VALE

1Q24 Operational Preview: Fasten your seat belts, bumpy road ahead.

LatAm Metals & Mining

Main takeaways:

(i) We expect fines production to rise slightly y/y and have a sequential retraction due to the seasonal effect; **(ii)** Production guidance for 2024 is flat vs. 2023, but may have been underestimated; **(iii)** Vale's inventory pace of iron ore fines should progress q/q, but sales will probably show strong growth y/y; **(iv)** Continued ramp-up of pellet production and sales; **(v)** We anticipate a reduction in both Nickel production and shipments; **(vi)** Copper with ramp-up on an annual basis; **(vii)** 62% Fe curve price this time will be a headwind; **(viii)** We estimate a strong drop in the realized price of iron ore fines, clocking in at US$98/t Genial Est. (-17.2% q/q; -9.8% y/y), below consensus; **(ix)** For pellets, contractual premiums should increase to US$25.8/t Genial Est. (+23.7% q/q, equivalent to +US$5/t); **(x)** Nickel price following downward trend curve, Copper should accelerate; **(xi)** Unlike last quarter, we expect weaker consolidated performance in 1Q24; **(xii)** We explain the importance of the forward provisional price in Vale's pricing system, and how it will play a key role in the 1Q24 result (for more details, check the "Our Take" section); **(xiii)** The situation actually looks **worse than the consensus is projecting for 1Q24** in particular, but this does not take away our conviction that the market is discounting the company's valuation beyond a fair point; **(xiv)** We continue with a **BUY rating**, with our **12M Target Price** of **R$72.30** for **VALE3-B3** and **US$14.50** for the **ADRs-NYSE**. This represents an **upside of +17.31%**.

Analysts

Igor Guedes
+55 (11) 3206-8286
igor.guedes@genial.com.vc

Lucas Bonventi
+55 (11) 3206-8244
lucas.bonventi@genial.com.vc

Rafael Chamadoira
+55 (11) 3206-1457
rafael.chamadoira@genial.com.vc

Company

VALE US Equity
Buy

Price: US$ 12.02 (12-Mar-2024)
Target Price 12M: US$ 14.50 (NYSE)

VALE3 BZ Equity
Target Price 12M: R$ 72.30 (B3)

Vale will release its 1Q24 **production and sales report** tomorrow, **April 16, after the market closes**. In general terms, we **expect production to increase slightly**, representing a rise of +1% y/y for **iron ore fines**, despite the estimated slowdown of -24.5% q/q, due to the **seasonal effect naturally linked to the rains**, reaching ~67.5Mt Genial Est. Regarding **sales**, it's important to remember that in 1Q23 Vale had great difficulty shipping i.o. from the northern system, as the structure of the Ponta da Madeira Terminal (MA) was damaged by heavy rains. The terminal was closed for a few days to re-establish operations and interrupted the shipments flow, drastically affecting the sales and the quality of the mix. This means that **the y/y base is weaker and should be easily surpassed in 1Q24**, since this quarter seems to have passed unscathed by major disruptions. We expect sales of ~50.6Mt Genial Est. (-35.0% q/q; +10.3% y/y).

Table 1. Operational Summary (1Q24 Genial Est.)

(Thousand Tonnes - kt)	Genial Est.				
Summary	**1Q24E**	**4Q23A**	**% q/q**	**1Q23A**	**% y/y**
Iron Ore Production	67.477	89.397	**-24,5%**	66.774	**1,1%**
Iron Ore Fines Shipments	50.595	77.885	**-35,0%**	45.861	**10,3%**
Pellets Production	9.286	9.851	**-5,7%**	8.319	**11,6%**
Pellets Shipments	9.193	10.285	**-10,6%**	8.133	**13,0%**

Source: Genial Investimentos, Vale

For **pellets**, we believe that after the commissioning of the Torto dam took place at the beginning of 3Q23, operations at the Brucutu mine (MG) should help bring about **a ramp-up** in **production and a higher volume of sales on an annual basis**. On the other hand, although Vale performed very well in the production of iron ore fines in 4Q23, it still has to consider the start of the weaker seasonal period, where the rainy season had already started last quarter. We believe that this natural factor must have reduced the volume that arrived at the pelletizing plant in 1Q24, to be accounted for as part of pellet production in this quarter.

This situation is due to the **logistical delay** between the extraction of iron ore fines in Brucutu (MG) and the arrival of the cargo at the pelletizing plant yard, at the Tubarão Terminal (ES). As a result, we expect Pellets production to be 9.2Mt Genial Est. (-5.7% q/q; +11.6% y/y). Sales should follow similar dynamics to production, with low double-digit growth y/y, but a decline further amplified on a sequential basis by the seasonal effect, which is perfectly natural for the business.

However, we believe that **the real setback in 1Q24 will be the 62% Fe iron ore price curve**. Contrary to what happened last quarter, the strong depreciation of -25% YTD should represent a negative factor in Vale's result, compounding a weaker price dynamic to mark an **expected revenue decline in 1Q24**. Although the average price of the 62% Fe benchmark this quarter is not very different from last quarter, with a slight decrease to US$124/t (only -3.4% q/q), the difference lies in the trend observed between the quarters, which **followed opposite vectors**. While the price of iron ore accelerated sharply between the beginning and end of 4Q23 (~US$120-US$140/t), the opposite was true in 1Q24, when the price fell voraciously (~US$140-103/t).

