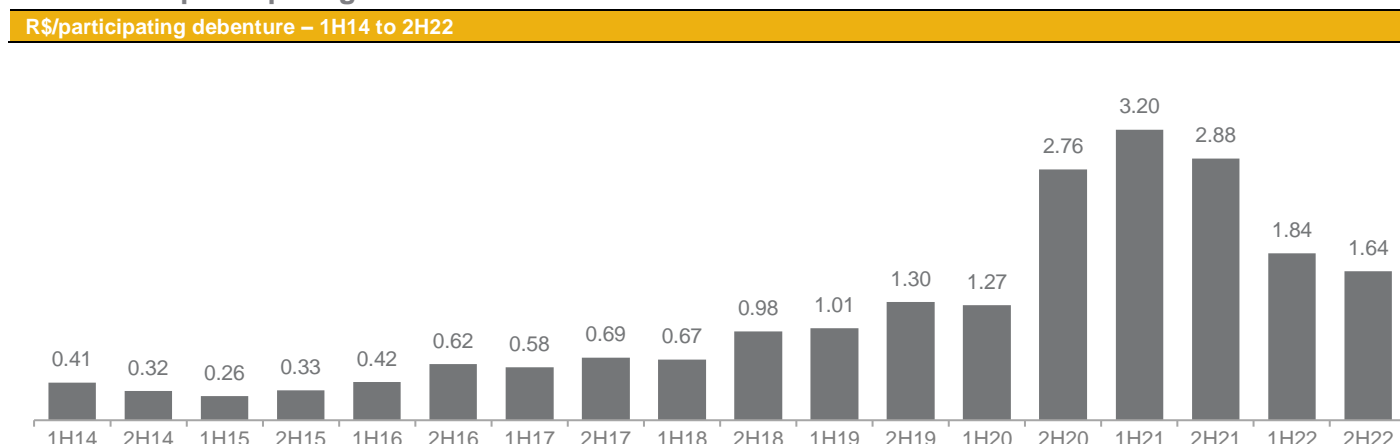
Rio de Janeiro, March 31, 2022 – Vale S.A. (“Vale”) will pay today, R\$ 637,478,524.16 (R\$ 715,374,780.86 in 1H22), equivalent to R\$ 1.640621971 per participating debenture<sup>1</sup> (R\$ 1.841096662 in 1H22), related to the total premium for the period between July and December of 2022 (2H22). The financial settlement will occur on April 3, 2023.

The total premium refers to: (i) 1.80% of the net revenues from the sale of iron ore fines from the Northern System; (ii) 1.25% of the net revenues from the sale of copper concentrate from the Sossego mine; and (iii) complementary amount of R\$ 176,991.11 in 2H22 related to the sale of 9 areas belonging to the Mining Rights of Corumbá, in Mato Grosso do Sul<sup>2</sup> (R\$ 72,936.98 in 1H22, related to the sale of 5 areas belonging to the research block from Quadrilátero Ferrífero, in Baú Project region, in Minas Gerais<sup>3</sup>).

### Participating debentures premium

R\$	2H22	1H22
Premium on iron ore from the Northern System	618,509,291.88	710,616,915.91
Premium on copper concentrate	18,792,241.17	4,684,927.97
Premium on disposal of mining rights	176,991.11	72,936.98
<b>Total premium</b>	<b>637,478,524.16</b>	<b>715,374,780.86</b>
<b>Premium per debenture</b>	<b>1.640621971</b>	<b>1.841096662</b>

### Premium of participating debentures



Income tax will be charged on the amount to be paid to debenture holders, as fixed-income investments, applying the rate in relation to the individual situation of the beneficiary, with the exception of those who can provide legal, unequivocal, and proof that they are exempt or subject to a differentiated taxation.

<sup>1</sup> In our previous reports, we referred to the participating debenture as “shareholders debenture”.

<sup>2</sup> Related to the iron assets of mining rights 573.801/1940, 573.802/1940, 573.803/1940, 573804/1940, 813.183/1974, 813.184/1974, 813.185/1974, 813.186/1974 and 1.281/1959, negotiated with the company J&F Mineração Ltda.

