Loading ship at Ponta da Madeira Maritime Port, São Luís, MA, Brazil.

# VALE'S PERFORMANCE IN 3Q20

VALE

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**Conference call and webcast on Thursday, October 29th**

**- Portuguese** (non-translated) at 10:00 a.m. Brasilia time

**- English** at 12:00 p.m. Brasilia time (11:00 a.m. New York time, 3:00 p.m. London time).

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# Vale's 3Q20 in review

Rio de Janeiro, October 28th, 2020 – "*At the same time that we remain firm in our commitment to Brumadinho full reparation, in this quarter we achieved an important milestone in our production stabilization, with an all-time production record in the Northern System, a major step towards the de-risking of our company"*, commented Eduardo Bartolomeo, Chief Executive Officer.

### The Integral Reparation Plan has evolved

**The reparation of Brumadinho is a priority for Vale.** In August, search and rescue efforts were resumed after a five-month suspension on the wake of the COVID-19 pandemic. We continue to support the Minas Gerais Fire Department in the search for 11 missing victims.

The indemnification process continues, making use of videoconferences during the pandemic. More than 8,200 people are related to indemnification agreements entered into by Vale, an increase of about 600 people since the 2Q20 Performance Report release.

**Water supply initiatives – relevant to the reparation efforts - have also progressed.** This year, Vale concluded the tailings containment structures at the Paraopeba river, cleaning over 68,500 $m^3$ of sediments, about 30% of the total, through the dredging system installed. We also completed the water connection between the Paraobepa and the Rio das Velhas rivers and the water main to ensure the supply to the municipality of Pará de Minas, with a population close to 100,000 people. The new water pipeline for the Paraopeba river is 50% concluded and will be delivered by March 2021, as the COVID-19 pandemic impacted its works.

**Essential social infrastructure works were completed,** with the delivery of a daycare facility and a health care unit to communities in Parque da Cachoeira[1], and a school for 400 students to the community of Macacos[2]. In Brumadinho, we are renovating a multi-sport gymnasium complex and all 16 public schools. In September, the Integral Reparation Plan for Brumadinho, a solid plan for damage recovery and support to the city's development, was submitted to the appreciation of the municipal authority. In Antônio Pereira[3], a public consultation led to 711 comments on the compensation plan, whose implementation is expected to start in early 2021.

**Vale is committed to be fully compliant with the recommendations made by the Extraordinary Independent Consulting Committee for Support and Reparation[4] by 2021.** To date, the company has already addressed 57% of those recommendations, and that progress has been monitored by the committee. Vale is also in process of hiring an external and independent assessment for an annual review of the reparation progress.

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[1] Parque da Cachoeira is a district of the municipality of Brumadinho, Minas Gerais.
[2] Macacos is a community of the municipality of Nova Lima, Minas Gerais.
[3] Antônio Pereira is community of the municipality of Ouro Preto, Minas Gerais.
[4] Final report issued in February 2020.

## Our commitment to safety and operational excellence advances

Vale's dam management practices continue to evolve, with significant improvements already in place:

- The new Tailings & Dams Management System is under implementation, in compliance with the ICMM standard, launched in August 2020. Vale's initial assessment indicates a level of adherence to the ICMM recommendations close to 60%, and the company expects to be fully compliant by 2021.

- In Risk Management, the risk identification and treatment program, HIRA, continues to expand. Since 2019, 59 operational units were assessed, 42 of those only in 2020. Until the end of the year, other 12 operational units will be assessed. The HIRA methodology has also been adapted to assess Vale's projects: one pilot was completed in July and other three projects will be assessed this year. Finally, since August 2020, the methodology has also been applied to our dams, with two pilots underway on structures in Sudbury and Long Harbour. Vale expects to have all dam portfolio covered by HIRA by the end of 2022.

- The Engineer of Record has already provided solid results this year, and is implemented for 100% of dams serving the Ferrous Minerals Business in Brazil - that means 93[5] dams, dikes and drained stacks.

The dam de-characterization plan has evolved to comprise a total of 29 geotechnical structures, as disclosed in September 2020.

- The de-characterization of Fernandinho dam is expected to be completed in the coming months. The works related to Pondes de Rejeitos dam were completed in September, pending an assessment of the de-characterization by the National Mining Agency.

- The back-up dam for Forquilhas and Grupo structures had phase 1 completed in September 2020, reaching the quota 949, or a height of 77 metres. Phase 2 will be completed in 2Q21, with total height of 93 metres.

- As for the Sul Superior dam de-characterization, it had infrastructure works started in 3Q20, in preparation for the start of tailings removal.

## Stabilization of iron ore production

The Northern System achieved a quarterly production record of 56.9 Mt while the Southern and Southeastern Systems improved performance across operating units, notably in the Itabira Complex and Timbopeba site that ran for a full quarter after restarting in June, and with the resumption at Fazendão mine in July.

For more details, please refer to our 3Q20 Sales and Production Report.

[5] Geotechnical structures reported to the National Mining Agency and framed under the terms of the Ordinance No. 70.389, set by the agency.

### Vale ESG approach

***Environmental***

In July, Vale signed a non-binding agreement with Kobe Steel and Mitsui for the creation of a new venture to deliver low $CO_2$ metallics to the global market and new solutions to our clients. Additionally, as part of our PowerShift program to replace Vale's energy sources with clean ones, we developed, in partnership with Progress Rail, a new 100% electric, battery-powered switchyard locomotive, which is under tests. The equipment also reduces noise emission, which mitigates impacts on communities close to our operations. Also, Vale is installing at the Ilha Guaíba Port Terminal one of the country's largest lithium-ion battery energy storage systems to supply electrical demand as a strategy to replace fossil fuels, becoming operational by 1Q21.

In September, during Amazon Day, we disclosed our manifesto reaffirming our commitment to promote sustainable development in the Amazon region supporting indigenous culture, traditional communities and the fight against mining and illegal logging. We also endorse the inclusion of forests in carbon markets and environmental protection and restoration.

***Social***

We recognize the importance of the community's perception and the grievance mechanisms, serving to anticipate risks, impacts and possible conflicts and rights violations. From 2019 to 3Q20, we registered 22,300 community interactions in our channels globally, and we responded to 97% of them. During 2020, Vale integrated its grievance channels in Brazil and for 2021, will roll out the same initiative for the rest of its operations.

Vale liaises with local stakeholders to promote territorial development, preparing and implementing community engagement plans. Currently, we interact with 1,938 communities globally, of which 54% have community engagement plans developed in an active listening process.

***Governance***

Following the establishment of the Nomination Committee and aligned with best governance practices, in September, the Board of Directors approved the Nomination Policy, which sets principles, criteria and procedures to guide the choice of nominees for the positions of members of the Board of Directors, Advisory Committees and Executive Board. The Nomination Policy takes into consideration several aspects, including experience, knowledge, diversity and criteria for member independency. The policy is available at Vale's ESG Portal.

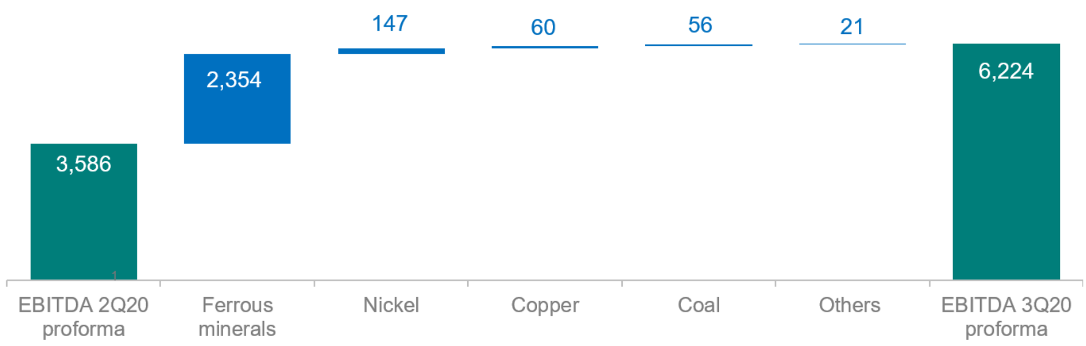
## Vale's performance in 3Q20

Proforma adjusted EBITDA reached US$ 6.224 billion, US$ 2.638 billion higher than in 2Q20 and the highest since 4Q13. While EBITDA improved in all Vale's business, the better result was mainly driven by the 26% increase of iron ore realized prices and 20% higher iron ore sales volumes in 3Q20.

Adjusted EBITDA, after US$ 129 million of expenses related to Brumadinho and COVID-19-related donations to support initiatives to fight the pandemic, totaled US$ 6.095 billion.

**Adjusted EBITDA proforma 3Q20 vs. 2Q20 per business**

*US$ million*




**Ferrous Minerals EBITDA of US$ 5.856 billion in 3Q20 was US$ 2.354 billion higher than** 2Q20.

- Vale's realized price for iron ore fines totaled US$ 112.1/t, an increase of US$ 23.2/t compared with 2Q20 reflecting the higher 62% Fe reference price and forward curve, on the back of strong Chinese demand.

- Iron ore fines C1 cash cost improved US$ 2.2/t, totaling US$ 14.9/t in 3Q20. The lower C1 cash cost was achieved as a result of the higher dillution of fixed costs (US$ 1.5/t) and the normalization of demurrage costs (US$ 0.9/t), both effects antecipated in the 2Q20 report. The positive effects were partially offset by the higher cost of third-party purchased ore (US$ 0.6/t). C1 cash cost excluding third-party purchases was US$ 12.5/t in the quarter, US$2.9/t lower than 2Q20. As a consequence of the higher iron ore price environment, the achievement of US$ 14.5/t of C1 cash cost in 2H20 may be challenging due to its effect on third party purchase costs.

- Maritime freight cost increased US$ 2.2/t, totaling US$ 15.7/t in 3Q20, driven mainly by the expected seasonally higher exposure to spot freight prices and the higher chartering and bunker oil fuel costs.

In August 2020, Vale approved the Serra Sul 120 Project, a multiyear investment of US$ 1.5 billion with start-up expected for 2024, including new mining areas in Serra Sul, duplication of the long-distance belt conveyor, new processing lines and the expansion of storage areas.

The project provides flexibility to Vale's operations in the Northern System and aggregates important elements for the reduction of operational risk, adding reliability to the Northern System.

**Base Metals business adjusted EBITDA was US$ 770 million in 3Q20, US$ 207 million higher than 2Q20**, with the Copper business EBITDA reaching a record[6] US$ 380 million, mainly due to (i) higher nickel and copper realized prices, on stronger LME reference price, (ii) higher byproduct credits, especially gold, rhodium and palladium, and (iii) lower stoppage expenses with Voisey's Bay's resumption after care and maintenance.

In October 2020, Vale completed, together with Sumitomo Metal Mining Co., Ltd, the sale of 20% shareholding in PT Vale Indonesia to Inalum, therefore satisfying one of the requirements for the extension of PTVI's operations beyond 2025.

**The Coal business EBITDA increased US$ 56 million in 3Q20 to negative US$ 213 million** with higher metallurgical coal sales and fixed cost dilution after resumption of operations in June 2020. Vale expects to carry on its 3-month revamp plan starting in November 2020, after which a ramp up to 15 Mtpy run-rate production is expected.

**Vale posted net income of US$ 2,908 million in 3Q20, US$ 1,913 million higher when compared to US$ 995 million recorded in 2Q20**. The better result was mostly driven by the higher EBITDA in the quarter and the improvement in equity results, as in 2Q20 this line was impacted by provisions for future expenditures with Samarco and Renova Foundation. The positive effects were partially offset by higher financial expenses, from mark-to-market of the participative shareholders' debentures and the revaluation of the fair value of financial guarantees issued by Vale.

**Vale generated US$ 3,751 million in Free Cash Flow from Operations in 3Q20, US$ 3,474 million higher than in 2Q20**, following the strong EBITDA and the gradual normalization of working capital, whose impact was US$ 769 million lower than in 2Q20.

In September 2020, Vale repaid US$ 5 billion from its revolving credit lines, which were disbursed in March 2020 amid the increased risks and uncertainties presented by the COVID-19 pandemic. The repayments fully reset the available funding from the revolving credit lines to its original amount.

Vale's liquidity position was also positively impacted by the proceeds from the notes issued in July 2020. Vale issued US$ 1.5 billion in notes due 2030 bearing a coupon of 3.75% per year, the lowest-ever yield for Vale's 10-year benchmark. It represented a successful return to the international debt capital market, from which it was absent since February 2017.

In 3Q20, Vale's Board of Directors approved the resumption of Shareholders Remuneration Policy and Vale distributed a total of US$ 3.327 billion in shareholders remuneration in relation to the company performance in 1H20 and the interest on equity announced in December 2019.

[6] Not considering the effects of the Salobo goldstream recorded in 1Q15.

## Selected financial indicators

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Net operating revenues | 10,762 | 7,518 | 10,217 |
| Total costs and other expenses | 5,349 | 4,901 | 6,345 |
| Expenses related to Brumadinho | 114 | 130 | 225 |
| Adjusted EBIT | 5,321 | 2,564 | 3,676 |
| Adjusted EBIT margin (%) | 49% | 34% | 36% |
| Adjusted EBITDA | 6,095 | 3,371 | 4,603 |
| Adjusted EBITDA margin (%) | 57% | 45% | 45% |
| Proforma adjusted EBITDA[1] | 6,224 | 3,586 | 4,828 |
| Iron ore - 62% Fe reference price | 118.2 | 93.3 | 102.0 |
| Net income (loss) | 2,908 | 995 | 1,654 |
| Net debt [2] | 4,474 | 4,697 | 5,321 |
| Capital expenditures[3] | 895 | 967 | 891 |

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

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

[3] Including recoverable taxes in 3Q20 (US$ 23 million).

| *US$ million* | 9M20 | 9M19 | % |
|---|---|---|---|
| Net operating revenues | 25,249 | 27,606 | -9% |
| Total costs and other expenses | 15,068 | 17,268 | -13% |
| Expenses related to Brumadinho | 403 | 6,261 | -94% |
| Adjusted EBIT | 9,952 | 4,355 | 129% |
| Adjusted EBIT margin (%) | 39% | 16% | 23% |
| Adjusted EBITDA | 12,348 | 7,049 | 75% |
| Adjusted EBITDA margin (%) | 49% | 26% | 23% |
| Proforma adjusted EBITDA[1] | 12,851 | 13,310 | -3% |
| Net income (loss) | 4,142 | (121) | -3523% |
| Capital expenditures[2] | 2,986 | 2,232 | 34% |

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

[2] Including recoverable taxes in 3Q20 (US$ 23 million).

# Market overview

## IRON ORE

Iron ore 62% Fe reference price averaged US$ 118.2/dmt in 3Q20, 27% higher than 2Q20, after the Chinese demand strongly responded to governments stimulus and supply chain disruptions led to higher prices during the quarter on reduced availability of iron ore.

MB65% index averaged US$ 119.2/dmt in 3Q20, 19% higher than 2Q20. Despite the decrease, the spread between the MB65% and the 62% iron ore reference price recovered along the quarter, closing September at around US$ 12/t.