So, although the average price of the benchmark curve was basically stable when comparing the two quarters, this dynamic of opposing vectors causes a greater price retraction by the **future price provisioning system**, which will play against Vale in 1Q24, as will be explained in more depth throughout the report.

To worsen **price realization in i.o. fines**, we also expect the **quality premium** to be at **very depressed levels** (-US$1.3/t in 1Q24E vs. -US$1.1/t in 4Q23), having already been negative last quarter and slightly widening the discount this quarter. **The situation**, on the other hand, **seems to be better for pellet pricing**, less dependent on the Chinese market, which should see an increase in the premium in 1Q24. To understand the latest effects of the Chinese economy on iron ore prices, we encourage you to read our latest sector report, published a few days ago and attached here (Metals & Mining: Has China's economic model completely run out of steam?).

As for **base metals**, we believe it will be another challenging quarter for Nickel pricing, due to the oversupply from Indonesia, which has been pushing the price down for some time. However, contrary to this trend, Copper operations should see an increase y/y (both for revenue and EBITDA), due to better price dynamics q/q and ramp-up of production y/y.

Operational Preview 1Q24: Production and sales

We expect fines production to rise slightly y/y and have sequential retraction due to the seasonal effect. After two strong quarters (3Q23 and 4Q23), our estimate is that iron ore production will fall -24.5% q/q in 1Q24. It should be borne in mind that the 3Qs are the best quarters for production, but the arrival of warmer temperatures in the middle of the 4Qs usually brings the start of the torrential rainy season, which lasts until March of the following year. This means that 1Qs (Jan.-Mar.) marks the worst period of the year for production. It's a natural effect, typical of the business.

Although last quarter already had a partially unfavorable seasonality, Vale excelled and performed very well in production. Even so, we consider a slowdown now to be normal. We therefore expect a double-digit q/q reduction in iron ore fines production. However, if we look at the dynamics on an annual basis, we believe that Vale tends to have a 1Q24 very close to what it was last year, indicating only a slightly better figure, mainly driven by the ramp-up of the S11D mine, and counterbalanced by the depletion of the Serra Norte complex acting as the opposite vector, both assets belonging to the northern system. As for the southeastern and southern systems, we expect a mild improvement in Itabira and Vargem Grande, respectively. Our projection for the figure is 67.5Mt Genial Est. (-24.5% q/q; +1.1% y/y).

Production guidance for 2024 is flat vs. 2023 but may have been underestimated. During the event held by Vale in London (UK), the company released its projections for 2024 to analysts. Considering that the event took place on December 5th, the guidance suggested by the company may have been underestimated. We are confident in Vale's operational execution and believe that the guidance of 310-320Mt of iron ore for 2024 can be exceeded (or at least, be on the upper band). Data from the Foreign Trade Secretariat (SECEX) continues to help us infer robust production for the company, even with the seasonality of the beginning of the year providing a headwind.

We should remember that Vale's production had its best performance for the month of December since 2018. Market data for shipments by Brazilian mining companies remained strong at the start of this year, and we believe that Vale led this movement. Even so, we prefer to adopt a more conservative stance (since many investors are bearish about Vale) and have targeted production for 2024 in the middle of the guidance, marking 315Mt Genial Est. in our model. For this reason, we have only made a slightly flexible growth of +1.1% y/y for 1Q24. But we recognize the possibility that the figure could exceed our estimates.

Table 2. Production Summary Vale (1Q24 Genial Est.)

Production Summary (Kt)	1Q24E Genial Est.	4Q23 Reported	% q/q	1Q23 Reported	% y/y
Iron Ore[1]	67.477	89.397	-24,5%	66.774	1,1%
Pellets	9.286	9.851	-5,7%	8.319	11,6%
Nickel	37	45	-17,3%	41	-9,9%
Copper	75	99	-24,3%	67	11,9%

[1] Including third-party purchases, run-of-mine and feed of other pelletization plants.

Source: Genial Investimentos, Vale

Pace of i.o. fines inventories to progress q/q, but sales likely to show strong growth y/y. As we already mentioned in the introductory section of the report, the price of iron ore in the 62% Fe benchmark saw a sharp slowdown over the first 3M of the year, with a drop of -25% from Jan-Mar. This probably led Vale to consider stockpiling a portion of the quarter's production, hoping for better price conditions throughout the year. We are assuming a larger gap between production and sales than last quarter, which would amplify the sequential reduction in sales, in addition to the seasonal effect. However, as we also commented in the introductory part of this report, when we look at Vale's performance in the same period last year, the shipping situation was seriously compromised by the suspension of activity at the Ponta da Madeira Terminal (MA), which transports iron ore from the northern system. As no abnormalities are on our radar for 1Q24, Vale should easily surpass the figures for 1Q23, with double-digit growth in sales on an annual basis. Therefore, our projection for shipments is leveled at 50.6Mt Genial Est. (-35% q/q; +10.3% y/y).

Continued ramp-up of pellet production and sales. The commissioning of the Torto dam in Brucutu ended in July last year, and part of the increase in production was seen in 3Q24, with a higher sales volume slipping to 4Q23, due to the logistical delay between the extraction of iron ore fines in Brucutu (MG) and the arrival of the cargo at the pelletizing plant yard, at the Tubarão Terminal (ES). Following this line of reasoning, we continue to estimate a gradual increase in pellet production after the start-up of the Torto dam, which could be observed with a low double-digit increase on an y/y basis. Although there is a negative seasonality in the period, we believe that in the case of pellets the impact of the sequential drop will not be as strong as that likely to be seen in the iron ore fines group. For this reason, our analysis points to a q/q deceleration in the order of mid-single digit. Given these dynamics, we project pellets production at 9.3Mt Genial Est. (-5.7% q/q; +11.6% y/y).