<sup>3</sup> Related to iron ore assets mining rights: (i) 847/1935 (04 area) negotiated with Mineração - Ferro Puro LTDA and (ii) 830.836/1980, 811.096/1975, 830.837/1980 and 810.629/1975 negotiated with GSM Mineração Ltda

## Annual premium of participating debentures

Year	Per debenture (R\$)	Total amount (R\$)
2013	0.341	132,642,793.33
2014	0.732	284,859,604.30
2015	0.594	230,899,093.47
2016	1.043	405,149,990.84
2017	1.270	493,550,875.87
2018	1.654	642,842,084.48
2019	2.316	900,017,354.07
2020	4.034	1,567,329,193.88
2021	6.085	2,364,227,640.18
2022	3.482	1,352,853,305.02

# Iron ore

In 2H22, sales of iron ore totaled 146.6 Mt (116.9 Mt in 1H22), resulting in revenues, net of maritime freight costs of R\$ 59.5 billion (R\$ 65.4 billion in 1H22).

Iron ore sales volumes in the Northern System totaled 94.9 Mt (74.8 Mt in 1H22)<sup>4</sup>, resulting in revenues, net of maritime freight costs of R\$ 39.7 billion (R\$ 44.4 billion in 1H22). After applying the deductions provided in the Debenture Deed: (a) R\$ 4.0 billion related to transportation expenses (R\$ 3.6 billion in 1H22); and (b) R\$ 1.3 billion related to taxes levied on sales (R\$ 1.3 billion in 1H22)<sup>5</sup>, the net revenues of the Northern System totaled R\$ 34.4 billion (R\$ 39,5 billion in 1H22). After applying the percentage of 1.8% to this amount, the premium for the Northern System totaled R\$ 618.5 million (R\$ 710.6 million in 1H22).

## Premium on iron ore

R\$ million	2H22	1H22	2H21	1H21	2H20
Net sales revenues from the Northern System	34,361.63	39,478.72	50,229.4	67,830.3	58,257.6
% basis for calculation	1.8%	1.8%	1.8%	1.8%	1.8%
<b>Premium on iron ore (R\$ million)</b>	<b>618.5</b>	<b>710.6</b>	<b>1,088.0</b>	<b>1,220.9</b>	<b>1,048.6</b>

In Vale's Southeastern System, iron ore sales from the mineral deposits covered by the Private Deed for Participating Debentures totaled 1.568 billion metric tons until December 31<sup>st</sup>, 2022, an increase of 26 million metric tons in relation to June 30<sup>th</sup>, 2022. Vale's expectation, based on the operational resumption plan and on the sales plan for iron ore originated from the mining rights covered by the Debenture Deed, is that the accumulated sales volumes of 1.7 billion metric tons of the Southeastern System will be reached in 2025, threshold from which the condition for the payment of the premium, under the terms of the Deed, would be fulfilled. However, such forecast may not be confirmed, implying in the anticipation or postponement of the aforementioned date in order to obtain the cumulative sales levels.

<sup>4</sup> Includes iron ore transfers to pelletizing plants.

<sup>5</sup> Include taxes and contributions levied on sales separately, or on billing or gross revenues from sales, as well as the financial compensation due to the Brazilian Federal Government, States and Municipalities.

## Copper concentrate

In 2H22, sales of copper concentrate from Sossego totaled 138 thousand metric tons (28 thousand metric tons in 1H22). The premium related to the sales of copper concentrate is R\$ 18.8 million (R\$ 4.7 million in 1H22), calculated from the application of the 1.25% percentage on the net sales revenue of R\$ 1.5 billion (R\$ 374.8 million in 1H22).

### Premium on copper concentrate

R\$ million	2H22	1H22	2H21	1H21	2H20
Net sales revenue <sup>6</sup>	1,503.4	374.8	2,574.3	1,846.3	1,969.7
% basis for calculation <sup>7</sup>	1.25%	1.25%	1.25%	1.25%	1.25%
<b>Premium on copper concentrate</b>	<b>18.8</b>	<b>4.7</b>	<b>32.2</b>	<b>23.1</b>	<b>24.6</b>

<sup>6</sup> Gross sales minus expenses with transport and insurance and taxes on sales, which include taxes and contributions levied on sales separately, or on billing or gross revenues from sales, as well as the financial compensation due to the Brazilian Federal Government, States and Municipalities.