### Demand/Supply

China's steel production totaled 92.5 Mt in September, achieving a record accumulated steel production of 781 Mt in the 9M20, an increase of 4.5% vs. 9M19. On the macro side, the GDP breakdown indicates that manufacturing and construction – property and infrastructure – have been pivotal to China's recovery with an expressive economic expansion of 4.9% in the 3Q20.

In addition, a long vessel queue built up along the Chinese coast, with high volume of iron ore stored on vessels, making it inaccessible to the Chinese steel industry, which drove steelmakers to pay high prices for all grades to keep production at high levels.

The higher stock levels of products such as pellets and concentrates at Chinese ports, together with a strong domestic concentrate production in China, created an upside supply of high grades products. However, stock levels of such materials started to correct along the quarter.

According to World Steel Association (WSA), ex-China steel production totaled 189 Mt in 3Q20, 14% higher than in 2Q20, achieving 566 Mt during the 9M20. Despite the improvement, steel production in the developed economies have been suffering the most, with a decrease in 9M20 of 19% in Japan and USA and 18% in EU28 vs. 9M19.

### Outlook

The outlook for 2021 has improved, with WSA forecasting stability in steel production in China as economic activity normalizes and resumes its path away from heavy investments and towards consumption. Other regions ex-China are expected to partially recover with steel demand growing 9.4% in 2021 led by more expressive recovery in India, ASEAN (Association of Southeast Asian Nations), Turkey and Europe. However, Vale notes that risks still remain with the resurgence of COVID-19 cases mainly in Europe, which could hinder the economic recovery started in 3Q20.

## COAL

The seaborne coking coal price averaged US$ 114.8/t in 3Q20, 3% lower than in 2Q20. In the thermal coal market, Richards Bay 6000 NAR price averaged US$ 55.4/t for the quarter, 1% higher than in 2Q20.

**Coking coal:** the impact of regional COVID-19 lockdowns, driving steel production cuts, and the exhaustion of import quota in China due to its rapid import rate earlier in the year put pressure on the market until late August. Prices rallied thereafter and reached $139/t by the end of September. A wide import arbitrage of over $30/t attracted some Chinese buyers to take positions and buy cargoes using 2021's import quota. In addition, many countries had begun easing lockdown restrictions, lifting demand for coking coal as global steel production gradually picked up, with nearly a third of ex-China idled blast furnaces returning to duty.

**Thermal coal:** prices were rangebound in the low $50s throughout July and August, and started to pick up by the middle of September to close the quarter at above $60/t levels. Coupled with improving power generation as global economies gradually recover, demand for thermal coal increased as South Asia buyers stepped up buying, after the monsoon period, and high pet-coke prices incentivized cement makers to switch to coal. Temporary supply cuts from some of Glencore's mines, in Australia, and the strike at Colombia's Cerrejon mine also helped to rebalance the market.

**Outlook:** Seaborne coking coal market is expected to strengthen in 4Q20, amid continued recovery in global industrial and construction activities. Other positive factors in play include the Chinese market restocking coking coal with import quota for 2021 and the heightened potential of coal supply disruption out of Australia, with the confirmation of a La Niña weather cycle. The thermal coal market is likely to remain supported in 4Q20 on (i) winter restocking, (ii) a colder than normal winter forecast in Northeastern Asia, due to La Niña cycle, (iii) planned closures for some mines in Australia during two to three weeks over the holiday season, and (iv) continued higher pet-coke prices.

## NICKEL

LME nickel prices posted strong gains in 3Q20, averaging US$ 14,210/t compared to US$ 12,215/t in 2Q20. This represents a 16%, or nearly US$2,000/t, increase quarter over quarter.

Total exchange inventories (LME and SHFE) had a net increase, closing at 266.8 kt by the end of 3Q20, an increase of 3.9 kt from the previous quarter. LME inventories at the end of 3Q20 stood at 236.4 kt, an increase of 2.5 kt since the end of 2Q20. SHFE inventories increased by 1.5 kt to 30.5 kt by the end of 3Q20.

### Demand/Supply

Global stainless-steel production increased 14.5% in 3Q20 relative to 2Q20 as strong Chinese production continued to increase, offsetting weakness in Europe and North America. While global stainless-steel production is forecasted to be down 4% in 2020, because there has been a greater focus on 300 series production in China, nickel consumption may be flat year over year. Visible Chinese stainless-steel inventories remain elevated, however, inventories were essentially flat at the end of 3Q20 compare to 2Q20 even with record production in the country.

Sales of electric vehicles worldwide increased 60% in 3Q20 relative to 2Q20. While the increase was mainly due to sales strength in Europe, all regions posted an increase. While electric vehicle passenger car sales are forecasted to increase slightly this year, the overall auto industry is expected to decline approximately 15 to 20%. This has pushed the EV penetration rate to the highest on record.

During the initial phases of the COVID-19 outbreak, many nickel operations globally saw disruptions. Producing operations in South Africa, Madagascar, Canada, Colombia, Australia and the Philippines were impacted. However, as the year progressed, most operations have since returned to normal. While mine supply is forecasted to be 3% lower this year, inventory of ore and concentrates meant there was limited impact on refined nickel. Also, Indonesia nickel pig iron ("NPI") growth was slightly stronger than expected.

Chinese NPI production in China increased by 5% in 3Q20 compared to 2Q20. Overall Chinese NPI production has remained relatively strong, however, as noted in our 2Q20 review, because of the Indonesian ore export ban, the country was now reliant on ore inventories and imports from other countries, particularly from the Philippines. With Philippine port closures in April, which resulted from a COVID-19 outbreak, Chinese NPI producers were forced to draw down ore from inventories. However, once Philippine ports reopened in May, ore exports rebounded quickly, and ore inventories within China stabilized.

We continue to monitor the progress of High-Pressure Acid Leach (HPAL) projects in Indonesia. These projects are expected to supply the EV market by producing a battery-suitable nickel material. The operations so far have been delayed due to complexity (e.g. tailings disposal solutions), costs, and COVID-19 related issues, such as travel restrictions for technical experts. NPI production from Indonesia on the other hand, continues to grow and is expected to offset any Chinese NPI reductions.

Outlook

Our near-term view for nickel remains the same, we believe the market will be in surplus in 2020. COVID-19 has certainly impacted demand, particularly in the high-value markets, such as aerospace, automotive and oil & gas sectors. However, positive signs have emerged much sooner than expected, such as strength in Chinese stainless-steel production, a strong rebound in EV and automotive sales.

Our long-term outlook for nickel continues to remain positive. We are cautiously optimistic that, if there is a successful development of a COVID-19 vaccine, depressed markets, such as airlines and Oil & Gas, which are directly related, could return rather quickly. Additionally, to support markets, governments globally have committed record amounts of funding for stimulus. Many packages are supporting growth of the "green economy".

## COPPER

The LME copper prices posted strong gains in 3Q20, averaging US$ 6,519/t compared to (US$ 5,356/t). in 2Q20. This represents a 22%, or nearly US$ 1,200/t, quarter over quarter increase.

LME copper inventories at the end of 3Q20 stood at 165.6 kt, a decrease of 51 kt from the end of last quarter. SHFE inventories, including deliverable stocks, increased by 70.5 kt, to 170.5 kt at the end of 3Q20. The COMEX decreased by 0.5 kt, ending 3Q20 at 72.4 kt. Overall, copper exchange inventory decreased by 19.0 kt, ending the quarter at 408.5 kt.

Demand/Supply

Global refined copper and concentrate demand increased again in 3Q20, both rose 7.5% compared to 2Q20. Demand has been mainly driven by China as refined imports have reached record level. This demand is being driven by significant infrastructure and construction investments the country is making to stimulate their economy. While the Rest of worlds demand is recovering, it is still well below 2019 levels.

On the supply side, many operations which were disrupted by COVID-19 have returned to, or close to, normal operation. Containing the spread of COVID-19 however continues to prove difficult, particularly in Latin American, and therefore, supply concerns persist. Estimates indicate that nearly 500 kt of mined copper has been disrupted due to COVID-19 related impacts, with Peru accounting for half of lost output.

Outlook

With continued strength in Chinese demand and persisting supply issues, we continue to have a positive near-term view on copper. For 2020, we see the market relatively balanced, leaning toward a minor surplus. As smelter disruptions were estimated to be only half of mine supply disruptions, the copper concentrate market has remained in a sizable deficit. This has led to a decline in spot TC/RCs (treatment and refining charges), which ended the quarter 26% below the 2020 benchmark of US$62/t (US$ 6.2 cents/Ib).

Our long-term outlook for copper remains positive. Copper demand is expected to continue to grow, driven by building, construction and electrical network infrastructures. Additionally, targeted green economy investments by governments globally have increased the demand forecast for copper in the electric vehicles and renewable energy markets. Future supply growth continues to be challenged given declining ore grades and the lack of major discoveries. While in the short term, there are enough quality assets being developed to meet demand, additional assets will be required in the medium-term to replace existing operation ramp downs and closures.

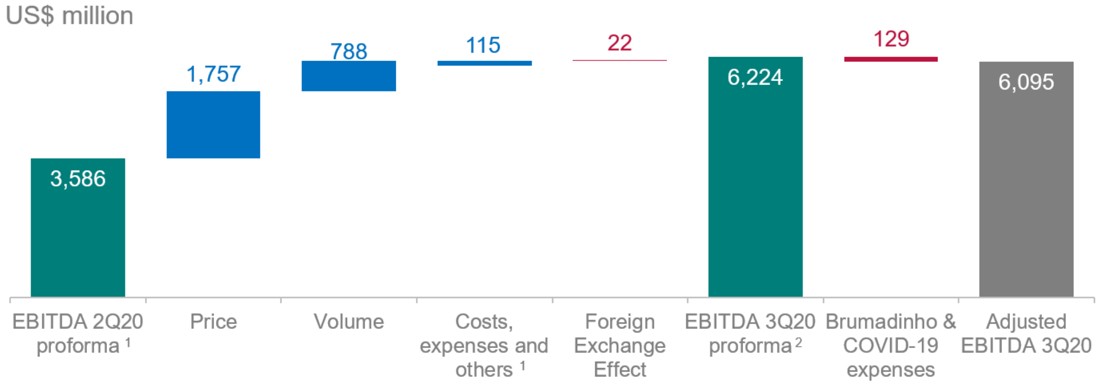
# Adjusted EBITDA

**Adjusted EBITDA**

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Net operating revenues | 10,762 | 7,518 | 10,217 |
| COGS | (4,816) | (4,212) | (5,681) |
| SG&A | (127) | (124) | (128) |
| Research and development | (105) | (90) | (124) |
| Pre-operating and stoppage expenses | (188) | (238) | (290) |
| Expenses related to Brumadinho | (114) | (130) | (225) |
| Expenses related to COVID-19 donations | (15) | (85) | - |
| Other operational expenses | (98) | (152) | (122) |
| Dividends and interests on associates and JVs | 22 | 77 | 29 |
| **Adjusted EBIT** | **5,321** | **2,564** | **3,676** |
| Depreciation, amortization & depletion | 774 | 807 | 927 |
| **Adjusted EBITDA** | **6,095** | **3,371** | **4,603** |
| **Proforma adjusted EBITDA[1]** | **6,224** | **3,586** | **4,828** |

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

**EBITDA proforma 3Q20 vs. 2Q20**




[1] Including negative freight effect (US$ 127 million) and lower dividends received (US$ 55 million)
[2] Net of Brumadinho and COVID-19 related expenses

### Impact of provisions and reparation expenses related to the Brumadinho event

In this quarter, Vale paid US$ 332 million related to the Brumadinho event, including the decharacterization program (US$ 83 million), agreements and donations (US$ 135 million) and incurred expenses (US$ 114 million). The aggregate amount of the provisions is currently at US$ 3.1 billion, mainly due to payments made during the year in the amount of US$ 863 million, and the impact of the Brazilian real devaluation.

### Impact of Brumadinho provisions and expenses in 3Q20

| *US$ million* | Provisions balance 30jun20 | EBITDA impact | Payments | PV & FX adjust | Provisions balance 30sep20 |
|---|---|---|---|---|---|
| Decharacterization | 1,686 | - | (83) | (29) | 1,574 |
| Agreements & donations | 1,723 | - | (135) | (38) | 1,550 |
| **Total Provisions** | **3,409** | **-** | **(218)** | **(67)** | **3,124** |
| Incurred expenses | | 114 | (114) | | |
| **Total** | | **114** | **(332)** | | |

### Impact of Brumadinho provisions and expenses since 2019

| *US$ million* | EBITDA impact in 2019 | Payments in 2019 | PV & FX adjust 2019 | Provisions balance 31dec19 | EBITDA impact in 9M20 | Payments 9M20 | PV & FX adjust 9M20 | Provisions balance 30sep20 |
|---|---|---|---|---|---|---|---|---|
| Decharacterization | 2,624 | (158) | 23 | 2,489 | - | (194) | (721) | 1,574 |
| Agreements & donations | 3,926 | (831) | (112) | 2,983 | 21 | (669)[1] | (785) | 1,550 |
| **Total Provisions** | **6,550** | **(989)** | **(89)** | **5,472** | **21** | **(863)** | **(1,506)** | **3,124** |
| Incurred expenses | 730 | (730) | | | 382 | (382) | | |
| Others | 122 | - | | | - | - | | |
| **Total** | **7,402** | **(1,719)** | | | **403** | **(1,245)** | | |

[1] Includes cash outflows of US$ 395 million and the release of judicial deposits of US$ 274 million.