Regarding shipments, we believe that Vale will still partially benefit from the good level of production last quarter, considering the delay, reaching in our model the mark of 9.2Mt Genial Est (-10.6% q/q; +13.0% y/y). Therefore, we estimate that pellets sales could grow in 1Q24 more intensely than production on an y/y basis, and with a reverse effect on a sequential basis, due to negative seasonality.

We anticipate a reduction in both nickel production and shipments. We would point out that the Onça Puma (PA) asset, which accounts for ~15% of Vale's nickel production, had scheduled maintenance of 9.5 weeks for 1Q24. The furnace at the plant next to the mine underwent a refurbishment. Consequently, we believe that Vale extracted feed from the mine, but was unable to produce nickel. Therefore, we are considering zero productivity at Onça Puma in 1Q24. In addition, for 2Q24 there are several maintenance stoppages at other strategic assets for Vale's nickel production, mainly in Canada (Sandbury, furnace refurbishment lasting 4 weeks and refinery maintenance lasting 6 weeks, plus refurbishments at Voisey's Bay lasting 2 weeks and Long Harbor lasting 4.5 weeks).Therefore, considering that the next quarter has even more stoppages in operations for maintenance, we are working on the assumption that Vale will produce in this quarter and stockpile a portion, so that in 2Q24 the company is able to make sales and continue to fulfill contracts with clients.

So, the gap between production and sales in Nickel will probably be more elastic in 1Q24, both year-on-year and sequentially. In our model, we are looking at a difference of 10p.p. between the two variables for the quarter, with production coming in at 37Kt Genial Est. (-17.3% q/q; -9.9% y/y) and sales clocking in at 33Kt Genial Est. (-30.5% q/q; -16.9% y/y).

Copper with ramp-up on an annual basis. Despite these specific dynamics that we mentioned in Nickel, the scheduled maintenance for the Salobo I and II assets is very short (< 1 week), so we believe that the impacts on production will be much smaller for the Copper operations. Thus, the vectors will probably be opposite on an y/y basis, with production growth in Copper and a reduction in Nickel. However, on a sequential basis, both should fall due to seasonality. We project Copper production at 75Kt Genial Est. (-24.3% q/q; +11.9% y/y), with sales reaching 73Kt Genial Est. (-25.0% t/t; +17.2% y/y).

Table 3. Shipments Summary Vale (1Q24 Genial Est.)

Shipments Summary (Kt)	1Q24E Genial Est.	4Q23 Reported	% q/q	1Q23 Reported	% y/y
Iron ore fines	50.595	77.885	-35,0%	45.861	10,3%
Pellets	9.193	10.285	-10,6%	8.133	13,0%
ROM	1.665	2.158	-22,8%	1.665	0,0%
Nickel	33,3	48,0	-30,5%	40,1	-16,9%
Copper	73,5	98,0	-25,0%	62,7	17,2%

[1] Including third-party purchases

Source: Genial Investimentos, Vale

Price of the 62% Fe curve this time will be a headwind. During 1Q24, we calculated an average for 62% Fe iron ore at US$124/t vs. US$128/t in 4Q23, with a drop that we consider mild, of -3.1% q/q. Although the reduction in the average value is small, Vale's price realization in the quarter should show a significant decline sequentially. The big issue is not the average of the curve during the 3M, but the direction of the price itself. Contrary to what happened last quarter, when the price of iron ore was on the rise, in 1Q24 the price fell very quickly, from ~US$140/t in the first days of January and back to around ~US$100/t between the end of the quarter and the beginning of 2Q24. This dynamic, with the directional vector of the price pointing downwards, means that, under the forward price provisioning system, the negative impact in this quarter will be quite severe.

We would point out that although the average for 1Q24 was not much lower than 4Q23 (US$124/t vs. US$128/t), the trend of the curve was in the completely opposite direction when comparing the two quarters. We are using as an estimate of the pricing system in 1Q24 the waterfall chart in sales between 18% lagged; 58% current and 24% of sales with the price provisioned forward. The forward price markup was US$101/t. In addition, we must exclude the effect of humidity and FOB adjustments. We will explore the importance of the forward mechanism in the pricing system in more detail in the "Our Take" section at the end of the report.

Table 4. Realized Price Vale (1Q24 Genial Est.)

Realized Price (US$/t)	1Q24E Genial Est.	4Q23 Reported	% q/q	1Q23 Reported	% y/y
Iron ore fines	98	118	-17,2%	109	-9,8%
Pellets	164	163	0,5%	163	1,0%
Nickel	17.068	18.420	-7,3%	25.260	-32,4%
Copper	7.957	7.602	4,7%	9.465	-15,9%

Source: Genial Investimentos, Vale

We estimate a sharp drop in the realized price of iron ore fines. Premium dynamics in iron ore fines remain anemic. It was even negative during some parts of 4Q23 and also in 1Q24. We are projecting a premium of -US$1.3/t Genial Est. (vs. -US$1.1/t in 4Q23), slightly widening the discount seen in the previous quarter. This situation, combined with the forward provisioning mechanism (further explored in the "Our Take" section), should have a strong negative impact on price realization. As a result, we have arrived at a projection for price realization in iron ore fines of US$98/t Genial Est. (-17.2% q/q; -9.8% y/y), a figure that we believe is much lower than last quarter.