<sup>7</sup> On April 15, 1997, Vale had a 50% stake in Mineração Serra do Sossego S.A. (Sossego). In 2001, Vale bought the remaining 50% of Sossego from Phelps Dodge do Brasil Mineração Ltda. Hence, the percentage basis for calculating premium is 2.5%, as described in the Deed of Issue of Debentures, multiplied by the Vale's share in the project at the time, 50%, and therefore, equal to 1.25%.

## Sales and leasing of mining rights

In 2022, there was no leasing or sales of mining rights contained in the Debenture Deed.

In 2H22, there were sales of 9 mining rights listed in the Debenture Deed.

In 1H22, there were sales of 5 mining rights listed in the Debenture Deed.

## Changes in mining rights

In 2H22, there was a change in the number of areas, in comparison with 1H22, with a reduction of 10<sup>8</sup> areas and the number of hectares, with a reduction in the order of 6,277.40 hectares.

In 1H22, there was a change in the number of areas, in comparison with the 2H21, with a reduction of 4<sup>9</sup> areas and the number of hectares, with a reduction in the order of 629.80 hectares.

The mining right in force on December 31, 2022, covered by the Deed of Issue of the Debenture, amount 285 processes, equivalent to 1,509,668.18 hectares. The mining right in force on June 30, 2022, covered by the Deed of Issue of the Debenture, amount 295 processes, equivalent to 1,515,945.58 hectares. The information is summarized in Annex 2 - Inventory of Mining Rights.

## Projects under development

On February 16, 2023, Vale announced its 4Q22 financial results, which are available on our website: <http://www.vale.com/EN/investors/information-market/quarterlyresults/Pages/default.aspx>.

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<sup>8</sup> The change does not include mining right 847/1935 (area 04), because it is in the process of being approved by ANM.

<sup>9</sup> The change does not include mining right 847/1935 (area 04), because it is in the process of being approved by ANM.



(A free translation of the original in Portuguese)

## **Independent auditor's report**

To the Board of Directors and Shareholders  
Vale S.A.  
Rio de Janeiro - RJ

### **Opinion**

We have audited the accompanying Selected Information, which comprises the amounts in the tables entitled "Participating Debentures Premium", included in the Participating Debentures Report (the "Report") of Vale S.A. and its subsidiaries (the "Company") for the first and second half of December 31, 2022.

In our opinion, the Selected Information referred to above has been properly prepared, in all material respects, in accordance with the basis of preparation in Appendix 1 to the Report.

### **Basis for opinion**

We conducted our audit in accordance with Brazilian and International Standards on Auditing. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Selected Information included within the Report. We are independent of the Company and its subsidiaries in accordance with the ethical requirements established in the Code of Professional Ethics and in the Professional Standards issued by the Brazilian Federal Accounting Council, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### **Emphasis of matter - basis of preparation of the selected information to the report**

We draw attention to Appendix 1 to the Report, which describes the basis of preparation of the Selected Information. The Report is prepared in accordance with a special purpose framework for providing reasonable assurance over Participating Debentures Premium paid or to be paid by the Company, related to the first and second half of 2022. As a result, the Report may not be suitable for another purpose.

The Report does not comprise a full set of financial statements, prepared in accordance with accounting practices adopted in Brazil and with the International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). Our opinion is not qualified in respect of this matter.

### **Responsibilities of management and those charged with governance for the Selected Information to the Report**

Management is responsible for the preparation of the Selected Information in accordance with the basis of preparation in Appendix 1 to the Report and for determining that the basis of preparation is acceptable in the circumstances. Management is also responsible for such internal control as they determine is necessary to enable the preparation of the Selected Information that is free from material misstatement, whether due to fraud or error.

Those charged with governance are responsible for overseeing the financial reporting process of the Company and its subsidiaries.

### **Auditor's responsibilities for the Selected Information to the Report**

Our objectives are to obtain reasonable assurance about whether the Selected Information is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Brazilian and International Standards on Auditing will always detect a material misstatement when it exists. Misstatements can



arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the Selected Information.