### Adjusted EBITDA by business area

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Ferrous Minerals | 5,856 | 3,502 | 4,634 |
| Base Metals | 770 | 563 | 555 |
| Coal | (213) | (269) | (172) |
| Others | (189) | (210) | (189) |
| Brumadinho expenses | (114) | (130) | (225) |
| Expenses related to COVID-19 donations | (15) | (85) | - |
| **Total** | **6,095** | **3,371** | **4,603** |

## Net operating revenue by business area

| *US$ million* | 3Q20 | % | 2Q20 | % | 3Q19 | % |
|---|---|---|---|---|---|---|
| **Ferrous Minerals** | **8,684** | **80.7** | **5,895** | **78.4** | **8,327** | **81.5** |
| Iron ore fines | 7,357 | 68.4 | 4,852 | 64.5 | 6,566 | 64.3 |
| ROM | 5 | 0.0 | 3 | 0.0 | 14 | 0.1 |
| Pellets | 1,195 | 11.1 | 900 | 12.0 | 1,596 | 15.6 |
| Manganese ore | 37 | 0.3 | 58 | 0.8 | 18 | 0.2 |
| Ferroalloys | 14 | 0.1 | 10 | 0.1 | 30 | 0.3 |
| Others | 76 | 0.7 | 72 | 1.0 | 103 | 1.0 |
| **Base Metals** | **1,904** | **17.7** | **1,471** | **19.6** | **1,529** | **15.0** |
| Nickel | 882 | 8.2 | 591 | 7.9 | 757 | 7.4 |
| Copper | 519 | 4.8 | 491 | 6.5 | 447 | 4.4 |
| PGMs | 155 | 1.4 | 120 | 1.6 | 105 | 1.0 |
| Gold as by-product | 218 | 2.0 | 191 | 2.5 | 179 | 1.8 |
| Silver as by-product | 13 | 0.1 | 7 | 0.1 | 7 | 0.1 |
| Cobalt | 28 | 0.3 | 27 | 0.4 | 27 | 0.3 |
| Others | 88 | 0.8 | 44 | 0.6 | 7 | 0.1 |
| **Coal** | **103** | **1.0** | **94** | **1.3** | **241** | **2.4** |
| Metallurgical coal | 76 | 0.7 | 52 | 0.7 | 178 | 1.7 |
| Thermal coal | 27 | 0.3 | 42 | 0.6 | 63 | 0.6 |
| **Others** | **71** | **0.7** | **58** | **0.8** | **120** | **1.2** |
| **Total** | **10,762** | **100.0** | **7,518** | **100.0** | **10,217** | **100.0** |

## COGS by business segment

| *US$ million* | 3Q20 | % | 2Q20 | % | 3Q19 | % |
|---|---|---|---|---|---|---|
| Ferrous Minerals | 2,961 | 61.5 | 2,632 | 62.5 | 3,855 | 67.9 |
| Base Metals | 1,356 | 28.2 | 1,063 | 25.2 | 1,204 | 21.2 |
| Coal | 321 | 6.7 | 361 | 8.6 | 504 | 8.9 |
| Others | 178 | 3.7 | 156 | 3.7 | 118 | 2.1 |
| **Total COGS** | **4,816** | **100.0** | **4,212** | **100.0** | **5,681** | **100.0** |
| Depreciation | 726 | | 734 | | 837 | |
| **COGS [1], ex-depreciation** | **4,090** | | **3,478** | | **4,844** | |

[1] COGS currency exposure in 3Q20 was as follows: 54% USD, 40% BRL, 5% CAD and 1% EUR.

## Operating expenses

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| **SG&A ex-depreciation** | **118** | **110** | **116** |
| **SG&A** | **127** | **124** | **128** |
| **Administrative** | **106** | **104** | **105** |
| Personnel | 50 | 40 | 45 |
| Services | 28 | 33 | 25 |
| Depreciation | 9 | 14 | 12 |
| Others | 19 | 17 | 23 |
| **Selling** | **21** | **20** | **23** |
| **R&D** | **105** | **90** | **124** |
| **Pre-operating and stoppage expenses** | **188** | **238** | **290** |
| Depreciation | 39 | 59 | 78 |
| **Expenses related to Brumadinho** | **114** | **130** | **225** |
| Provisions | - | 21 | - |
| Incurred expenses | 114 | 109 | 225 |
| **Expenses related to COVID-19 donations** | **15** | **85** | **-** |
| **Other operating expenses** | **98** | **152** | **122** |
| **Total operating expenses** | **647** | **819** | **889** |
| Depreciation | 48 | 73 | 90 |
| **Operating expenses ex-depreciation** | **599** | **746** | **799** |

Pre-operating and stoppage expenses ex depreciation decreased US$ 30 million in 3Q20, mainly due to the successful resumption of Voisey's Bay operations (US$ 29 million).

## Pre-operating and stoppage expenses break-down

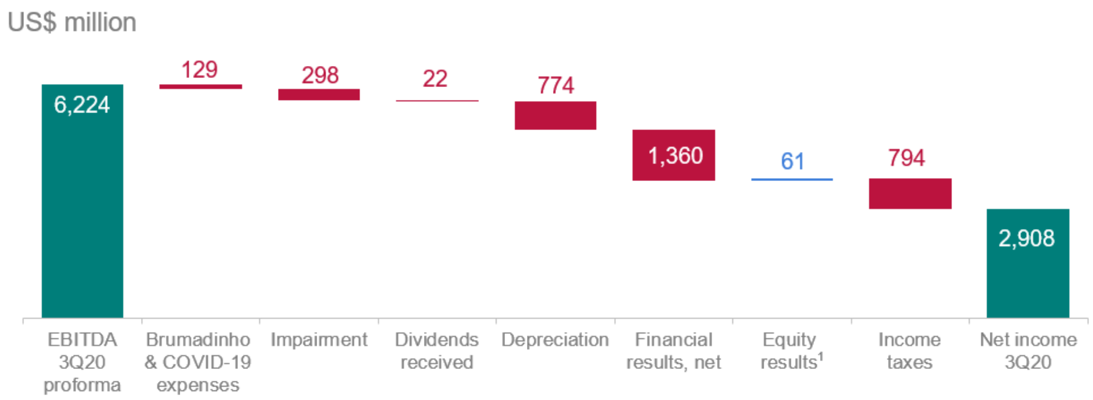
| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| **Pre-operating and stoppage expenses** | **188** | **238** | **290** |
| Depreciation | 39 | 59 | 78 |
| **Pre-operating and stoppage expenses, ex-depreciation** | **149** | **179** | **212** |
| **Brumadinho - stoppage expenses** | **111** | **104** | **179** |
| Itabira Complex (Cauê, Conceição and others) | - | - | - |
| Minas Centrais Complex (Brucutu and others) | 22 | 19 | - |
| Mariana Complex (Alegria, Timbopeba and others) | 4 | 7 | 25 |
| Paraopeba Complex (Mutuca, Fábrica[1] and others) | 52 | 44 | 6 |
| Vargem Grande Complex (Vargem Grande[1], Pico and others) | 33 | 34 | 145 |
| Others Brumadinho | - | - | 3 |
| **Tubarão pellet plants** | **7** | **17** | **-** |
| **Onça Puma** | **-** | **-** | **16** |
| **Voisey's Bay** | **-** | **29** | **-** |
| **Others** | **31** | **29** | **17** |

[1] Including pelletizing plants.

# Net income (loss)

Vale posted a net income of US$ 2,908 million in 3Q20, US$ 1,913 million higher than 2Q20.

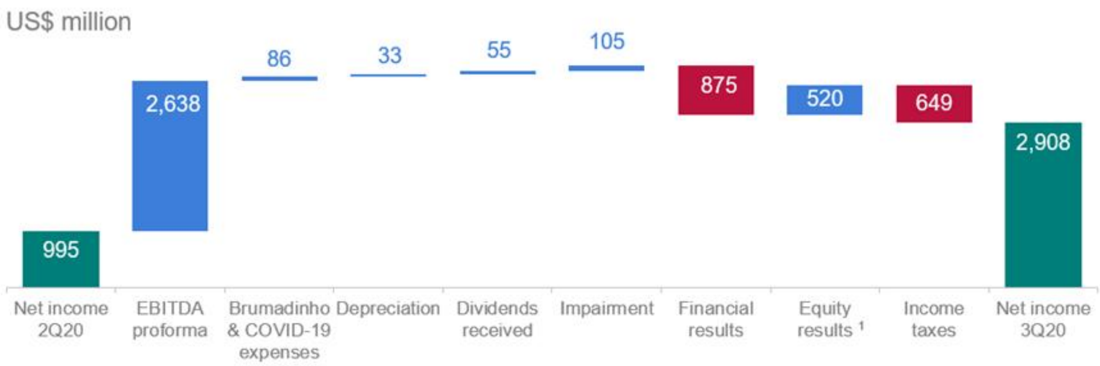
**EBITDA proforma to Net income reconciliation**




[1] Includes net income (loss) attributable to noncontrolling interests.

Stronger net income in 3Q20 was mainly due to the higher EBITDA in the quarter and provisions for future expenditures with Samarco and Renova Foundation that were recorded in 2Q20. The positive effects were partially offset by higher financial expenses, from higher mark-to-market of the participative shareholders' debentures (US$ 322 million) and the revaluation of the fair value of financial guarantees issued by Vale (US$ 322 million).

**Net income 3Q20 vs. 2Q20**




[1] Includes net income (loss) attributable to noncontrolling interests.

## Financial results

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| **Financial expenses** | **(1,215)** | **(585)** | **(1,084)** |
| Gross interest | (208) | (193) | (258) |
| Capitalization of interest | 13 | 12 | 34 |
| Shareholder debentures[1] | (553) | (231) | (486) |
| Others | (457) | (161) | (333) |
| Financial expenses (REFIS) | (10) | (12) | (41) |
| **Financial income** | **69** | **135** | **132** |
| **Derivatives[2]** | **(187)** | **(86)** | **(74)** |
| Currency and interest rate swaps | (145) | (230) | (115) |
| Others (bunker oil, commodities, etc) | (42) | 144 | 41 |
| **Foreign Exchange** | **(18)** | **107** | **25** |
| **Monetary variation** | **(9)** | **(56)** | **(138)** |
| **Financial result, net** | **(1,360)** | **(485)** | **(1,139)** |

[1] In 3Q20, there wasn't remuneration on shareholder debentures.

[2] The cash effect of the derivatives was a loss of US$ 130 million in 3Q20.

# CAPEX

Investments in 3Q20 totaled US$ 895 million[7], consisting of US$ 110 million in project execution and US$ 785 million in maintenance of operations. Investments were 7.4% lower than in 2Q20, mainly due to (i) a slow pace in equipment acquisition and implementation of non-essential work fronts in the Brazilian operations, following conservative operational measures to ensure adequate safety conditions and workforce at production sites, and (ii) to a minor extent, the depreciation of the Brazilian real.

**Project Execution and Sustaining by business area**

| *US$ million* | 3Q20 | % | 2Q20 | % | 3Q19 | % |
|---|---|---|---|---|---|---|
| Ferrous Minerals | 461 | 51.5 | 541 | 56.0 | 491 | 55.1 |
| Base Metals | 405 | 45.3 | 392 | 40.5 | 314 | 35.2 |
| Coal | 27 | 3.0 | 31 | 3.2 | 79 | 8.9 |
| Energy and others | 2 | 0.2 | 3 | 0.3 | 7 | 0.8 |
| **Total** | **895** | **100.0** | **967** | **100.0** | **891** | **100.0** |

Based on the exchange rate depreciation and the slower pace at projects' implementation, following conservative safety standards to prevent COVID-19 related risks, Vale informs it revised its estimates for capital expenditure in 2020 from US$ 4.6 billion to US$ 4.2 billion.

## Project execution

Investments in project execution totaled US$ 110 million in 3Q20, 11.5% lower than 2Q20, mainly due to a slow pace of implementation of the two main multi-year projects, the Northern System 240 Mtpy project and the Salobo III project.

**Project execution by business area**

| *US$ million* | 3Q20 | % | 2Q20 | % | 3Q19 | % |
|---|---|---|---|---|---|---|
| Ferrous Minerals | 40 | 36.4 | 59 | 47.7 | 90 | 66.7 |
| Base Metals | 69 | 62.7 | 63 | 50.7 | 43 | 31.9 |
| Energy and others | 1 | 0.9 | 2 | 1.6 | 2 | 1.5 |
| **Total** | **110** | **100.0** | **124** | **100.0** | **135** | **100.0** |

The Northern System 240 Mtpy engineering project for repowering and equipment flexibility was concluded, besides ongoing earthworks at stockyards and supply of main equipment. The Salobo III Project performed a wide re-planning to mitigate the impacts from COVID-19 and keep the expected start up in 1H22.

The Serra Sul 120 Mtpy project, approved in August 2020, is in an initial phase, having started equipment and services supply processes. Hence, there was no capital expenditure for it in 3Q20.

[7] Including recoverable taxes in 3Q20 of US$ 23 million.

## Capital projects progress indicator[8]

| Projects | Capacity (tons per year) | Estimated start-up¹ | Executed capex (US$ million) | | Estimated capex (US$ million) | | Physical progress (%) |
|---|---|---|---|---|---|---|---|
| | | | 3Q20 | Total | 2020 | Total | |
| **Ferrous Minerals Project** | | | | | | | |
| Northern System 240 Mtpy | 10 Mt | 2H22 | 25 | 145 | 224 | 772 | 31% |
| Serra Sul 120 Mtpy | 20 Mt | 1H24 | - | - | - | 1,502 | 0% |
| **Base Metals Project** | | | | | | | |
| Salobo III | (30-40) kt | 1H22 | 60 | 296 | 323 | 1,128 | 62% |

¹ Updates may be required in the future, depending on the developments of the COVID-19 pandemic.

## Sustaining CAPEX

Investments in the maintenance of operations in 3Q20 decreased 6.9% compared to 2Q20, mainly due to the slow pace of project development in Brazil and, to a minor extent, the currency depreciation, as described above.

### Sustaining capex by business area

| *US$ million* | 3Q20 | % | 2Q20 | % | 3Q19 | % |
|---|---|---|---|---|---|---|
| Ferrous Minerals | 421 | 53.6 | 482 | 57.2 | 401 | 53.0 |
| Base Metals | 336 | 42.8 | 329 | 39.0 | 271 | 35.8 |
| Nickel | 310 | 39.5 | 289 | 34.3 | 225 | 29.8 |
| Copper | 26 | 3.3 | 40 | 4.7 | 46 | 6.1 |
| Coal | 27 | 3.4 | 31 | 3.7 | 79 | 10.4 |
| Energy and others | 1 | 0.1 | 1 | 0.1 | 5 | 0.7 |
| **Total** | **785** | **100.0** | **843** | **100.0** | **756** | **100.0** |

Investments in dam management and health & safety are considered essential to Vale, therefore projects have been implemented, with due adjustments and in line with the most rigorous international practices.

### Sustaining capex by type - 3Q20

| *US$ million* | Ferrous Minerals | Base Metals | Coal | Energy and others | TOTAL |
|---|---|---|---|---|---|
| Enhancement of operations | 271 | 178 | 23 | - | 472 |
| Replacement projects | 24 | 93 | - | - | 117 |
| Dam management | 6 | 5 | 1 | - | 12 |
| Other investments in dams and waste dumps | 27 | 12 | - | - | 39 |
| Health and Safety | 39 | 18 | 1 | - | 58 |
| Social investments and environmental protection | 18 | 16 | 2 | - | 36 |
| Administrative & Others | 36 | 14 | - | 1 | 51 |
| **Total** | **421** | **336** | **27** | **1** | **785** |

[8] Pre-operating expenses were not included in the estimated capex for the year, although included in the total estimated capex column, in line with Vale's Board of Directors approvals. Estimated capex for the year is only reviewed once a year.

The replacement project Voisey's Bay underground mine extension ("VBME"), in Canada, had pace of implementation slowed down to ensure proper health and safety conditions at the site and to support the protection of aboriginal coastal communities, following the resumption of works in late May 2020. Works are ongoing with surface construction, with the installation of precast for the paste plant and the forming cast-in-place foundations for the generators. The underground development has been steadily progressing back to pre-COVID rates.

The Gelado project had works at the magnetic concentration front advanced, with the launching of 35 km of cables and the assembling of 1.8 km of pipes, as part of the infrastructure for feeding. For the fines recovery front, civil works are ongoing, with the concreting of tunnels and a pump base, among other activities. As next steps, cables and air lines will be interconnected, while the construction area for electromechanical assembly will be implemented.