As for Pellets, contractual premiums should increase, which is good news. Even with the reduction in the average reference curve for higher quality iron ore (65% Fe) to US$138/t (vs. US$142/t in 4Q23), Vale still managed to do a good job and increase the contractual premium for its agglomerated products. According to our calculations, this would be the first time since 2Q23 that Vale has been able to sequentially increase the contract premium on pellets. Less dependent on the Chinese market, we stress that demand for pellets is more decentralized, with more weight in countries in Europe, the USA, Japan and the United Arab Emirates. Our analysis indicates that the European and US markets have increased their appetite at the start of this year, with the US manufacturing PMI even signaling an entry into the expansion zone in February and March. We project a premium of US$25.8/t Genial Est. (+23.7% q/q, equivalent to +US$5/t), which would raise the spread vs. the 65% Fe curve to +18.6% (+4p.p q/q), reaching a realized pellet price of US$164.2/t Genial Est. (+0.5% q/q; +1.0% y/y).

Nickel price to follow downward trend, copper to accelerate. We believe that the nickel price should follow the sequential decline observed for some time. We therefore project a realized price of ~US$17,068/t Genial Est. (-7.3% q/q; -32.4% y/y). Although the drop is still due to the average value for the quarter, due to the retraction of the LME reference curve, we believe that the spot value at ~US$17,500/t signals that the downside of oversupply seems to have been fully priced in. Our analysis suggests that the nickel price is likely to stabilize at this level throughout the year, with the possibility of a slight upside going forward.

As for copper, we estimate an acceleration in price, reaching ~US$7,957/t Genial Est. (+4.7% q/q; -15.9% y/y), which can be considered sequential progress due to the increase in demand and China's pace of inventory of this type of commodity, which does not go through an oversupply dynamic like nickel.

Table 5. Income Statement Vale (1Q24 Genial Est.)

(US$ millions)	1Q24E Genial Est.	4Q23 Reported	% q/q	1Q23 Reported	% y/y
Net Revenue	**8.108**	**13.056**	**-37,9%**	**8.454**	**-4,1%**
COGS	(4.846)	(6.855)	-29,3%	(4.949)	-2,1%
Adjusted EBITDA	**3.088**	**6.290**	**-50,9%**	**3.703**	**-16,6%**
EBITDA Margin (%)	38,1%	48,2%	-10,09p.p	43,8%	-5,72p.p
Adjusted EBIT	**2.391**	**5.435**	**-56,0%**	**3.047**	**-21,5%**
EBIT Margin (%)	29,5%	41,6%	-12,14p.p	36,0%	-6,56p.p
D&A	(697)	(855)	-18,5%	(656)	6,3%
Financial Result	(525)	(874)	-40,0%	(530)	-1,0%
Net Income	**1.396**	**2.480**	**-43,7%**	**2.040**	**-31,6%**
Net Margin (%)	17,2%	19,0%	-1,78p.p	24,1%	-6,92p.p

Source: Genial Investimentos, Vale

Our Take on Vale

Unlike last quarter, we expect a weaker performance. For 1Q24, given the figures we have set out here in this report on production estimates, shipments and prices, we project net revenue amounted at US$8.1bn (-37.9% q/q; -4.1% y/y), EBITDA of US$3.1bn (-50.9% q/q; -16.6% y/y) and Net Income clocking in at US$1.4bn (-43.7% q/q; -31.6% y/y). The estimated figures seem milder to us in all P&L lines, mainly due to: **(i)** weaker seasonality in Q1s on a quarterly basis, which is totally characteristic of the business and not at all abnormal; **(ii)** a considerable reduction in the realized price of iron ore fines, highly influenced by the marking of the forward price; **(iii)** a reduction in volume due to the rainy season, which causes less capacity to dilute fixed costs, causing C1/t to rise naturally.

It seems that our **figures are more bearish than the consensus**, since we believe that some analysts may not have correctly estimated the **weight of the forward pricing mechanism** (which we'll explain down below), and this will make a big difference to the 1Q24 result, given the high volatility of iron ore prices. We stress that our estimate will be updated as we publish the review report on production and sales, following Vale's announcement tomorrow.

Pricing system: understanding the importance of the forward price. We are here to remind you that the calculation we make to determine the estimated realized price of iron ore fines is not as simple as calculating the average for the quarter of the 62% Fe benchmark and adding it to the quality premium. Vale's pricing model is much more complex than that. In short, the explanation for the division between **(i)** lagged, **(ii)** current and **(iii)** forward has to do with the notion that the company has different clients, who in turn have different needs and command different payment options in relation to shipments. In addition, it is important to remember that there are iron ore purchases happening at irregular times throughout the quarter. In the meantime, there can be periods of strong price volatility, as was the case in 1Q24.

This means that, although the average price in 1Q24 was US$124/t, according to our estimates, 24% of sales in the quarter were marked at a price of US$101/t. This makes up a dynamic that is inversely proportional to last quarter (4Q23), where 38% was the weight of sales at the forward price, which were marked at US$139/t, with the average of the 62% Fe benchmark during the quarter standing at US$128/t. We think it is likely that in 1Q24, as the price decelerated very quickly, Vale reduced the weight of the volume of contracted sales that were priced forward (-14p.p q/q Genial Est.). However, this depends on a number of factors. Although we have projected this reduction in weight, with Vale's effort to potentially reduce exposure to these contracts, the sales volume locked in at the forward price will still be representative in the price realization composition.