As part of an audit in accordance with Brazilian and International Standards on Auditing, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the Selected Information, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control of the Company and its subsidiaries.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the ability of the Company to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures of the Selected Information or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance, in connection with the audit of the financial statements of the Company as at and for the year ended December 31, 2022, with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

Rio de Janeiro, March 31, 2023

PricewaterhouseCoopers  
Auditores Independentes Ltda.  
CRC 2SP000160/O-5

Patricio Marques Roche  
Contador CRC 1RJ081115/O-4

# Annex 1 - Report Preparation Basis

This report has been prepared from data derived from our internal controls over financial reporting and from data recorded in our financial systems, using the same data to prepare our consolidated financial statements, which are prepared in accordance with IFRS, as issued by the IASB.

The numbers presented in this report and those found in other reports published by Vale S.A. and/or its subsidiaries may or may not present differences. This is because different reporting frameworks have specific data requirements.

## **Functional and presentation currency**

All information contained in this report is measured using the currency of the main economic environment in which the Issuer operates ("Functional Currency"), which is the Brazilian real ("R\$" or "Reais"). Financial information originating in a currency other than R\$ is converted into Reais at the exchange rate of the transaction date or the average monthly exchange rate, as applicable.

## **Premium Payments**

The Debentures entitle the holders thereof to a premium payment, shared pro rata among the Debentures according to a fraction corresponding to one divided by 388,559,056. The total amount of any Premium Payment will not be adjusted for any repurchase of Debentures by the Issuer or any companies controlled by the Issuer (with such acquired Debentures being held in treasury), or any cancelation of Debentures held in treasury by the Issuer and is calculated as described below with further information found on the Debenture Deed ("Premium Payment").

The Premium Payment is due with respect to the Mining Rights, and is calculated based on the following percentages of the Net Revenue from the sale of certain Products for certain Designated Areas:

- i. 1.8% for iron ore Products from certain Designated Areas in the North of Brazil and in the State of Minas Gerais and Mato Grosso do Sul, as described in the Debenture Deed, subject to the achievement of certain triggers described in the Debenture Deed.
- ii. 2.5% for gold or copper Products or byproducts produced in certain Designated Areas described in the Debenture Deed, subject to the beginning of sales of Products for some of these Designated Areas or the achievement of certain triggers for other Designated Areas, as described in the Debenture Deed.
- iii. 1.0% for other Products or byproducts produced in certain Designated Areas, as described in the Debenture Deed, subject to the achievement of certain triggers described in the Debenture Deed.

Premium Payment is also due in the following cases:

- i. Sale of to the Mining Rights: 1.0% of the sale price, net of sales taxes, in case the of a sale of a Mining Right. After the disposition of a Mining Right, such Mining Right will cease to compose the calculation basis of the Premium Payment.

- ii. Leasing of Mining Rights: In the event that any of the Mining Rights is explored by third parties under lease agreements, the Premium Payment calculated under the Debenture Deed will be entirely due by the Company or its Controlled Companies as if the lease had not been contracted for the purpose of the Debenture Deed.

### **Premium Payment Frequency**

The Premium Payment due is paid semi-annually on March 31 and September 30 of each calendar year.

### **Definitions**

“Designated Areas” means the areas covered by the Mining Rights, as specified under the Debenture Deed;

“Controlled Companies” means the entities currently controlled or that may be formed or acquired by the Issuer;

“Base Date” means April 15, 1997;

“Debentures” means an instrument issued in connection with the Company’s privatization process, initiated in 1997, through the sixth issuance of such debentures, whose obligations are subordinated, unsecured and non-convertible in stocks.

“Mining Rights” means the mining rights described in the Debenture Deed that were held by the Company or its Controlled Companies as of the Base Date and that were not subject to exclusion under the Debenture Deed;

“Issuer” means Vale S.A., a stock corporation with head office located in Rio de Janeiro, Brazil;

“Debenture Deed” means the Instrumento Particular de Escritura de Emissão de Debêntures da Companhia Vale do Rio Doce (now Vale S.A.), dated as of June 24, 1997, registered at the 7th Registry Office (Ofício de Registro de Imóveis) of the city of Rio de Janeiro, under number 1912, on July 3, 1997, and its amendments and supplements.

“Net Revenue” means the total of gross revenues from the sale of a Product, minus deductions solely for sales taxes and expenses relating to transportation and insurance related to the commercialization of such Product. For purposes of this definition, “sales taxes” consist of the taxes and contributions that apply specifically to such sales or to the revenues or gross revenue from sales, as well as financial compensation due and payable to the Federative Republic of Brazil, and states or municipalities thereof; provided that, with respect to mineral substances consumed or utilized in industrial processes by the Company or its Controlled Companies that are holders of applicable mineral rights under the Debenture Deed, Net Revenue shall include the total estimated sales value of the Product, which shall be established based on the arithmetic mean of the prices obtained by the Company or its Controlled Companies in the sale of the same products, subject to the same deductions for sales taxes mentioned above, subject to the terms of the Debenture Deed.