### Replacement projects progress indicator

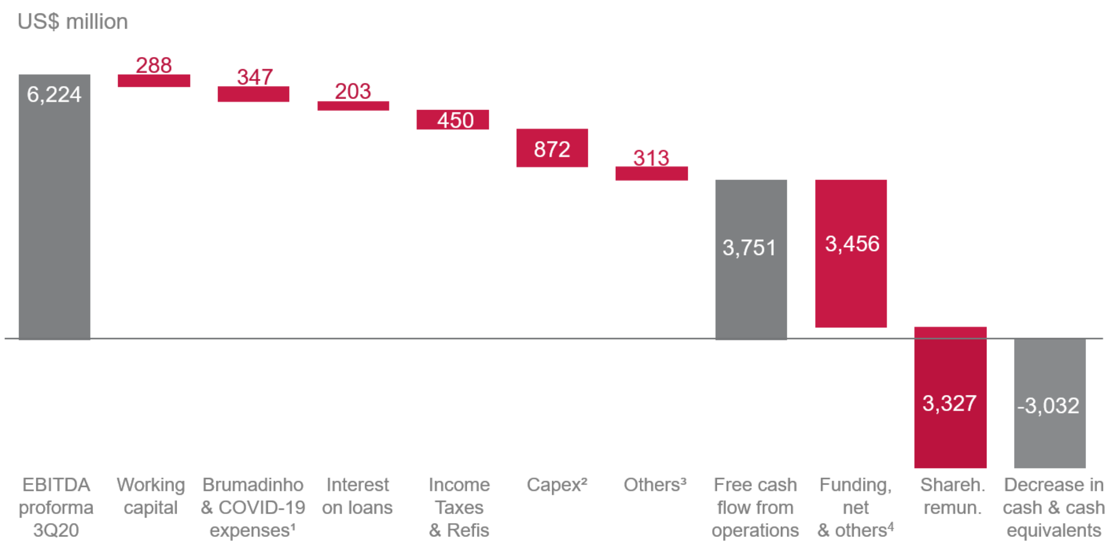
| Projects | Capacity (ktpy) | Estimated start-up | Executed capex (US$ million) | | Estimated capex (US$ million) | | Physical progress (%) |
|---|---|---|---|---|---|---|---|
| | | | 3Q20 | Total | 2020 | Total | |
| Voisey's Bay Mine Extension | 45 | 1H21 | 91 | 725 | 499 | 1,694 | 54% |
| Gelado | 9.7 | 1H22 | 17 | 146 | 121 | 428 | 68% |

# Free cash flow

Vale had a Free Cash Flow from Operations of US$ 3,751 million in 3Q20, mainly driven by the strong EBITDA and small increase in working capital versus production and shipments acceleration. Working capital increase of US$ 288 million was mostly driven by a combined effect of higher inventories across the iron ore supply chain and strong accrual sales in the end of the quarter at a higher price than sales collected during the quarter, both as a consequence of the logistics lead time between production and CFR sales.

The solid operational cash flow generation enabled Vale to repay its US$ 5 billion revolving credit line and distribute US$ 3.327 billion to shareholders, while keeping a healthy cash position of US$ 9 billion, which was also positively impacted by the net funding proceeds of US$ 1,535 million.

**Free Cash Flow 3Q20**




[1] Includes US$ 114 million of Brumadinho incurred expenses, US$ 218 million disbursement of Brumadinho provisioned expenses and US$ 15 million of COVID-19 expenses.
[2] Excludes recoverable taxes in 3Q20 (US$ 23 million).
[3] Includes US$ 130 million of derivatives, US$ 180 million of payments to Samarco, dividends and interest on capital paid to noncontrolling interest.
[4] Includes US$ 5,000 million of revolving credit facilities repayment, US$ 1,535 million of net funding proceeds and US$ 9 million of release of judicial deposits.

# Debt indicators

### Debt indicators

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| **Gross debt [1]** | **13,444** | **16,903** | **14,786** |
| **Net debt [1]** | **4,474** | **4,697** | **5,321** |
| Leases (IFRS 16) | 1,621 | 1,652 | 1,811 |
| Currency swaps[2] | 1,161 | 1,133 | 281 |
| Refis | 2,600 | 2,749 | 3,855 |
| Brumadinho provisions | 3,124 | 3,409 | 4,769 |
| Samarco & Renova Foundation provisions | 1,485 | 1,669 | 1,557 |
| **Expanded net debt** | **14,465** | **15,309** | **17,594** |
| Total debt / adjusted LTM EBITDA (x) | 0.8 | 1.2 | 1.3 |
| Net debt / adjusted LTM EBITDA (x) | 0.3 | 0.3 | 0.5 |
| Adjusted LTM EBITDA / LTM gross interest (x) | 19.4 | 16.5 | 10.8 |

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

[2] Includes interest rate swaps.

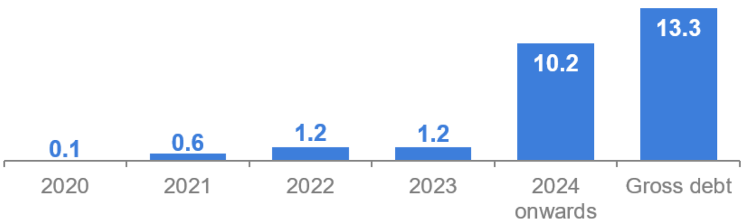
Gross debt totaled US$ 13.444 billion as of September 30th, 2020, decreasing by US$ 3.5 billion vs. June 30th, 2020, mainly explained by (i) the issuance of US$ 1.5 billion in notes due 2030 bearing a coupon of 3.75% per year, and (ii) the repayment of the US$ 5 billion revolving credit facilities that were disbursed earlier this year. Net debt remains at its lowest level since 4Q08, reaching US$ 4.474 billion as of September 30th, 2020, decreasing by US$ 223 million vs. US$ 4.697 billion as of June 30th, 2020.

Expanded net debt (including relevant commitments) decreased to US$ 14.465 billion as of September 30th, 2020. The decrease of US$ 844 million is mainly due to lower Brumadinho and Samarco & Renova Foundation commitments, reflecting payments made during the quarter and the devaluation of the Brazilian real, which were partially offset by the effect of currency swaps in the period.

Average debt maturity increased to 8.6 years on September 30th, 2020, when compared to 7.1 years on June 30th, 2020. Likewise, average cost of debt, after currency and interest rate swaps, increased to 4.47% per annum on September 30th, 2020 when compared to 3.61% per annum on June 30th, 2020, mainly due to the repayment of the revolving credit facilities.

### Debt amortization schedule[1]

US$ billion




**77% of debt maturity after 2024**

[1] As of September 30th, 2020. Does not include accrued charges.

# Performance of the business segments

### Segment information — 3Q20, 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 and interest received from associates and JVs | Adjusted EBITDA |
|---|---|---|---|---|---|---|---|
| Ferrous Minerals | 8,684 | (2,599) | (53) | (32) | (146) | 2 | 5,856 |
| Iron ore fines | 7,357 | (2,064) | (51) | (31) | (121) | - | 5,090 |
| ROM | 5 | - | - | - | - | - | 5 |
| Pellets | 1,195 | (431) | 2 | (1) | (17) | - | 748 |
| Others ferrous | 76 | (60) | - | - | - | 2 | 18 |
| Mn & Alloys | 51 | (44) | (4) | - | (8) | - | (5) |
| Base Metals | 1,904 | (1,084) | (25) | (25) | - | - | 770 |
| Nickel[2] | 1,317 | (894) | (23) | (10) | - | - | 390 |
| Copper[3] | 587 | (190) | (2) | (15) | - | - | 380 |
| Coal | 103 | (321) | (5) | (10) | - | 20 | (213) |
| Others | 71 | (86) | (133) | (38) | (3) | - | (189) |
| Brumadinho impact | - | - | (114) | - | - | - | (114) |
| COVID-19 donations | - | - | (15) | - | - | - | (15) |
| Total | 10,762 | (4,090) | (345) | (105) | (149) | 22 | 6,095 |

[1] Excluding depreciation, depletion and amortization.

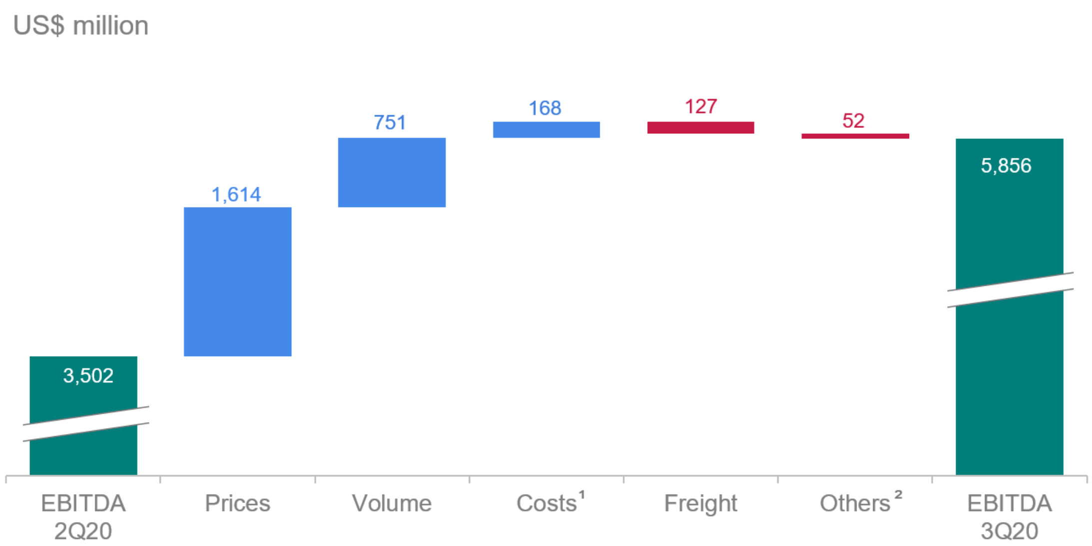
[2] Including copper and by-products from our nickel operations.

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

# Ferrous Minerals

Ferrous Minerals business segment achieved in 3Q20 its largest adjusted EBITDA level since 4Q13, US$ 5.856 billion, 67% higher than in 2Q20. The adjusted EBITDA per ton for Ferrous Minerals, excluding Manganese and Ferroalloys, totaled US$ 79.0/t, an increase of US$ 22.4/t when compared to 2Q20.

### Ferrous Minerals EBITDA variation (3Q20 x 2Q20)




[1] Excluding volume effect, FX and freight costs.
[2] Including lower dividends received (-US$ 51 million), FX effect (-US$ 2 million) and lower expenses (US$ 1 million).

The share of premium products[9] in total sales was 83% in 3Q20, in line with 2Q20. Iron ore fines and pellets quality premiums reached US$ 4.6/t in 3Q20 vs. US$ 7.5/t in 2Q20, mainly due to the absence of seasonal dividends received and lower premiums in a market environment of higher iron ore prices, creating pressure on steelmaking margins and, as consequence, reducing the willingness to pay for high-quality products.

### Iron ore fines and pellets quality premium

| *US$/t* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Iron ore fines quality premium | 3.7 | 5.3 | 4.0 |
| Pellets weighted average contribution | 0.9 | 2.2 | 1.9 |
| **Iron ore fines and pellets total quality premium** | **4.6** | **7.5** | **5.9** |
| **Share of premium products[1] (%)** | **83%** | **83%** | **86%** |

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

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

### Volume sold

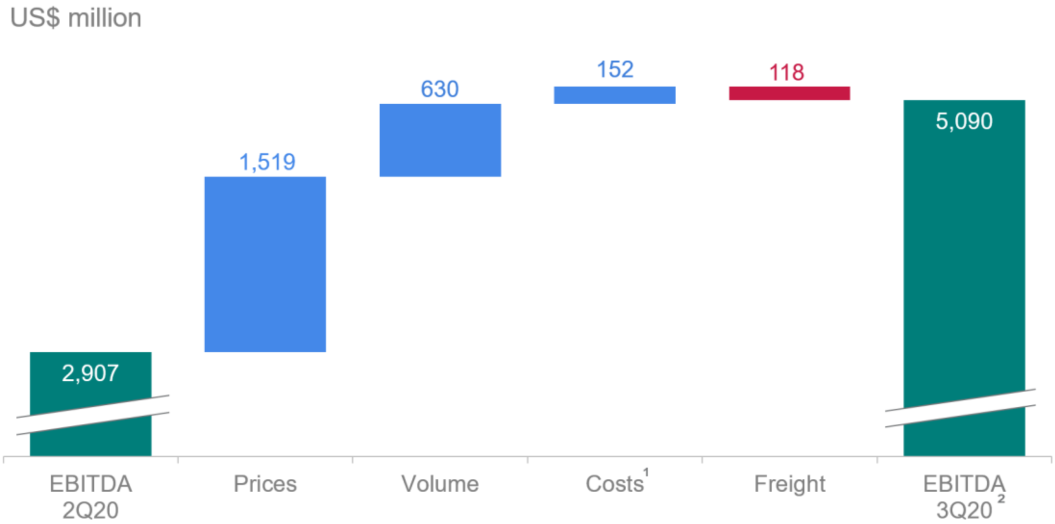
| '000 metric tons | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Iron ore fines | 65,607 | 54,569 | 73,614 |
| ROM | 162 | 46 | 425 |
| Pellets | 8,464 | 6,950 | 11,077 |
| Manganese ore | 428 | 270 | 150 |
| Ferroalloys | 15 | 10 | 29 |

### Net operating revenue by product

| US$ million | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Iron ore fines | 7,357 | 4,852 | 6,566 |
| ROM | 5 | 3 | 14 |
| Pellets | 1,195 | 900 | 1,596 |
| Manganese & Ferroalloys | 51 | 68 | 48 |
| Others | 76 | 72 | 103 |
| **Total** | **8,684** | **5,895** | **8,327** |

## Iron ore fines (excluding Pellets and ROM)

### Iron ore fines EBITDA variation (3Q20 x 2Q20)



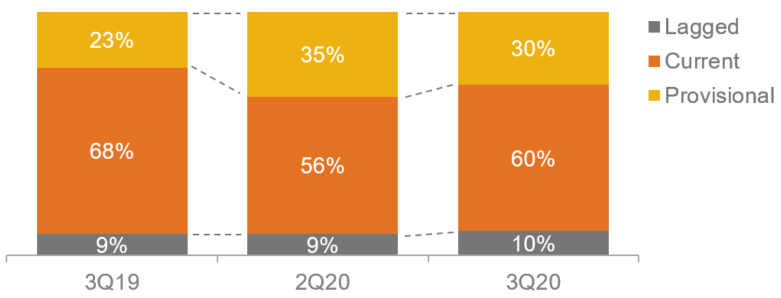

[1] Excluding volume effect, FX and freight costs.
[2] Including FX effect (-US$ 3 million) and higher expenses (US$ 3 million).

### REVENUES AND SALES VOLUMES

Net sales revenues of iron ore fines, excluding pellets and run of mine (ROM), increased to US$ 7.357 billion in 3Q20 vs. US$ 4.852 billion in 2Q20, as a result of 26% higher sales realized prices (US$ 1.519 billion) and 20% higher sales volumes (US$ 986 million).