Last quarter the forward provisioned price mechanism helped Vale with realization, since the forward was marked at a price higher than the average of the reference curve in the quarter. However, evidence indicates that for 1Q24 the situation will be reversed, with the forward marking being well below the average. We believe that **this will make a brutal difference to the result**, even though the average prices for both quarters were not very different from each other (US$124/t in 1Q24 vs. US$128/t in 4Q23).

How much cash flow can Vale generate with 62% Fe iron ore at US$100/t? The answer is... still a good amount. After our revision of the price curve projection, which is based on our latest sector report (Metals & Mining: Has China's economic model completely run out of steam?), the average of the curve we estimate for 2024 is now US$103/t (vs. US$116/t previously). This leads us to conjecture a scenario for pricing the level of cash flow that Vale would generate with iron ore close to the US$100/t threshold. It's important to mention that today the spot price of 62% Fe iron ore is at ~US$110/t, after having suffered a sharp loss in the first 3M of the year (~25%) and having fallen to US$98/t a few days ago and going back up, indicating the high volatility of the commodity and the great difficulty analysts have in calibrating their forecasts more accurately (we are not shying away from assuming this *mea culpa*).

In addition to downgrading our curve for iron ore, we also made other changes to the assumptions in our model, all of which are reported in this sector report. To make things easier, we'll recall the main ones that affect short-term cash flow generation: **(i)** inclusion of estimates on the complementary payment of the grants for the EFVM and EFC railroads, with an NPV of -US$1.2bn and **(ii)** tightening of the conditions on the Mariana (MG) agreement.
In both situations (railroad concession agreements and the Mariana accident) we are projecting payments with a 20% upfront, which penalizes the valuation in a deliberately pessimistic way, in order to arrive at a pricing level close to what we have heard from some investors about Vale's case.

It's interesting to point out that, regardless of whether Vale's share price is attractive or not (we think it is...), **the case won 't get traction in the short term if investors aren't convinced of a turnaround** (in China and in the overhangs). And we realize that there is still a lot of mistrust, even at this price level. We stress that: "to be right at the wrong time in the stock market, is to be wrong anyway...". That's why we've forced bearish assumptions into our model to reduce Vale's 12M Target Price and see how far we can get if we squeeze cash flow generation by calculating the yield, weighting it by the depreciating level of the current market valuation.

In this exercise, our **24E FCF yield** was **12.5%** vs. 11.5% in January, when Vale traded at ~R$70.00 (VALE3-B3) or ~US$14.30 (ADRs-NYSE). In other words, even though we tightened the assumptions in our model, which led to a reduction in the level of cash flow generation (FCFF) to **US$6.6bn 24E** vs. US$7.5bn in the previous estimate, **the fall in share prices over this period** (now trading at ~R$60.00 or ~US$12.00) **more than compensated for the bearish stance** recent adopted in our model. This is an excellent metric to show the high level of discount of the stock.

Okay, but have dividends been affected? Unfortunately, yes. Without extraordinary dividends, the **24E Dividend Yield** is now **~9% Genial Est**. (vs. 10.2% previously). If they were to be distributed, it would be **close to 12%**, in addition to the option via the share buyback program, which Vale has a habit of doing. We believe that our tougher assumptions for the conditions of the Mariana agreement, as well as those of the railroads (EFVM and EFC), end up reducing the level of FCFF in such a way that **dividend payments should be lower than our previous forecast**. Remember that we are deliberately penalizing the company's valuation with a 20% upfront in both cases. This situation directly affects the level of cash flow generation for 2024E.

Fasten your seat belts, bumpy road ahead. It's possible (perhaps even probable) that we're being too harsh in assuming 20% payment upfront, as commented above. Therefore, as the true payment conditions are revealed in both cases, after the respective agreements have been officially sealed with the government entities, the shares may unlock a greater upside than we are pricing today.

Even so, many have already assumed that Vale's situation can't get any worse. However, as we have a high degree of conviction in our calculation of the realized price estimate for iron ore fines for this quarter, then **the situation actually looks worse to us than the consensus is projecting for 1Q24**. As we mentioned, the weight of the forward price markup will make a significant difference, and we believe that there are some analysts who are more bullish than they should be for this particular result. We suggest fastening your seat belts, because **the shares could intensify the fall in the very short term**.

Even within this configuration, our recommendation for Vale follows a slightly different parameter to the other commodity stocks we cover. We know that the Vale's name **lacks short-term triggers**, but all the calculations we made support the thesis that **the market is exaggerating the share's discount**. In this case, **it goes beyond the specific dynamics of 1Q24**, but rather other valuation parameters. It's also worth remembering that the price of iron ore has risen again in recent days, indicating that there's a possibility that the 2Q24 forward markdown won't put pressure on next quarter's results, as it probably will in this particular quarter (1Q24).

It's not that the situation is very good, and the market isn't being accurate. In fact, the scenario involves a lot of uncertainty, and the outlook is not so positive. However, there is an **excess of pessimism** about the Vale thesis **that seems irrational to us**. We continue with our **BUY rating**, with our **12M Target Price** of **R$72.30** for **VALE3-B3** and **US$14.50** for **ADRs-NYSE**. This represents an **upside** of **+17.31%**.

