

Sustainability

Related Financial Information

2025



Contents

INTRODUCTION

Letter from the CEO	3
Message from the Board of Directors	4

REPORT

1. Basis of preparation and presentation	5
2. Organizational reporting boundary	6
3. Business model and value chain.....	7
4. Assessment of risks and opportunities related to Sustainability.....	9
5. Significant judgments and uncertainties	12
6. Corporate Governance	14
7. Management of risks and opportunities	19
8. Sustainability-related strategy.....	21
9. Sustainability-related risks and opportunities	31
10. Building resilience through the analysis of climate change-related scenarios	66
11. Sustainability related metrics and targets.....	72

ANNEXES AND ASSURANCE

Legal notices	94
ANNEX I – Climate-related information base	95
ANNEX II – Sustainability related information base	105
Independent auditor's limited assurance report	111

Letter from the CEO

Dear Shareholders,

Being a leader in responsible mining remains a priority for Vale and continues to guide our strategy. Meeting the growing global demand for critical minerals requires a mining industry that is more efficient, innovative, responsible, and trusted by society. And, in 2025 we achieved significant progress in safety, operational stability, innovation, and management, while strengthening our position in critical minerals.

Safety remains our core value, and we remain firmly committed to pursuing an accident-free workplace. We deeply regret the loss of life of three third-party employees in our operations during the period and extend our solidarity to their families, friends, and colleagues. We continue to build a more reliable and transparent organization, continuously enhancing our monitoring, prevention, and emergency response capabilities to protect our people, our operations, and the communities around us.

In 2025, we recorded progress, including a 21% reduction in high potential recordable injuries (N2) and a 29% reduction in process events (P1 and P2). We also advanced asset integrity, reaching 63% completion of the upstream dam decharacterization program.

We completed the implementation of the Global Industry Standard on Tailings Management (GISTM) and ended the year with no structures at Emergency Level 3, reinforcing our critical-risk management.

Our commitment to reparation continues to be conducted with rigor and respect, remaining a central pillar for rebuilding trust and restoring the dignity of affected communities. In Brumadinho, we have executed 81% of the commitments set out in the Comprehensive Reparation Agreement, and we are on schedule to settle payment obligations in full by 2026, as well as to conclude the program in 2031.

In Mariana, the Definitive Reparation Agreement, signed in 2024, accelerated reparation efforts, with a total of approximately R\$73.1 billion (US\$13.1 billion) disbursed from 2015 through December 2025. Of the "To Perform" obligations including individual indemnities, resettlement, and environmental recovery approximately 63% of the total financial amount had been disbursed by the end of 2025.

The growing demand for critical minerals requires more efficient operations with lower environmental impact. In 2025, we accelerated the adoption of autonomous technologies, artificial intelligence, and solutions such as briquettes, which support lower emission steelmaking and contribute to the reduction of greenhouse gas emissions.

The volume of iron ore sourced from circularity doubled compared with the prior year, reaching 26Mt and contributing to environmental and operational gains. At the same time, our efforts in biodiversity, forest conservation, and decarbonization reinforce our long-term commitment to protecting natural systems and contributing to global climate goals. We are committed to the development of the territories in which we operate, focusing on advancing our social ambition, fostering inclusion, and supporting a just transition for communities.

Within our growth agenda, we advanced the ramp up of strategic projects such as Capanema, Vargem Grande. We also launched the New Carajás program, which aims to double copper production and increase the supply of high quality

iron ore. Carajás is one of the world's richest regions in critical minerals, including copper and high-grade iron ore. Through this program, we are expanding investments to accelerate the development of this significant mineral potential.

Decarbonization remains a strategic driver. In Scope 1, we completed a testing cycle for alternative fuels and advanced decisions that accelerate the adoption of solutions such as biodiesel and other biofuels. In Scope 3, we are in industrial validation phase of the briquettes and advancing the development Mega Hubs with partners, strengthening partnerships aimed at lower greenhouse gas emission steelmaking.

We are a Company that produces minerals essential to life—now and in the future. To ensure they are available with quality, predictability, and lower impact, our guiding principle is straightforward: to invest where we can generate sustainable, enduring value.