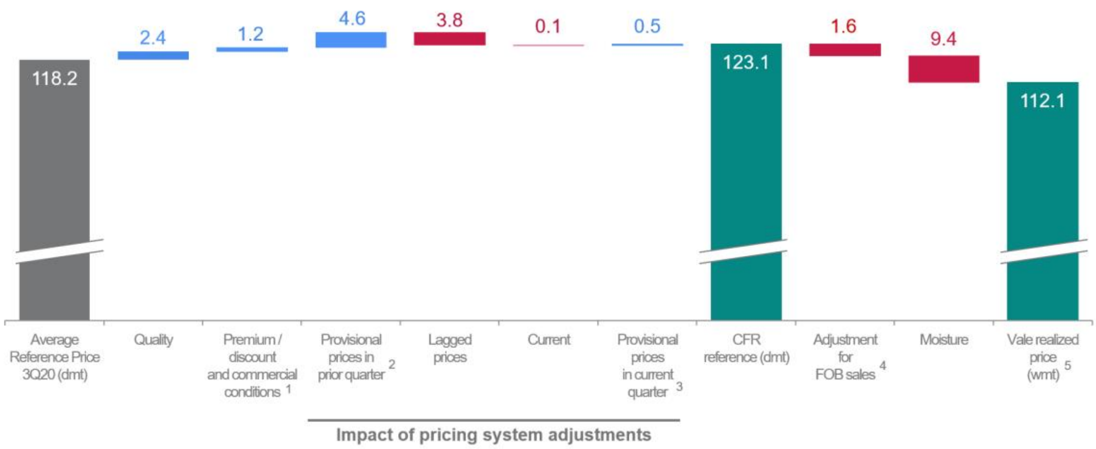
Sales volumes of iron ore fines totaled 65.6 Mt in 3Q20, 11 Mt higher than in 2Q20. CFR sales of iron ore fines totaled 53.5 Mt in 3Q20, which represented 81% of total sales, in line with 2Q20, however above that historically observed due to the higher sales volume to China. Sales to China are predominantly CFR-based, due to Vale's blending strategy and customers' usual choice. The higher percentage of sales to China is an effect of COVID-19 impacts in different markets.

**Pricing system breakdown (%)**




Vale's realized price CFR/FOB totaled US$ 112.1/t, an increase of US$ 23.2/t compared with 2Q20, mainly due to higher 62% Fe reference price (US$ 24.9/t), which was partially offset by lower premiums in a market environment of higher prices (US$ 1.9/t).

## Price realization iron ore fines – US$/t, 3Q20




[1] In 3Q20, Quality totaled US$ 2.45/t and Premium/discount and commercial conditions totaled US$ 1.21/t.
[2] Adjustment as a result of provisional prices booked in 2Q20 at US$ 94.3/t.
[3] Difference between the weighted average of the prices provisionally set at the end of 3Q20 at US$ 119.8/t based on forward curves and US$ 118.2/t from the 3Q20 62% Fe reference price.
[4] Includes freight pricing mechanisms of CFR sales freight recognition.
[5] Vale price is net of taxes.

## Average prices

| *US$/ metric ton* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Iron ore - Metal Bulletin 65% index | 129.2 | 108.5 | 109.8 |
| Iron ore - Metal Bulletin 62% low alumina index | 118.7 | 95.9 | 101.8 |
| Iron ore - 62% Fe reference price | 118.2 | 93.3 | 102.0 |
| Provisional price at the end of the quarter | 119.8 | 94.3 | 88.7 |
| Iron ore fines CFR reference (dmt) | 123.1 | 100.4 | 100.2 |
| Iron ore fines CFR/FOB realized price | 112.1 | 88.9 | 89.2 |
| Pellets CFR/FOB (wmt) | 141.2 | 129.4 | 144.1 |
| Manganese ore | 85.3 | 214.3 | 118.7 |
| Ferroalloys | 968.2 | 1,005.9 | 1,051.3 |

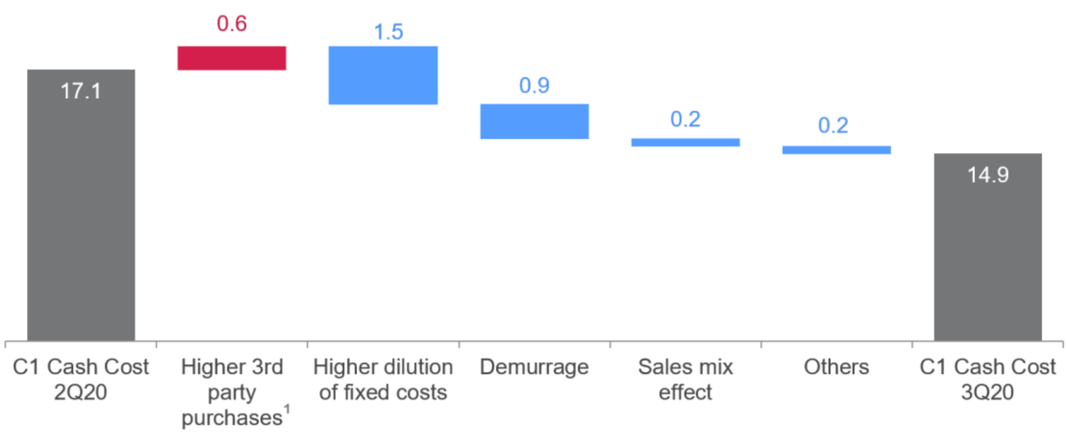
## COSTS

### IRON ORE COGS - 2Q20 x 3Q20

| | | Variance drivers | | | | |
|---|---|---|---|---|---|---|
| *US$ million* | 2Q20 | Volume | Exchange rate | Others | Total variation | 3Q20 |
| C1 cash costs | 933 | 189 | 3 | (148) | 44 | 977 |
| Freight | 597 | 125 | - | 118 | 243 | 840 |
| Others | 209 | 41 | - | (4) | 37 | 246 |
| **Total costs before depreciation and amortization** | **1,739** | **355** | **3** | **(34)** | **324** | **2,063** |
| Depreciation | 314 | 61 | - | (122) | (61) | 253 |
| **Total** | **2,053** | **416** | **3** | **(156)** | **263** | **2,316** |

C1 cash cost FOB port per metric ton for iron ore fines ex-royalties decreased to US$ 14.9/t in 3Q20 from US$ 17.1/t in 2Q20. The lower C1 cash cost was a result of (i) higher dilution of fixed cost due to higher volumes; (ii) normalization of demurrage costs; (iii) sales mix effect, which were partially offset by higher third-party purchase prices and volumes.

### C1 cash cost variation (3Q20 x 2Q20) – US$/t




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

Vale purchases ore from third parties as an opportunity to optimize logistics assets, product portfolio and maximize cash generation. Despite increasing cash generation, third-party purchase often impacts the results of Vale's average C1 cash cost due to higher volumes or the increase in the benchmark price of iron ore.

In 3Q20, third party purchase sales totaled 4.1 Mt, 32% higher than in 2Q20, and iron ore global benchmark prices average were 27% higher than the previous quarter average. As result, third party purchases added more US$ 0.6/t on Vale's average C1 cash cost vs. 2Q20. Excluding this effect, Vale's C1 cash cost decreased US$ 2.9/t within the quarter. However, the achievement of US$ 14.5/t of C1 cash cost in 2H20 may be challenging, considering the higher iron ore price environment and its effect on third party purchase costs.

Unit maritime freight cost per iron ore metric ton increased US$ 2.2/t, totaling US$ 15.7/t in 3Q20. Freight cost increased mainly due to higher spot freight prices in a quarter with seasonal higher exposure of spot rates (US$ 1.9/t).

### Iron ore fines cash cost and freight

| | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| **Costs (US$ million)** | | | |
| COGS, less depreciation and amortization | 2,063 | 1,739 | 2,527 |
| (-) Distribution costs | 48 | 48 | 80 |
| (-) Maritime freight costs (A) | 840 | 597 | 1,089 |
| **FOB at port costs (ex-ROM)** | **1,175** | **1,094** | **1,358** |
| (-) Royalties and others[1] | 198 | 161 | 232 |
| **FOB at port costs (ex-ROM and ex-royalties) (B)** | **977** | **933** | **1,126** |
| **Sales volumes (Mt)** | | | |
| Total iron ore volume sold | 65.8 | 54.6 | 74.0 |
| (-) Total ROM volume sold | 0.2 | 0,0 | 0.4 |
| Volume sold (ex-ROM) (C) | 65.6 | 54.6 | 73.6 |
| **Vale's iron ore cash cost (ex-ROM, ex-royalties), FOB (US$ /t) (B/C)** | **14.9** | **17.1** | **15.3** |
| **Freight** | | | |
| Maritime freight costs (A) | 840 | 597 | 1,089 |
| % of CFR sales (D) | 81% | 81% | 78% |
| Volume CFR (Mt) (E = C x D) | 53.5 | 44.2 | 57.1 |
| Vale's iron ore unit freight cost (US$/t) (A/E) | 15.7 | 13.5 | 19.1 |

[1] Includes idle capacity.

### Third-party purchase cost in Vale's iron ore fines C1 cash cost

| | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| **Costs (US$ million)** | | | |
| Vale's iron ore fines C1 cash cost (A) | 977 | 933 | 1,126 |
| Third-party purchase costs[1] (B) | 209 | 139 | 223 |
| Vale's C1 cash cost ex-third-party volumes (C = A – B) | 768 | 794 | 903 |
| **Sales volumes (Mt)** | | | |
| Volume sold (ex-ROM) (D) | 65.6 | 54.6 | 73.6 |
| Volume sold from third-party purchases (E) | 4.1 | 3.1 | 5.0 |
| Volume sold from own operations (F = D – E) | 61.5 | 51.5 | 68.6 |
| **Iron ore fines cash cost (ex-ROM, ex-royalties), FOB (US$ /t)** | | | |
| Vale's iron ore cash cost (A/D) | 14.9 | 17.1 | 15.3 |
| Average third-party purchase C1 cash cost (B/E) | 50.8 | 45.5 | 44.6 |
| Vale's C1 cash cost ex-third-party purchase cost (C/F) | 12.5 | 15.4 | 13.2 |

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

## EXPENSES

### Expenses - iron ore fines

| *US$ millions* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| **Selling** | **13** | **13** | **13** |
| **R&D** | **31** | **25** | **28** |
| **Pre-operating and stoppage expenses** | **121** | **122** | **166** |
| Brumadinho stoppage expenses | 102 | 97 | 152 |
| Others | 19 | 25 | 14 |
| **Other expenses** | **38** | **46** | **67** |
| **Total expenses** | **203** | **206** | **274** |

## Iron ore pellets

Adjusted EBITDA for pellets was US$ 748 million in 3Q20, 34% higher than in 2Q19, mainly as a result of 9% higher sales price (US$ 130 million) and 22% higher sales volumes (US$ 104 million), which were partially offset by the seasonal absence of dividends received (US$ 53 million).

CFR pellets sales of 4.6 Mt in 3Q20 represented 54% of total pellets sales. FOB pellets sales amounted to 3.9 Mt in 3Q20. The increase of 1.9 Mt of FOB sales vs. 2Q20 is a result of demand improvements ex-China.

Realized prices in 3Q20 averaged US$ 141.2/t, increasing US$ 11.8/t vs. 2Q20, mainly due to 19% higher 65% Fe price index, which was partially offset by lower pellet premiums and the negative effect of pricing mechanisms as a result of lagged price sales.

Costs totaled US$ 431 million (or US$ 519 million with depreciation charges) in 3Q20. Excluding the impact of higher sales volumes (US$ 61 million), costs remained in line with 2Q20.

### Pellets - EBITDA

| | 3Q20 | | 2Q20 | |
|---|---|---|---|---|
| | US$ million | US$/wmt | US$ million | US$/wmt |
| Net revenues / Realized price | 1,195 | 141.2 | 900 | 129.5 |
| Dividends received (Leased pelletizing plants) | - | - | 53 | 7.6 |
| Cash costs (Iron ore, leasing, freight, overhead, energy and other) | (431) | (50.9) | (377) | (54.2) |
| Pre-operational & stoppage expenses | (17) | (2.0) | (17) | (2.4) |
| Expenses (Selling, R&D and other) | 1 | 0.1 | 1 | 0.1 |
| **EBITDA** | **748** | **88.4** | **560** | **80.6** |

## Iron ore fines and pellets cash break-even[10]

### Iron ore and pellets cash break-even landed in China[1]

| *US$/t* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Vale's iron ore cash cost (ex-ROM, ex-royalties), FOB (US$ /t) | 14.9 | 17.1 | 15.3 |
| Iron ore fines freight cost (ex-bunker oil hedge) | 15.7 | 13.5 | 19.1 |
| Iron ore fines distribution cost | 0.7 | 0.9 | 1.1 |
| Iron ore fines stoppage expenses[2] related to Brumadinho | 1.6 | 1.8 | 2.8 |
| Iron ore fines expenses[2] & royalties | 4.5 | 4.9 | 4.0 |
| Iron ore fines moisture adjustment | 3.3 | 3.4 | 3.6 |
| Iron ore fines quality adjustment | (3.7) | (5.3) | (4.0) |
| **Iron ore fines EBITDA break-even (US$/dmt)** | **37.0** | **36.3** | **42.0** |
| Iron ore fines pellet adjustment | (0.9) | (2.2) | (1.9) |
| **Iron ore fines and pellets EBITDA break-even (US$/dmt)** | **36.1** | **34.1** | **40.1** |
| Iron ore fines sustaining investments | 5.8 | 8.1 | 4.7 |
| **Iron ore fines and pellets cash break-even landed in China (US$/dmt)** | **41.9** | **42.2** | **44.8** |

[1] Measured by unit cost + expenses + sustaining investment adjusted for quality

[2] Net of depreciation and includes dividends received

## Manganese and ferroalloys

Adjusted EBITDA of manganese ore and ferroalloys was US$ 5 million negative in 3Q20, US$ 20 million lower than in 2Q20, mainly due to lower sales prices (US$ 41 million), which was partially offset by higher sales volumes (US$ 17 million).