Appendix: Vale

Figure 1. Vale – Income Statement in US$ Millions (Genial Est. 2024-2029)

Income Statement	2024E	2025E	2026E	2027E	2028E	2029E
Net Revenue	**36.637**	**41.292**	**42.126**	**43.842**	**44.830**	**48.448**
(-) COGS	(23.826)	(26.237)	(26.383)	(27.586)	(29.085)	(31.495)
Gross Profit	**12.812**	**15.055**	**15.743**	**16.257**	**15.745**	**16.953**
(-) Expenses	(3.400)	(3.321)	(3.160)	(2.765)	(2.418)	(2.559)
Adjusted EBITDA	**12.558**	**15.437**	**16.030**	**17.078**	**17.049**	**18.243**
(-) D&A	(3.192)	(3.356)	(3.512)	(3.661)	(3.802)	(3.936)
EBIT	**9.366**	**12.081**	**12.518**	**13.417**	**13.247**	**14.307**
(+/-) Financial Result	(1.928)	(2.036)	(2.257)	(2.279)	(2.260)	(2.326)
(-) Taxes	(852)	(1.274)	(1.395)	(1.562)	(1.567)	(1.742)
Net income	**6.587**	**8.771**	**8.866**	**9.576**	**9.420**	**10.239**
Profitability						
Net margin (%)	17,98%	21,24%	21,05%	21,84%	21,01%	21,13%

Figure 2. Vale– Cash Flow in US$ Millions (Genial Est. 2024-2029)

Cash Flow (FCFF)	2024E	2025E	2026E	2027E	2028E	2029E
Net Revenue	**36.637**	**41.292**	**42.126**	**43.842**	**44.830**	**48.448**
(-) COGS	(23.826)	(26.237)	(26.383)	(27.586)	(29.085)	(31.495)
Adjusted EBITDA	**12.558**	**15.437**	**16.030**	**17.078**	**17.049**	**18.243**
Adjusted EBIT	**9.366**	**12.081**	**12.518**	**13.417**	**13.247**	**14.307**
(-) Taxes	(852)	(1.274)	(1.395)	(1.562)	(1.567)	(1.742)
(+) D&A	3.192	3.356	3.512	3.661	3.802	3.936
(+/-) Brumadinho and Samarco	(1.988)	(1.446)	(1.204)	(915)	(875)	(733)
(+/-) Δ WK	3.404	831	140	(26)	(149)	(51)
(-) Capex	(6.500)	(6.500)	(6.500)	(6.500)	(6.500)	(6.500)
FCFF	**6.622**	**7.048**	**7.072**	**8.075**	**7.958**	**9.216**

Disclosure Section

1. GENERAL DISCLAIMER

This report has been produced by the research department ("Genial Institutional Research") of Genial Institutional Corretora de Câmbio, Títulos e Valores Mobiliários S.A. ("GENIAL INSTITUTIONAL CCTVM"). Genial Institutional is a brand name of Genial Investimentos CCTVM.

Genial Rating

	Definition	Coverage
Buy	Expected return above +10% in relation to the Company's sector average	**49%**
Neutral	Expected return between +10% and -10% relative to the Company's industry average	**41%**
Sell	Expected return below -10% in relation to the Company's sector average	**5%**
under Review	Under review	**5%**

This report may not be reproduced or redistributed to any other person, in whole or in part, for any purpose, without the prior written consent of GENIAL INSTITUTIONAL CCTVM. GENIAL INSTITUTIONAL CCTVM accepts no liability whatsoever for the actions of third parties in this respect.

This research report is for distribution only under such circumstances as may be permitted by applicable law. This research report has no regard to the specific investment objectives, financial situation or particular needs of any specific recipient, even if sent only to a single recipient. This research report is not guaranteed to be a complete statement or summary of any securities, markets, reports or developments referred to in this research report. Neither GENIAL INSTITUTIONAL CCTVM nor any of its directors, officers, employees or agents shall have any liability, however arising, for any error, inaccuracy or incompleteness of fact or opinion in this research report or lack of care in this research report's preparation or publication, or any losses or damages which may arise from the use of this research report

GENIAL INSTITUTIONAL CCTVM may rely on information barriers, such as "Chinese Walls" to control the flow of information within the areas, units, divisions, groups, or affiliates of GENIAL INSTITUTIONAL CCTVM.

Investing in any non-U.S. securities or related financial instruments (including ADRs) discussed in this research report may present certain risks. The securities of non-U.S. issuers may not be registered with, or be subject to the regulations of, the U.S. Securities and Exchange Commission. Information on such non-U.S. securities or related financial instruments may be limited. Foreign companies may not be subject to audit and reporting standards and regulatory requirements comparable to those in effect within the United States.

The value of any investment or income from any securities or related financial instruments discussed in this research report denominated in a currency other than U.S. dollars is subject to exchange rate fluctuations that may have a positive or adverse effect on the value of or income from such securities or related financial instruments.

Past performance is not necessarily a guide to future performance and no representation or warranty, express or implied, is made by GENIAL INSTITUTIONAL CCTVM with respect to future performance. Income from investments may fluctuate. The price or value of the investments to which this research report relates, either directly or indirectly, may fall or rise against the interest of investors. Any recommendation or opinion contained in this research report may become outdated as a consequence of changes in the environment in which the issuer of the securities under analysis operates, in addition to changes in the estimates and forecasts, assumptions and valuation methodology used herein.