We entered 2026 focused on positioning Vale to capture opportunities driven by the growing global demand for critical minerals. With more stable operations, a world-class asset portfolio, and a strategic agenda centered on innovation, decarbonization, and customer tailored solutions, we are well positioned to lead Mining of the Future and generate sustainable value for our shareholders and for society.

Sincerely,
Gustavo Pimenta



Gustavo Pimenta

CEO, Vale S.A.

Message from the Board of Directors

Dear Shareholders,

Vale's Board of Directors has, over the past several years, maintained a diligent and ethical posture aligned with leading global practices, reaffirming its role as steward of the Company's strategy, safety, and sustainable value creation.

In 2025, the Board focused on Vale's key strategic matters, notably approving material projects and strengthening integration and engagement with the Executive Committee and principal stakeholders, including investors, customers, strategic partners, and local and global authorities. Another highlight was the Board's increased presence in communities and operations, developing levers to support Vale's ambition to lead mining in value creation, ethically and sustainably. The decisions taken strengthened the Company's capabilities and cultural evolution, prioritizing the safety of people and the integrity of our assets, aiming to sustain solid performance across different market scenarios.

Board Activities and Performance

With strong discipline in setting agendas, adherence to the annual work plan, and a focus on strategic matters, the Board's activities in 2025 encompassed discussions on topics such as safety and operational stability, tailings and risk management, succession and evaluation of the Executive Committee and the Board of Directors, the evolution of organizational culture, and engagement with diverse stakeholders. These efforts reinforced the importance of the Board in addressing Vale's challenges, seeking to maintain a governance model with a solid structure, transparent communication, sound risk management, disciplined capital management, and the promotion of high level institutional relationships. During the year, we conducted a robust onboarding program for the members elected during the

period and strengthened the Advisors in Action program, with technical site visits to operations in Brazil and abroad, including Oman, Japan, China, and the United Kingdom. These initiatives expanded the Board's understanding of the Company's challenges and strengthened engagement with key stakeholders. The Board's presence at global forums such as COP30, NY Climate Week, and international conferences in China, Japan, and Oman helped strengthen institutional dialogues, enhance understanding of regional contexts, and contribute to Vale's global positioning.

Vale Strategy

The Board of Directors, supported by its five advisory committees, maintained continuous oversight of the execution of the **Vale do Futuro** strategy, aligned with a superior portfolio positioning, operational discipline, and a strong commitment to safety and sustainability. Within the Iron Ore Solutions business, the Board monitored the progress of flagship projects such as Vargem Grande, Capanema, and the Novo Carajás Program—key initiatives to strengthen the Company's competitiveness and increase its exposure to minerals essential to the energy transition."

Cultural Evolution

In 2025, with a focus on guiding the Company's cultural evolution and reinforcing role clarity across our governance bodies, the Board continued the review of fundamental corporate policies. The processes addressed key topics such as Anti Corruption, Related Party Transactions, Conflict of Interest Management, Climate Change, Enterprise Risk Management, and Shareholder Remuneration, thereby reaffirming our commitment to matters linked to strategy and to the management of issues critical to the Company's business.

Succession Planning and Executive Compensation

We highlight the Board of Directors' in overseeing the Company's leadership succession plan, conducted with technical rigor and transparency to ensure an increasingly robust and secure decision making process aligned with Vale's purpose. In addition, the Board addressed key appointments, organizational adjustments, and the implementation of additional mechanisms for evaluation and development. Executive compensation remained linked to sustainable value creation, combining financial metrics with ESG indicators, with a particular focus on safety, decarbonization, reputation, and people.

Climate

The Board actively oversaw the climate agenda, reinforcing the commitment to emissions reduction targets, climate risk management, adherence to ISSB international standards, and the continuation of the decarbonization journey. Noteworthy progress was made in tailings management, with 100% conformance with the Global Industry Standard on Tailings Management (GISTM) and no structures classified at Emergency Level 3 by the end of the period. The energy transition remained a strategic opportunity, with advances in Mega Hubs, biofuels, and low carbon steelmaking initiatives.

Innovation

In line with the view of innovation as a driver of competitiveness, the Board monitored the evolution of Smart Operations, with initiatives involving mine and railway automation, AI applied to predictive maintenance and safety, advanced processing, supply chain digitalization, and new industrial models, such as briquettes and Mega Hubs. These advancements reinforce the Company's commitment to innovation.