[10] 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 | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| **Americas** | **7,663** | **4,937** | **7,644** |
| Brazil | 5,639 | 4,459 | 6,005 |
| Others | 2,024 | 478 | 1,639 |
| **Asia** | **60,833** | **51,011** | **67,515** |
| China | 50,448 | 43,144 | 56,906 |
| Japan | 5,314 | 3,428 | 5,347 |
| Others | 5,071 | 4,439 | 5,262 |
| **Europe** | **3,104** | **3,629** | **6,650** |
| Germany | 468 | 720 | 3,215 |
| France | 591 | 114 | 833 |
| Others | 2,045 | 2,795 | 2,602 |
| **Middle East** | **1,616** | **1,139** | **2,435** |
| **Rest of the World** | **1,017** | **849** | **872** |
| **Total** | **74,233** | **61,565** | **85,116** |

## Selected financial indicators - Ferrous Minerals

| US$ million | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Net Revenues | 8,684 | 5,895 | 8,327 |
| Costs[1] | (2,599) | (2,214) | (3,375) |
| Expenses[1] | (53) | (56) | (90) |
| Pre-operating and stoppage expenses[1] | (146) | (149) | (193) |
| R&D expenses | (32) | (27) | (35) |
| Dividends and interests on associates and JVs | 2 | 53 | - |
| Adjusted EBITDA | 5,856 | 3,502 | 4,634 |
| Depreciation and amortization | (403) | (478) | (548) |
| Adjusted EBIT | 5,453 | 3,024 | 4,086 |
| Adjusted EBIT margin (%) | 62.8 | 51.3 | 49.1 |

[1] Net of depreciation and amortization

## Selected financial indicators - Iron ore fines

| US$ million | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Adjusted EBITDA (US$ million) | 5,090 | 2,907 | 3,765 |
| Volume Sold (Mt) | 65.6 | 54.6 | 73.6 |
| Adjusted EBITDA (US$/t) | 78 | 53 | 51 |

## Selected financial indicators - Pellets

| US$ million | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Adjusted EBITDA (US$ million) | 748 | 560 | 833 |
| Volume Sold (Mt) | 8.5 | 7.0 | 11.1 |
| Adjusted EBITDA (US$/t) | 88 | 81 | 75 |

## Selected financial indicators - Ferrous ex Manganese and Ferroalloys

| US$ million | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Adjusted EBITDA (US$ million) | 5,861 | 3,487 | 4,626 |
| Volume Sold (Mt)[1] | 74.2 | 61.6 | 85.1 |
| Adjusted EBITDA (US$/t) | 79 | 57 | 54 |

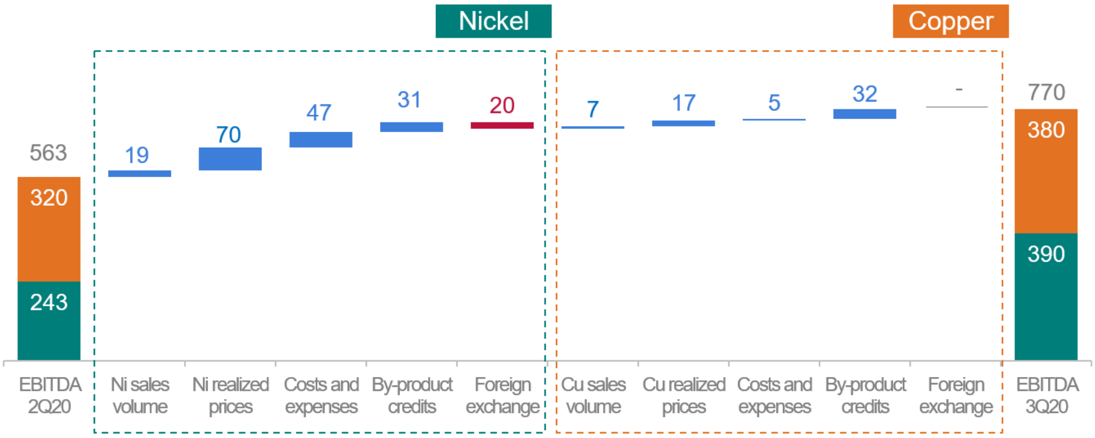
[1] Volume including iron ore fines, pellets and ROM.

# Base Metals

Base Metals operations adjusted EBITDA was US$ 770 million in 3Q20, US$ 207 million higher than 2Q20, with the Copper business EBITDA reaching a record[11] US$ 380 million.

Base Metals - EBITDA 3Q20 vs. 2Q20

*US$ million*




The higher EBITDA in the quarter was mainly due to:

- Higher nickel and copper realized prices, on stronger LME reference price;
- Higher nickel by-product credits, especially rhodium and palladium, due to as provisionally priced sales that were adjusted to higher product market prices;
- Lower stoppage expenses with Voisey's Bay's resumption after care and maintenance; and
- Higher nickel sales volumes, as better prices enabled the destocking of built up inventories from previous quarters.

Salobo and Sossego reached record-low unit cash costs after by-products with, respectively negative US$ 806/t and US$ 1,269/t, as a result of higher gold by-product credits.

### Base Metals EBITDA overview – 3Q20

| *US$ million* | North Atlantic | PTVI Site | VNC Site | Onça Puma | Sossego | Salobo | Others Ni & Cu | Total Base Metals |
|---|---|---|---|---|---|---|---|---|
| **Net Revenues** | **963** | **212** | **98** | **37** | **170** | **417** | **7** | **1,904** |
| Costs | (657) | (126) | (118) | (34) | (60) | (129) | 40 | (1,084) |
| Selling and other expenses | (6) | - | - | (2) | (3) | - | (15) | (25) |
| Pre-operating and stoppage expenses | - | - | - | - | - | - | - | - |
| R&D | (6) | (1) | (2) | - | (4) | (1) | (11) | (25) |
| **EBITDA** | **294** | **85** | **(22)** | **1** | **104** | **287** | **21** | **770** |

[11] Not considering the effects of the Salobo goldstream recorded in 1Q15.

## Average prices

| *US$/ metric ton* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Nickel - LME | 14,210 | 12,215 | 15,540 |
| Copper - LME | 6,519 | 5,356 | 5,802 |
| Nickel - realized prices | 15,145 | 13,948 | 14,859 |
| Copper - realized prices[1] | 6,268 | 5,994 | 4,918 |
| Gold (US$/oz) | 2,177 | 1,743 | 1,485 |
| Silver (US$/oz) | 22.53 | 18.09 | 15.15 |
| Cobalt (US$/t) | 30,083 | 26,816 | 24,901 |

[1]Considers Salobo and Sossego operations.

# Nickel operations

## Nickel operations – EBITDA by operation

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| North Atlantic operation[1] | 294 | 195 | 294 |
| PTVI | 85 | 59 | 66 |
| VNC | (22) | (48) | (22) |
| Onça Puma | 1 | 8 | (8) |
| Others Nickel[2] | 32 | 29 | (11) |
| **Total** | **390** | **243** | **319** |

[1] Includes the operations in Canada and in the United Kingdom.

[2] Includes the PTVI and VNC off-takes, intercompany sales eliminations, purchase of finished nickel and trading activities. Hedge results have been relocated to each nickel business operation.

North Atlantic operations' EBITDA was higher in 3Q20 mainly due to (i) higher nickel realized prices, (ii) higher by-product credits and (iii) lower expenses due to the resumption of Voisey's Bay mine operations. The positive effects were partially offset by higher costs related to maintenance works during the quarter.

PTVI's higher EBITDA in 3Q20 was mainly due to higher nickel realized prices.

VNC's EBITDA was higher in 3Q20 mainly due to the positive effect of higher LME prices leading to more favorable margins associated with the current inventories compared to last quarter, and higher site production.

Onça Puma's EBITDA was lower in 3Q20 mainly due to limited productivity at the site related to maintenance works, which were successfully completed by the end of the quarter.

## Net operating revenue by product - Nickel operations

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Nickel | 882 | 591 | 757 |
| Copper | 129 | 133 | 113 |
| Gold as by-product | 27 | 28 | 22 |
| Silver as by-product | 7 | 5 | 3 |
| PGMs | 155 | 120 | 105 |
| Cobalt | 28 | 27 | 27 |
| Others Nickel | 89 | 44 | 7 |
| **Total** | **1,317** | **948** | **1,034** |

## Volume sold - Nickel operations

| *'000 metric tons* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Nickel | 58 | 42 | 51 |
| Upper Class I nickel [1] | 15 | 18 | 25 |
| Lower Class I nickel [1] | 20 | 3 | 6 |
| Class II nickel [1] | 12 | 13 | 13 |
| Intermediates [1] | 11 | 8 | 7 |
| Copper | 18 | 24 | 24 |
| Gold as by-product ('000 oz) | 14 | 16 | 15 |
| Silver as by-product ('000 oz) | 367 | 232 | 224 |
| PGMs ('000 oz) | 60 | 91 | 61 |
| Cobalt (metric ton) | 945 | 1,025 | 1,086 |

[1] 3Q19 reconciled as per new classification.

## NICKEL REALIZED PRICES (NRP)

Nickel realized price in 3Q20 rose 8.6% from 2Q20 mainly due to 16.3% higher LME nickel prices, that was partially offset by (i) lower premiums for Class I nickel, (ii) higher discounts for Class II nickel, as well as (iii) higher share of Lower Class I nickel in the product mix, which commands lower premiums than Upper Class I nickel.

## Premiums / discount by nickel product

| *US$/t* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Upper Class I nickel | 1,080 | 1,130 | 1,520 |
| Lower Class I nickel | 70 | 300 | 340 |
| Class II nickel | (330) | (280) | 60 |
| Intermediates | (1,440) | (1,460) | (3,000) |

Note: 3Q19 reconciled as per new classification.

## Nickel products by source - 3Q20

| *% of source sales* | North Atlantic | PTVI | VNC | Onça Puma | Total % of sales |
|---|---|---|---|---|---|
| Upper Class I | 42% | 0% | 0% | 0% | 26% |
| Lower Class I | 53% | 0% | 0% | 0% | 34% |
| Class II | 4% | 45% | 38% | 100% | 21% |
| Intermediates | 1% | 55% | 62% | 0% | 19% |
| **Total** | **100%** | **100%** | **100%** | **100%** | **100%** |

### Nickel realized price

| *US$/t* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| LME average nickel price | 14,210 | 12,215 | 15,540 |
| Average nickel realized price | 15,145 | 13,948 | 14,859 |
| **Contribution to the NRP by category:** | | | |
| Nickel average aggregate premium | (40) | 120 | 393 |
| Other timing and pricing adjustments contribution | 975 | 1,613 | (1,073) |

In March 2020, as a precautionary measure to increase its cash position and preserve financial flexibility in light of the COVID-19 outbreak, Vale decided to unwind its Nickel Revenue Hedging Program. The gain was recognized in equity in 1Q20 and is periodically reclassified to net income aligned with the hedged future nickel sales. The effect of the derivatives settled in 3Q20 on Vale's nickel realized price was positive US$ 1,238/t.

Other timing and pricing adjustments had an aggregate positive impact of US$ 975/t. The main drivers for this positive adjustment in 3Q20 are (i) the Quotational Period effects (based on sales distribution in the prior three months, as well as the differences between the LME price at the moment of sale and the LME average price), with an impact of negative US$ 239/t; (ii) fixed price sales, with an impact of negative US$ 26/t; (iii) the above-mentioned effect of the hedging on Vale's nickel price realization, with a positive impact of US$ 1,238/t in the quarter, and (iv) other effects and adjustments of US$ 2/t.

## COSTS AND EXPENSES

North Atlantic operations' unit cash costs after by-products increased in 3Q20 mainly due to the higher dilution of by-product credits per ton as nickel sales volumes were higher compared to by-products sales volumes, which were partially offset by greater dilution of fixed costs from Voisey's Bay.

PTVI's unit cash costs was slightly lower in 3Q20 as a result of higher dilution of fixed costs on higher volumes at the site in the quarter.

VNC's unit cash costs after by-products was lower in 3Q20 mainly as consequence of the ramp up of nickel hydroxide cake production.

Onça Puma's unit cash costs was higher in 3Q20 as a result of extended maintenance work beyond July until the quarter end.

## Nickel COGS - 2Q20 x 3Q20

| | | Variance drivers | | | | |
|---|---|---|---|---|---|---|
| *US$ million* | 2Q20 | Volume | Exchange rate | Others | Total variation | 3Q20 |
| Nickel operations | 649 | 247 | 19 | (21) | 245 | 894 |
| Depreciation | 196 | 90 | 5 | (49) | 46 | 242 |
| **Total** | **845** | **337** | **24** | **(70)** | **291** | **1,136** |

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

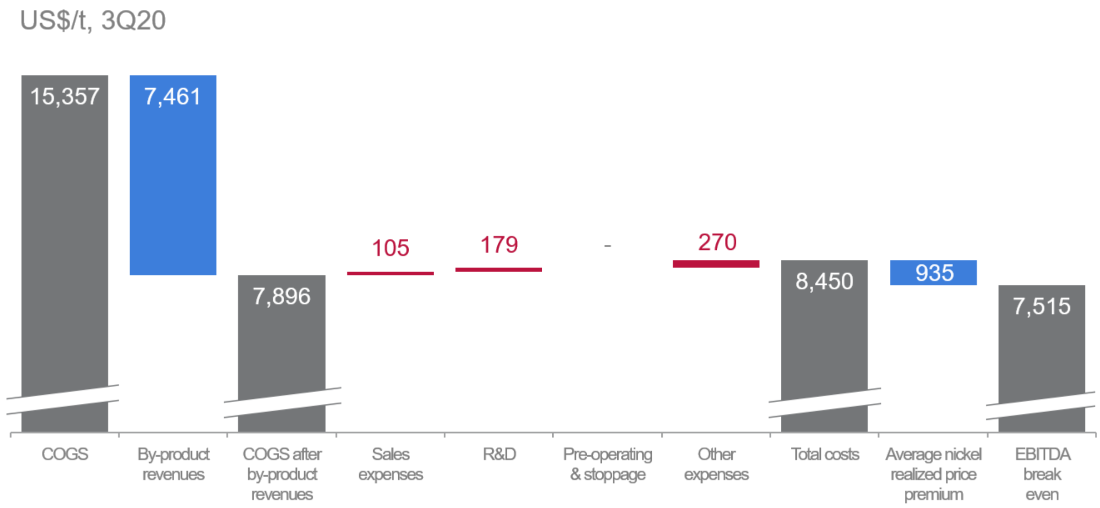
| *US$/t* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| North Atlantic operations[1] | 8,040 | 4,183 | 5,607 |
| PTVI | 6,291 | 6,401 | 6,947 |
| VNC | 13,322 | 19,739 | 20,331 |
| Onça Puma | 12,078 | 9,532 | 10,368 |

[1] North Atlantic figures include Clydach refining costs.

Selling expenses and other expenses totaled US$ 22 million in 3Q20, including selling expenses (US$ 6 million), mines under care and maintenance in North Atlantic (US$ 6 million) and expenses related to other projects (US$ 4 million).

R&D expenses were US$ 10 million in 3Q20, lower than the US$ 11 million recorded in 2Q20. These expenses encompass R&D initiatives for further operational improvements, with the main expenses associated with North Atlantic and VNC operations, corresponding to US$ 6 million and US$ 2 million, respectively, in the quarter.

## EBITDA breakeven – nickel operations[12]




[12] 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 breakeven would increase to US$ 7,723/t.