The locally listed shares of Brazilian companies may only be purchased by investors outside of Brazil who are "eligible investors" within the meaning of applicable laws and regulations.

2. ANALYST(S) DISCLOSURES AND CERTIFICATION

The principal analyst, IGOR GUEDES, is responsible for the content of this report and for meeting the requirements of Securities and Exchange Commission of Brazil (CVM) Instruction 598/2018.

The analysts hereby certify that the views expressed in this research report accurately reflect their personal views about the subject securities or issuers and it was prepared in an independent manner, including with respect to the person and to GENIAL INSTITUTIONAL.

The analyst hereby certifies that he (she) has no connection with any individual who works for the issuer(s) discussed in this report.

The analyst hereby certifies that he (she), or his (her) spouse or companion, either directly or indirectly, in his or her own name or on behalf of a third party, does not hold any of the securities covered in this report.

The analyst hereby certifies that he (she), or his (her) spouse or companion, is not directly or indirectly involved in the purchase, disposal or brokering of the securities covered in this report.

The analyst hereby certifies that he (she), or the his (her) spouse or companion, has no direct or indirect financial interest in the issuer covered in this report (other than trading shares in investment funds, in which the analyst cannot control, directly or indirectly, the administration or management of the fund, or which do not concentrate investments in sectors or companies that are covered by reports produced by the analyst).

The analyst's compensation is, directly or indirectly, determined by income from GENIAL INSTITUTIONAL´s business and financial operations.

In addition, the analysts certify that no part of their compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

The compensation of the analyst who prepared this report is determined by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues, however, compensation may relate to the revenues of GENIAL INSTITUTIONAL CCTVM, its affiliates and/or subsidiaries as a whole, of which investment banking, sales and trading are a part. Compensation paid to analysts is the sole responsibility of GENIAL INSTITUTIONAL CCTVM.

The analyst hereby certifies that he (she), or his (her) spouse or companion, does not serve as an officer, director, or advisory board member of the subject company.

The principal analyst is responsible for the content of this report and for meeting the requirements of Securities and Exchange Commission of Brazil (CVM) Instruction 598/2018.

Unless otherwise stated, the individuals listed on the cover page of this report are research analysts.

3. ADDITIONAL DISCLOSURE

(i) This document was prepared by GENIAL INSTITUTIONAL Research and is hereby supplied for the sole purpose of providing information about companies and their securities.

(ii) The information contained herein is provided for informational purposes only and does not constitute an offer to buy or sell, and should not be construed as a solicitation to acquire, any securities in any jurisdiction. The opinions expressed herein regarding the purchase, sale or holding of securities, or with respect to the weighting of such securities in a real or hypothetical portfolio, are based on careful analysis by the analysts who prepared this report and should not be construed by current or future investors as recommendations for any particular investment decision or action. The investor's final decision should be made considering all of the risks and fees involved. This report is based on information obtained from primary or secondary public sources, or directly from companies, and is combined with estimates and calculations prepared by GENIAL INSTITUTIONAL CCTVM. This report does not purport to be a complete statement of all material facts related to any company, industry, security or market strategy mentioned. The information has been obtained from sources believed to be reliable, but GENIAL INSTITUTIONAL CCTVM does not make any express or implied representation or warranty as to the completeness, reliability or accuracy of such information. The information, opinions, estimates and projections contained in this document are based on current data and are subject to change. Prices and availability of financial instruments are indicative only and subject to change without notice. GENIAL INSTITUTIONAL CCTVM is under no obligation to update or revise this document or to advise of any changes in such data.

(iii) The securities discussed in this report, as well as the opinions and recommendations contained herein, may not be appropriate for every type of investor. This report does not take into account the investments objectives, financial situation or particular needs of any particular investor. Investors who wish to buy, sell or invest in securities that are covered in this report should seek independent financial advice that takes individual characteristics and needs into consideration, before making any investment decision with respect to the securities in question. Each investor should make independent investment decisions after carefully analyzing the risks, fees and commissions involved. If a financial instrument is denominated in a currency other than an investor's currency, changes in exchange rates may adversely affect the price or value of, or the income derived from the financial instrument, and the reader of this report assumes all foreign exchange risks. Income from financial instruments may vary, and therefore their price or value may rise or fall, either directly or indirectly. The information, opinions and recommendations contained in this report do not constitute and should not be interpreted as a promise or guarantee of a particular return on any investment. Past performance does not necessarily indicate future results, and no representation or warranty, express or implied, is made herein regarding future performance. Therefore, GENIAL INSTITUTIONAL CCTVM, its affiliated companies, and the analysts involved in this report take no responsibility for any direct, indirect or consequential loss resulting from the use of the information contained in this report, and anyone using this report undertakes to irrevocably indemnify GENIAL INSTITUTIONAL CCTVM and its affiliates from any claims and demands.

(iv) Prices in this report are believed to be reliable as of the date on which this report was issued and are derived from one or more of the following: (i) sources as expressly specified alongside the relevant data; (ii) the quoted price on the main regulated market for the security in question; (iii) other public sources believed to be reliable; or (iv) GENIAL INSTITUTIONAL CCTVM's proprietary data or data available to GENIAL INSTITUTIONAL CCTVM.