“Product” means the main mining product for each specific mining right area, as resulting from the last production step before industrialization.

## Annex 2 - Inventory of Mining Rights

### As of December 31, 2022 (2H22)

Block	Municipality	State	Substance(s)	Hectares	Stage <sup>10</sup>
Cachoeiro	Cachoeiro do Itapemirim	ES	Limestone	74.91	Mining concession
Carajás	São Félix do Xingu, Parauapebas, Canaã dos Carajás, Marabá, Tucumã, Curionópolis and Água Azul do Norte	PA	Gold, silver, copper, iron, manganese, nickel, quartzite, granite, beryl, tin, tantalum	244,829.21	Mining concession
Corumbá	Ladário and Corumbá	MT	Iron	1,757.24	Mining concession
Espinhaço	Guanhães, Morro do Pilar, Sabinópolis, Senhora do Porto and Conceição do Mato Dentro	MG	Gold, iron	23,312.99	Mining concession
Gradaús	Rio Maria, Bannach, Cumarú do Norte, Ourilândia do Norte and Tucumã	PA	Tungsten, chromium, silver	26,944.91	Application to mine
Parú Jari Sul	Almeirim, Mazagão and Monte Alegre	AP, PA	Sapropelite, sulphur, phosphate, manganese, gold, titanium	1,157,628.12	Application to carry out research
Quadrilátero Ferrífero	Santa Bárbara, Mariana, Nova Lima, Itabira, Brumadinho, Ouro Preto, São Gonçalo do Rio Abaixo, Barão de Cocais, Caeté, Rio Piracicaba and Catas Altas	MG	Dolomite, iron, gold, arsenic, vanadium, quartz, manganese, silver, nickel	34,666.71	Mining concession
Riacho dos Machados	Rio Pardo de Minas and Riacho dos Machados	MG	Iron, zinc	11,100.25	Application to mine
Vazante	Vazante, Coromandel and Lagamar	MG	Zinc	9,353.72	Research permit

### As of June 30, 2022 (1H22)

Block	Municipality	State	Substance(s)	Hectares	Stage <sup>11</sup>
Cachoeiro	Cachoeiro do Itapemirim	ES	Limestone	74.91	Mining concession
Carajás	São Félix do Xingu, Parauapebas, Canaã dos Carajás, Marabá, Tucumã, Curionópolis e Água Azul do Norte	PA	Gold, silver, copper, iron, manganese, nickel, quartzite, granite, beryl, tin, tantalum	244,829.21	Mining concession
Corumbá	Ladário and Corumbá	MT	Iron	7,034.76	Mining concession
Espinhaço	Guanhães, Morro do Pilar, Sabinópolis, Senhora do Porto and Conceição do Mato Dentro	MG	Gold, iron	23,312.99	Mining concession
Gradaús	Rio Maria, Bannach, Cumarú do Norte, Ourilândia do Norte and Tucumã	PA	Tungsten, chromium, silver	26,944.91	Application to mine
Parú Jari Sul	Almeirim, Mazagão and Monte Alegre	AP, PA	Sapropelite, sulphur, phosphate, manganese, gold, titanium	1,157,628.12	Application to carry out research
Quadrilátero Ferrífero	Santa Bárbara, Mariana, Nova Lima, Itabira, Brumadinho, Ouro Preto, São Gonçalo do Rio Abaixo, Barão de Cocais, Caeté, Rio Piracicaba e Catas Altas	MG	Dolomite, iron, gold, arsenic, vanadium, quartz, manganese, silver, nickel	34,666.71	Mining concession
Riacho dos Machados	Rio Pardo de Minas and Riacho dos Machados	MG	Iron, zinc	11,100.25	Application to mine
Vazante	Vazante, Coromandel and Lagamar	MG	Zinc	10,353.72	Research permit

<sup>10</sup> Most advanced stage of all areas in the block.

<sup>11</sup> Most advanced stage of all areas in the block.