### Selected financial indicators - Nickel operations

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Net Revenues | 1,317 | 948 | 1,034 |
| Costs[1] | (894) | (649) | (676) |
| Expenses[1] | (23) | (16) | (12) |
| Pre-operating and stoppage expenses[1] | - | (29) | (16) |
| R&D expenses | (10) | (11) | (11) |
| Dividends and interests on associates and JVs | - | - | - |
| Adjusted EBITDA | 390 | 243 | 319 |
| Depreciation and amortization | (242) | (201) | (247) |
| Adjusted EBIT | 148 | 42 | 72 |
| Adjusted EBIT margin (%) | 11.2 | 4.4 | 7.0 |

[1] Net of depreciation and amortization

## Copper operations – Salobo and Sossego

### Copper – EBITDA by operation

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Salobo | 287 | 259 | 227 |
| Sossego | 104 | 74 | 19 |
| Others Copper[1] | (10) | (13) | (10) |
| **Total** | **380** | **320** | **236** |

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

Salobo's EBITDA was higher in 3Q20 mainly due to higher copper and gold realized prices, which were partially offset by lower gold sales volumes.

Sossego's EBITDA was higher in 3Q20 mainly due to higher copper and gold sales volumes and realized prices.

### Net operating revenue by product - Copper operations

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Copper | 390 | 358 | 334 |
| Gold as by-product | 192 | 163 | 157 |
| Silver as by-product | 5 | 2 | 4 |
| **Total** | **587** | **523** | **495** |

### Volume sold - Copper operations

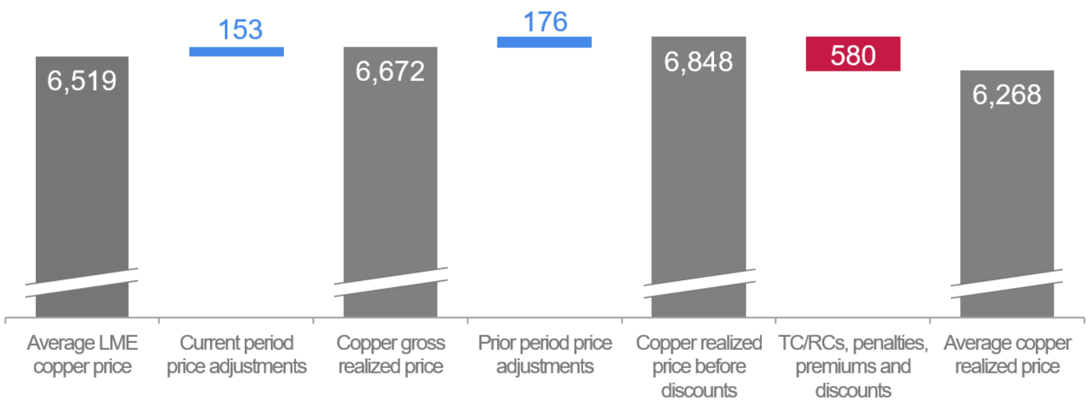
| *'000 metric tons* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Copper | 62 | 60 | 68 |
| Gold as by-product ('000 oz) | 86 | 93 | 105 |
| Silver as by-product ('000 oz) | 193 | 181 | 219 |

## COPPER REALIZED PRICES

Vale's copper products are sold on a provisional pricing basis[13] during the quarter with final prices determined in a future period, generally one to four months forward.

### Price realization – copper operations

US$/t, 3Q20




- Current period price adjustments: mark-to-market of invoices from current quarter sales still open at the end of the quarter based on the copper price forward curve at the end of the quarter
- Prior period price adjustment: variance 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 previous quarters
- TC/RCs, penalties, premiums and discounts for intermediate products

The positive effects of current period price adjustments of US$ 153/t and prior period price adjustments of US$ 176/t were mainly due to the forward price steadily rising during the third quarter.

## COSTS AND EXPENSES

Salobo had solid performance reaching consecutive negative unit cash costs after by-products in the quarter.

Unit cash costs after by-products decreased to negative US$ 806t/t in Salobo and US$ 1,269/t in Sossego, both operations reaching an all-time record-low, as a result of higher gold by-product credits.

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[13] On September 30th, 2020, Vale had provisionally priced copper sales from Sossego and Salobo totaling 42,838 tons valued at an LME forward price of US$ 6,645/t, subject to final pricing over the following months.

### Copper COGS - 2Q20 x 3Q20

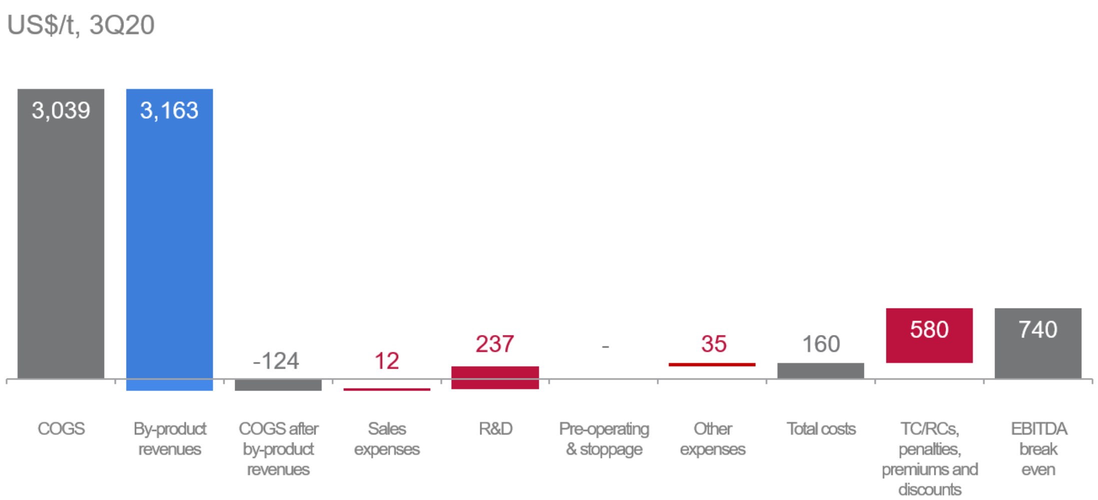
| | | Variance drivers | | | | |
|---|---|---|---|---|---|---|
| *US$ million* | 2Q20 | Volume | Exchange rate | Others | Total variation | 3Q20 |
| Copper operations | 185 | 9 | - | (4) | 5 | 190 |
| Depreciation | 33 | 3 | - | (7) | (4) | 29 |
| **Total** | **218** | **12** | **-** | **(11)** | **1** | **219** |

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

| *US$/t* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Salobo | (806) | (431) | 298 |
| Sossego | 1,269 | 2,055 | 3,830 |

Selling expenses and other expenses totaled US$ 3 million in 3Q20. Research and development expenses were US$ 15 million in 3Q20, with Hu'u-related expenditures amounting to US$ 10 million and Sossego amounting to US$ 4 million in the quarter.

### EBITDA breakeven – copper operations[14]




The realized price to be used against the EBITDA break-even should be the copper realized price before discounts (US$ 6,848/t), given that TC/RCs, penalties and other discounts are already part of the EBITDA break-even build-up.

[14] 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 breakeven would increase to US$ 2,184/t.

## Selected financial indicators - Copper operations

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Net Revenues | 587 | 523 | 495 |
| Costs[1] | (190) | (185) | (244) |
| Expenses[1] | (2) | (3) | (2) |
| Pre-operating and stoppage expenses[1] | (0) | - | - |
| R&D expenses | (15) | (15) | (13) |
| Dividends and interests on associates and JVs | - | - | - |
| Adjusted EBITDA | 380 | 320 | 236 |
| Depreciation and amortization | (29) | (33) | (49) |
| Adjusted EBIT | 351 | 287 | 187 |
| Adjusted EBIT margin (%) | 59.8 | 54.9 | 37.8 |

[1] Net of depreciation and amortization

# Coal

## ADJUSTED EBITDA

Coal adjusted EBITDA was negative US$ 213 million in 3Q20, mainly due to (i) depressed average realized prices and (ii) low sales volumes in the period, given lasting restrictions in demand, related to the COVID-19 pandemic.

Such result meant a slight improvement of US$ 56 million compared to 2Q20, following (i) higher metallurgical coal sales and fixed cost dilution after resumption of operations in June 2020 and (ii) seasonally higher interest received related to Nacala Logistic Corridor debt service to Vale[15].

With increased flexibility in the flow of goods, services and people in the region, which enabled the inbound logistics of equipment and materials to the site, and based on the safety levels maintained at this stage, Vale decided to resume its maintenance plan revamp in November 2020, and teams are already being mobilized for that. Hence, 4Q20 production will likely face impacts derived from such decision, which will be potentially offset by the current high level of inventories. Following works completion, a production run rate of 15 Mtpy and improved business sustainability are expected.

## Revenues and price realization

Revenues in 3Q20 were in line with the previous quarter, still affected by the combination of low sales volumes[16] and depressed average realized prices.

### Volume sold

| *'000 metric tons* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Metallurgical coal | 809 | 516 | 1,083 |
| Thermal coal | 572 | 869 | 1,172 |
| **Total** | **1,381** | **1,385** | **2,255** |

### Net operating revenue by product

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Metallurgical coal | 76 | 52 | 178 |
| Thermal coal | 27 | 42 | 63 |
| **Total** | **103** | **94** | **241** |

[15] From 1Q20 onwards, and for Adjusted EBITDA purposes only, Vale is recognizing interest on a cash basis. Therefore, interest from the Nacala Logistic Corridor will be recorded in the Adjusted EBITDA every 6 months (usually in 1Q and 3Q of each fiscal year) as provided for in the debt service contract.

[16] 3Q20 sales volumes of 1,381 are now rectified in relation to the information disclosed in the 3Q20 Production and Sales Report (1,435).

## Coal prices

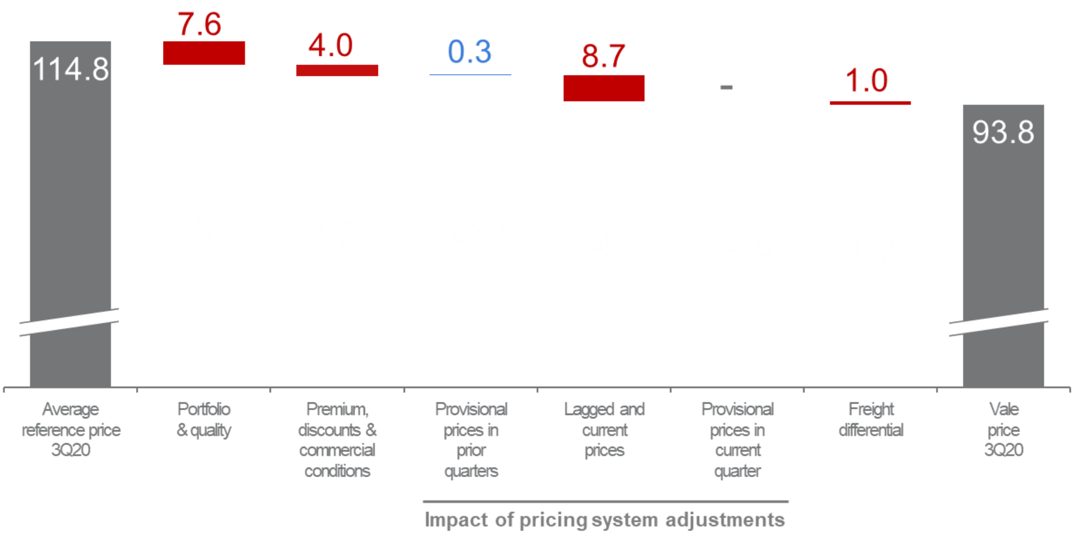
| US$/ metric ton | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Metallurgical coal index price[1] | 114.8 | 118.3 | 161.5 |
| Vale's metallurgical coal realized price | 93.8 | 100.9 | 164.5 |
| Thermal coal index price[2] | 55.4 | 54.8 | 61.2 |
| Vale's thermal coal realized price | 47.0 | 48.1 | 53.9 |
| **Vale's average realized price** | **74.4** | **67.7** | **107.0** |

[1] Reference price Premium Low Vol Hard Coking Coal FOB Australia.

[2] McCloskey FOB Richards Bay

## Price realization – Metallurgical coal

US$/t 3Q20




## Price realization – Thermal coal

US$/t 3Q20

## Costs and expenses

Costs totaled US$ 321 million in 3Q20, an amount US$ 40 million lower than in 2Q20, mainly due to fixed cost dilution after resumption of operations in June 2020. Pro-forma C1 cash cost totaled US$ 77.3/t in 3Q20, a decrease compared to 2Q20 due to (i) lower costs of inventories, which led to a substantial reversion of inventory impairments (Other Costs), (ii) seasonally higher interest received, related to Nacala Logistic Corridor debt service to Vale, and (iii) the effect of fixed cost dilution mentioned above.

### Pro-forma cash cost

| *US$/ metric ton* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Pro-forma operational costs[1] (A) | 103.9 | 133.8 | 139.3 |
| Nacala non-operational tariff [2] (B) | 31.4 | 56.7 | 48.5 |
| Other costs (C) [3] | (43.5) | (0.7) | 5.4 |
| Cost at Nacala Port (D = A+B+C) | 91.8 | 189.8 | 193.2 |
| NLC's debt service to Vale (E) | 14.5 | - | 12.9 |
| Pro-forma C1 cash cost (F = D-E) | 77.3 | 189.8 | 180.3 |
| Idle capacity | 140.9 | 70.6 | - |
| Total | 218.2 | 260.4 | 180.3 |

[1] Includes the inferred NLC tariff components related to fixed and variable costs and excludes royalties.

[2] Includes the inferred NLC tariff components related to sustaining capex, working capital, taxes and other financial items.

[3] Average costs of inventories are monthly tested vs. the expected sales prices leading to positive or negative variations, depending on previous provisions recorded.