(v) No representation or warranty, either express or implied, is provided in relation to the accuracy, completeness or reliability of the information contained herein, except with respect to information concerning GENIAL INSTITUTIONAL CCTVM, its subsidiaries and affiliates. In all cases, investors should conduct their own investigation and analysis of such information before taking or omitting to take any action in relation to securities or markets that are analyzed in this report.

(vi) GENIAL INSTITUTIONAL CCTVM makes no representations herein that investors will obtain profits. GENIAL INSTITUTIONAL CCTVM will not share with investors any investment profits nor accept any liability for any investment losses. Investments involve risks and investors should exercise prudence in making their investment decisions. GENIAL INSTITUTIONAL CCTVM accepts no fiduciary duties on behalf of recipients of this report and in communicating this report is not acting in a fiduciary capacity. This report is not to be relied upon in substitution for the exercise of recipient's independent judgment. Opinions, estimates, and projections expressed herein constitute the current judgment of the analyst responsible for the substance of this report as of the date on which the report was issued and are therefore subject to change without notice and may differ or be contrary to opinions expressed by other business areas or groups of GENIAL INSTITUTIONAL CCTVM as a result of using different assumptions and criteria. The information, opinions and recommendations contained in this report do not constitute and should not be interpreted as a promise or guarantee of a particular return on any investment.

(vii) Because the personal views of analysts may differ from one another, GENIAL INSTITUTIONAL CCTVM, its subsidiaries and affiliates may have issued or may issue reports that are inconsistent with, and/or reach different conclusions from, the information presented herein. Any such opinions, estimates, and projections must not be construed as a representation that the matters referred to therein will occur. Prices and availability of financial instruments are indicative only and subject to change without notice. Income from financial instruments may vary, and therefore their price or value may rise or fall, either directly or indirectly.

(viii) This document may not be: (a) photocopied or duplicated in any manner, in whole or in part, and/or (b) distributed without GENIAL INSTITUTIONAL CCTVM's prior written consent. GENIAL INSTITUTIONAL CCTVM accepts no liability whatsoever for the actions of third parties in this respect.

(ix) Neither GENIAL INSTITUTIONAL CCTVM nor any of its affiliates, nor any of their respective directors, employees or agents, accepts any liability for any loss or damage arising out of the use of all or any part of this report.

(x) GENIAL INSTITUTIONAL CCTVM (or its affiliates, officers, directors or employees) may, to the extent permitted by law, have acted upon or used the information herein contained before the publication of this report and may have a position in securities issued by the companies mentioned herein and may make a market or act as a principal in any transactions in any such securities. Genial Institutional may from time to time perform investment banking or other services to, or solicit investment banking or other business from, the companies mentioned herein.

4. IMPORTANT DISCLOSURES FOR U.S. PERSONS

This research report was prepared by Genial Institutional CCTVM, a company authorized to engage in securities activities in Brazil. Genial Institutional CCTVM is not a registered broker-dealer in the United States and, therefore, is not subject to U.S. rules regarding the preparation of research reports and the independence of research analysts. This research report is provided for distribution to “major U.S. institutional investors” in reliance on the exemption from registration provided by Rule 15a-6 of the U.S. Securities Exchange Act of 1934, as amended (the “Exchange Act”) and is not being provided pursuant to a soft-dollar arrangement.

Any U.S. recipient of this research report wishing to effect any transaction to buy or sell securities or related financial instruments based on the information provided in this research report should do so only through Brasil Plural Securities LLC, a registered broker dealer in the United States with an office at 545 Madison Ave., New York, NY 10022, (212) 897-3737. Under no circumstances should any recipient of this research report effect any transaction to buy or sell securities or related financial instruments through Genial Institutional CCTVM.

Brasil Plural Securities LLC accepts responsibility for the contents of this research report, subject to the terms set out below, to the extent that it is delivered to a U.S. person other than a major U.S. institutional investor.

The analyst whose name appears in this research report is not registered or qualified as a research analyst with the Financial Industry Regulatory Authority (“FINRA”) and may not be an associated person of Brasil Plural Securities LLC and, therefore, may not be subject to applicable restrictions under FINRA Rules on communications with a subject company, public appearances and trading securities held by a research analyst account.

The disclosures contained in research reports produced by GENIAL INSTITUTIONAL CCTVM and distributed by Brasil Plural Securities LLC in the U.S. shall be governed by and construed in accordance with U.S. law. This report may not be reproduced or redistributed to any other person, in whole or in part, for any purpose, without the prior written consent of GENIAL INSTITUTIONAL CCTVM. Additional information relative to the financial instruments discussed in this report is available upon request.

UK Disclaimer:

(i) This document is STRICTLY CONFIDENTIAL to the recipient, may not be distributed to the press or other media and may not be reproduced in any form. this document is directed only at persons who are “INVESTMENT PROFESSIONALS” falling within article 19(5) of the FSMA 2000 (FINANCIAL PROMOTION) ORDER 2005, or HIGH NET WORTH BODIES falling within ARTICLE 49(2) of that order (together THE “RELEVANT PERSONS”). This document must not be acted on or relied on by persons who are not RELEVANT PERSONS.

(ii) The distribution of this document in other jurisdictions may be restricted by law and persons into whose possession this document comes should inform themselves about, and observe, any such restrictions. Any failure to comply with these restrictions may constitute a violation of the laws of any such other jurisdiction.

Copyright 2023 GENIAL GENIAL INSTITUTIONAL CCTVM