### Selected financial indicators - Coal

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Net Revenues | 103 | 94 | 241 |
| Costs[1] [2] | (321) | (361) | (437) |
| Expenses[1] | (5) | 3 | 5 |
| Pre-operating and stoppage expenses[1] | - | - | - |
| R&D expenses | (10) | (5) | (10) |
| Dividends and interests on associates and JVs | 20 | - | 29 |
| Adjusted EBITDA | (213) | (269) | (172) |
| Depreciation and amortization | - | - | (67) |
| Adjusted EBIT | (213) | (269) | (239) |
| Adjusted EBIT margin (%) | (207) | (286) | (99) |

[1] Net of depreciation and amortization

[2] Including idle capacity

# ANNEXES

## SIMPLIFIED FINANCIAL STATEMENTS

### Income Statement

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| **Net operating revenue** | **10,762** | **7,518** | **10,217** |
| Cost of goods sold and services rendered | (4,816) | (4,212) | (5,681) |
| **Gross profit** | **5,946** | **3,306** | **4,536** |
| Gross margin (%) | 55.2 | 44.0 | 44.4 |
| Selling and administrative expenses | (127) | (124) | (128) |
| Research and evaluation expenses | (105) | (90) | (124) |
| Pre-operating and operational stoppage | (188) | (238) | (290) |
| Brumadinho event | (114) | (130) | (225) |
| Other operational expenses, net | (113) | (237) | (122) |
| Impairment and disposal of non-current assets | (298) | (403) | (30) |
| **Operating income** | **5,001** | **2,084** | **3,617** |
| Financial income | 69 | 135 | 132 |
| Financial expenses | (1,215) | (585) | (1,084) |
| Other financial items, net | (214) | (35) | (187) |
| Equity results and other results in associates and joint ventures | (40) | (535) | 132 |
| **Income before income taxes** | **3,601** | **1,064** | **2,610** |
| Current tax | (743) | (326) | (858) |
| Deferred tax | (51) | 181 | (119) |
| **Net income** | **2,807** | **919** | **1,633** |
| Loss attributable to noncontrolling interests | (101) | (76) | (21) |
| **Net income attributable to Vale's stockholders** | **2,908** | **995** | **1,654** |
| Earnings per share (attributable to the Company's stockholders - US$): | | | |
| Basic and diluted earnings per share (attributable to the Company's stockholders - US$) | 0.57 | 0.19 | 0.32 |

### Equity income (loss) by business segment

| *US$ million* | 3Q20 | % | 2Q20 | % | 3Q19 | % |
|---|---|---|---|---|---|---|
| Ferrous Minerals | 19 | (317) | 36 | 84 | 90 | 360 |
| Base Metals | (1) | 17 | - | - | - | - |
| Coal | - | - | - | - | - | - |
| Others | (24) | 400 | 7 | 16 | (65) | (260) |
| **Total** | **(6)** | **100** | **43** | **100** | **25** | **100** |

## Balance sheet

| *US$ million* | 9/30/2020 | 6/30/2020 | 9/30/2019 |
|---|---|---|---|
| **Assets** | | | |
| **Current assets** | **17,544** | **20,307** | **18,486** |
| Cash and cash equivalents | 8,845 | 12,113 | 8,559 |
| Short term investments | 125 | 93 | 906 |
| Accounts receivable | 3,014 | 2,597 | 2,297 |
| Other financial assets | 454 | 554 | 412 |
| Inventories | 4,329 | 4,058 | 4,629 |
| Prepaid income taxes | 117 | 145 | 559 |
| Recoverable taxes | 357 | 395 | 642 |
| Others | 303 | 352 | 482 |
| **Non-current assets** | **15,799** | **15,851** | **15,235** |
| Judicial deposits | 2,040 | 2,070 | 3,044 |
| Other financial assets | 2,472 | 2,300 | 2,895 |
| Prepaid income taxes | 540 | 583 | 591 |
| Recoverable taxes | 531 | 516 | 514 |
| Deferred income taxes | 9,610 | 9,804 | 7,786 |
| Others | 606 | 578 | 405 |
| **Fixed assets** | **46,638** | **46,989** | **60,175** |
| **Total assets** | **79,981** | **83,147** | **93,896** |
| **Liabilities** | | | |
| **Current liabilities** | **10,684** | **11,152** | **13,430** |
| Suppliers and contractors | 3,099 | 2,934 | 4,251 |
| Loans, borrowings and leases | 1,024 | 1,208 | 1,568 |
| Other financial liabilities | 1,782 | 1,563 | 1,584 |
| Taxes payable | 807 | 395 | 1,066 |
| Settlement program (REFIS) | 313 | 321 | 414 |
| Provisions | 1,016 | 850 | 1,019 |
| Liabilities related to associates and joint ventures | 688 | 709 | 450 |
| Liabilities related to Brumadinho | 936 | 1,013 | 2,085 |
| De-characterization of dams | 320 | 312 | 451 |
| Interest on capital | - | 1,159 | - |
| Others | 699 | 688 | 542 |
| **Non-current liabilities** | **36,088** | **39,061** | **37,785** |
| Loans, borrowings and leases | 14,041 | 17,347 | 15,029 |
| Other financial liabilities | 5,289 | 4,425 | 3,571 |
| Settlement program (REFIS) | 2,287 | 2,428 | 3,441 |
| Deferred income taxes | 1,635 | 1,631 | 1,758 |
| Provisions | 7,781 | 7,808 | 8,043 |
| Liabilities related to associates and joint ventures | 797 | 960 | 1,107 |
| Liabilities related to Brumadinho | 614 | 710 | 846 |
| De-characterization of dams | 1,254 | 1,374 | 1,387 |
| Streaming transactions | 2,017 | 2,031 | 2,076 |
| Others | 373 | 347 | 527 |
| **Total liabilities** | **46,772** | **50,213** | **51,215** |
| **Stockholders' equity** | **33,209** | **32,934** | **42,681** |
| **Total liabilities and stockholders' equity** | **79,981** | **83,147** | **93,896** |

## Cash flow

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| **Cash flow from operations** | **5,567** | **2,104** | **5,128** |
| Interest on loans and borrowings paid | (203) | (168) | (467) |
| Derivatives received (paid), net | (130) | (114) | (88) |
| Interest on participative stockholders debentures paid | - | (88) | - |
| Income taxes (including settlement program) | (450) | (398) | (493) |
| **Net cash provided by operating activities** | **4,784** | **1,336** | **4,080** |
| **Cash flows from investing activities:** | | | |
| Investment in fund applications | (31) | (96) | - |
| Capital expenditures | (872) | (967) | (891) |
| Additions to investments | - | - | (74) |
| Acquisition of subsidiary, net of cash | - | - | (417) |
| Proceeds from disposal of assets and investments | 82 | 5 | 20 |
| Dividends received from joint ventures and associates | 2 | 77 | - |
| Restricted cash and judicial deposits related to Brumadinho | 9 | (18) | 1,773 |
| Short term investments | - | 449 | (895) |
| Other investment activities, net | (197) | (120) | (34) |
| **Net cash used in investing activities** | **(1,007)** | **(670)** | **(518)** |
| **Cash flows from financing activities:** | | | |
| **Loans and financing:** | | | |
| Loans and borrowings from third-parties | 1,800 | - | 1,000 |
| Payments of loans and borrowings from third-parties | (5,265) | (116) | (1,694) |
| Payments of leasing | (45) | (49) | (53) |
| **Payments to stockholders:** | | | |
| **Dividends and interest on capital paid to stockholders** | **(3,327)** | **-** | **-** |
| Dividends and interest on capital paid to noncontrolling interest | (3) | (5) | (104) |
| **Net cash provided by (used in) financing activities** | **(6,840)** | **(170)** | **(851)** |
| **Increase (decrease) in cash and cash equivalents** | **(3,063)** | **496** | **2,711** |
| Cash and cash equivalents in the beginning of the period | 12,113 | 11,788 | 6,048 |
| Effect of exchange rate changes on cash and cash equivalents | (205) | (171) | (200) |
| **Cash and cash equivalents at the end of period** | **8,845** | **12,113** | **8,559** |
| **Non-cash transactions:** | | | |
| Additions to property, plant and equipment - capitalized loans and borrowing costs | 13 | 12 | 34 |
| **Cash flows from operating activities:** | | | |
| Income before income taxes | **3,601** | **1,064** | **2,610** |
| **Adjusted for:** | | | |
| Provisions related to Brumadinho | - | 21 | - |
| Equity results and other results in associates and joint ventures | 40 | 535 | (132) |
| Impairment and disposal of non-current assets | 298 | 403 | 30 |
| Depreciation, depletion and amortization | 774 | 807 | 927 |
| Financial results, net | 1,360 | 485 | 1,139 |
| **Change in assets and liabilities** | | | |
| Accounts receivable | (276) | (922) | 523 |
| Inventories | (298) | (125) | (69) |
| Suppliers and contractors | 214 | 108 | 412 |
| Provision - Payroll, related charges and other remunerations | 177 | 115 | 187 |
| Payments related to Brumadinho | (218) | (155) | (386) |
| Other assets and liabilities, net | (105) | (232) | (113) |
| **Cash flow from operations** | **5,567** | **2,104** | **5,128** |

## REVENUES, VOLUMES SOLD, PRICES AND MARGINS

### Net operating revenue by destination

| US$ million | 3Q20 | % | 2Q20 | % | 3Q19 | % |
|---|---|---|---|---|---|---|
| **North America** | **283** | **2.6** | **221** | **2.9** | **533** | **5.2** |
| USA | 278 | 2.6 | 177 | 2.4 | 312 | 3.1 |
| Canada | 5 | 0.0 | 44 | 0.6 | 191 | 1.9 |
| Mexico | - | - | - | - | 30 | 0.3 |
| **South America** | **862** | **8.0** | **543** | **7.2** | **990** | **9.7** |
| Brazil | 717 | 6.7 | 528 | 7.0 | 849 | 8.3 |
| Others | 145 | 1.3 | 15 | 0.2 | 141 | 1.4 |
| **Asia** | **7,800** | **72.5** | **5,413** | **72.0** | **6,855** | **67.1** |
| China | 6,416 | 59.6 | 4,320 | 57.5 | 5,473 | 53.6 |
| Japan | 558 | 5.2 | 396 | 5.3 | 586 | 5.7 |
| South Korea | 296 | 2.8 | 265 | 3.5 | 341 | 3.3 |
| Others | 530 | 4.9 | 432 | 5.7 | 455 | 4.5 |
| **Europe** | **1,400** | **13.0** | **1,035** | **13.8** | **1,244** | **12.2** |
| Germany | 441 | 4.1 | 351 | 4.7 | 379 | 3.7 |
| Italy | 58 | 0.5 | 49 | 0.7 | 80 | 0.8 |
| Others | 901 | 8.4 | 635 | 8.4 | 785 | 7.7 |
| **Middle East** | **249** | **2.3** | **178** | **2.4** | **427** | **4.2** |
| **Rest of the World** | **168** | **1.6** | **128** | **1.7** | **168** | **1.6** |
| **Total** | **10,762** | **100.0** | **7,518** | **100.0** | **10,217** | **100.0** |

### Volume sold - Minerals and metals

| '000 metric tons | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Iron ore fines | 65,607 | 54,569 | 73,614 |
| ROM | 162 | 46 | 425 |
| Pellets | 8,464 | 9,650 | 11,077 |
| Manganese ore | 428 | 270 | 150 |
| Ferroalloys | 15 | 10 | 29 |
| Thermal coal | 572 | 869 | 1,172 |
| Metallurgical coal | 809 | 516 | 1,083 |
| Nickel | 58 | 42 | 51 |
| Copper | 81 | 83 | 92 |
| Gold as by-product ('000 oz) | 100 | 110 | 120 |
| Silver as by-product ('000 oz) | 560 | 411 | 443 |
| PGMs ('000 oz) | 60 | 91 | 61 |
| Cobalt (metric ton) | 945 | 1,025 | 1,086 |

### Average prices

| US$/ton | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Iron ore fines CFR reference (dmt) | 123.1 | 100.4 | 100.2 |
| Iron ore fines CFR/FOB realized price | 112.1 | 88.9 | 89.2 |
| Pellets CFR/FOB (wmt) | 141.2 | 129.4 | 144.1 |
| Manganese ore | 85.3 | 214.3 | 118.7 |
| Ferroalloys | 968.2 | 1,005.9 | 1,051.3 |
| Thermal coal | 47.0 | 48.1 | 53.9 |
| Metallurgical coal | 93.8 | 100.9 | 164.5 |
| Nickel | 15,145 | 13,948 | 14,859 |
| Copper[1] | 6,441 | 5,884 | 4,857 |
| Gold (US$/oz) | 2,177 | 1,743 | 1,485 |
| Silver (US$/oz) | 22.53 | 18.09 | 15.15 |
| Cobalt (US$/t) | 30,083 | 26,816 | 24,901 |

[1]Considers Salobo, Sossego and North Atlantic operations.

### Operating margin by segment (EBIT adjusted margin)

| % | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Ferrous Minerals | 62.8 | 51.3 | 49.1 |
| Base Metals | 26.2 | 22.4 | 17.0 |
| Coal | (206.8) | (286.2) | (99.2) |
| **Total** | **49.4** | **34.1** | **36.0** |

## RECONCILIATION OF IFRS AND "NON-GAAP" INFORMATION

### (a) Adjusted EBIT

| US$ million | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Net operating revenues | 10,762 | 7,518 | 10,217 |
| COGS | (4,816) | (4,212) | (5,681) |
| Sales and administrative expenses | (127) | (124) | (128) |
| Research and development expenses | (105) | (90) | (124) |
| Pre-operating and stoppage expenses | (188) | (238) | (290) |
| Brumadinho event | (114) | (130) | (225) |
| Other operational expenses, net | (113) | (237) | (122) |
| Dividends received and interests from associates and JVs | 22 | 77 | 29 |
| **Adjusted EBIT** | **5,321** | **2,564** | **3,676** |

### (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 and disposal 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 | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| **Adjusted EBITDA** | **6,095** | **3,371** | **4,603** |
| **Working capital:** | | | |
| Accounts receivable | (276) | (922) | 523 |
| Inventories | (298) | (125) | (69) |
| Suppliers and contractors | 214 | 108 | 412 |
| Provision - Payroll, related charges and other remunerations | 177 | 115 | 187 |
| Payments related to Brumadinho | (218) | (155) | (386) |
| Provisions related to Brumadinho | - | 21 | - |
| Others | (127) | (309) | (142) |
| **Cash provided from operations** | **5,567** | **2,104** | **5,128** |
| Income taxes paid - including settlement program | (450) | (398) | (493) |
| Interest on loans and borrowings paid | (203) | (168) | (467) |
| Interest on participative shareholders' debentures paid | - | (88) | - |
| Derivatives received (paid), net | (130) | (114) | (88) |
| **Net cash provided by (used in) operating activities** | **4,784** | **1,336** | **4,080** |

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

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| **Adjusted EBITDA** | **6,095** | **3,371** | **4,603** |
| Depreciation, depletion and amortization | (774) | (807) | (927) |
| Dividends received and interest from associates and joint ventures | (22) | (77) | (29) |
| Impairment and disposal of non-current assets | (298) | (403) | (30) |
| **Operating income** | **5,001** | **2,084** | **3,617** |
| Financial results | (1,360) | (485) | (1,139) |
| Equity results and other results in associates and joint ventures | (40) | (535) | 132 |
| Income taxes | (794) | (145) | (977) |
| **Net income (loss)** | **2,807** | **919** | **1,633** |
| Net income (loss) attributable to noncontrolling interests | (101) | (76) | (21) |
| **Net income (loss) attributable to Vale's stockholders** | **2,908** | **995** | **1,654** |

## (c) Net debt

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Total debt | 13,444 | 16,903 | 14,786 |
| Cash and cash equivalents[1] | 8,970 | 12,206 | 9,465 |
| Net debt | 4,474 | 4,697 | 5,321 |

[1] Including financial investments

## (d) Gross debt / LTM Adjusted EBITDA

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Gross debt / LTM Adjusted EBITDA (x) | 0.8 | 1.2 | 1.3 |
| Gross debt / LTM operational cash flow (x) | 1.3 | 1.7 | 1.2 |

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

| *US$ million* | 3Q20 | 2Q20 | 3Q19 |
|---|---|---|---|
| Adjusted LTM EBITDA / LTM gross interest (x) | 19.4 | 16.5 | 10.8 |
| LTM adjusted EBITDA / LTM interest payments (x) | 18.7 | 12.9 | 9.9 |
| LTM operational profit / LTM interest payments (x) | 8.2 | 5.0 | 6.0 |