We ended 2025 convinced that Vale is on a solid path of progress and consolidation of global leadership in responsible, efficient, safe, and innovative mining. The Board will remain vigilant, independent, and committed to guiding the Company in building the Vale of tomorrow: a corporation with high standards of corporate governance, recognized by society as a benchmark in safety, the most reliable operator in its category, and people centric. Thus, the Company will continue to lead value creation in the mining industry through ethical and sustainable practices.

Sincerely,
Vale S.A.'s Board of Directors

All financial data is presented in millions of United States dollar, unless otherwise stated

1. Basis of preparation and presentation

The sustainability-related financial information of Vale S.A. ("Parent Company") and its subsidiaries ("Vale" or "Company") was prepared in accordance with the IFRS Sustainability Disclosure Standards issued by the International Sustainability Standards Board ("ISSB"), as well as the Sustainability Disclosure Pronouncements issued by the Comitê Brasileiro de Pronunciamentos de Sustentabilidade ("CBPS").

In Brazil, the Brazilian Securities and Exchange Commission ("CVM") issued Resolution CVM No. 193/2023, as subsequently amended by Resolutions No. 219/2024, No. 227/2025, and No. 244/2026, which allows for the voluntary disclosure of Sustainability-Related Financial Information starting in the 2024 fiscal year, prepared in accordance with the IFRS Sustainability Disclosure Standards.

Connectivity with Financial Statements

This report should be read in conjunction with Vale S.A.'s consolidated Financial Statements for the year ended December 31, 2025 ("**Financial Statements**"), prepared and presented in accordance with the International Financial Reporting Standards (IFRS), issued by the International Accounting Standards Board ("IASB"), currently referred to by the IFRS Foundation as the "IFRS Accounting Standards," and the accounting practices adopted in Brazil, issued by the Comitê de Pronunciamentos Contábeis ("CPC"), approved by CVM.

The information presented in this report covers the period ended December 31, 2025, and refers to Vale S.A. and its subsidiaries ("Vale" or "Company"), consistent with the Financial Statements.

The information derived from the statement of financial position is translated into US\$ at the closing exchange rate, all other information is translated into US\$ at the average annual exchange rate.

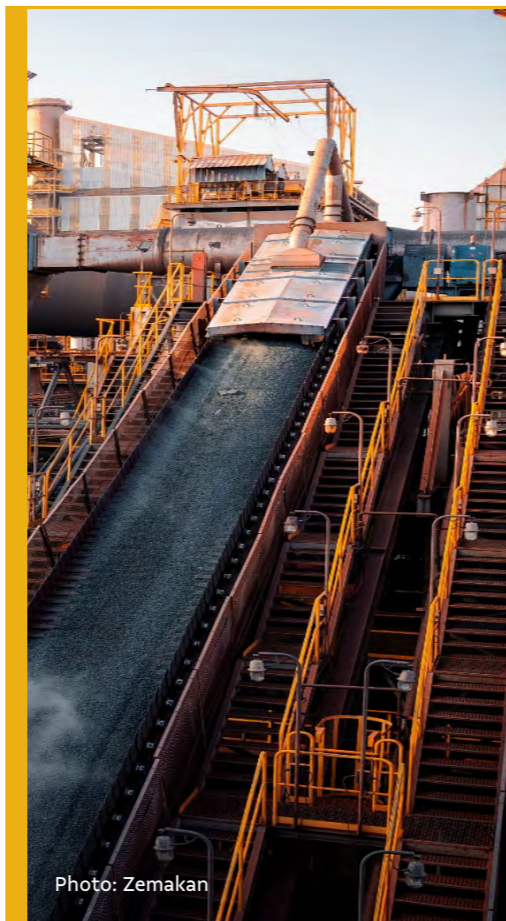


Photo: Zemakan

Adoption of international sustainability-related disclosures standards

The Company has published this report on a voluntary basis since fiscal year 2024. In accordance with pronouncements issued by the CBPS and the IFRS Sustainability Disclosure Standards, from the second year of publication, sustainability-related financial information must be disclosed on the same date as the Financial Statements. However, CVM Resolution No. 193/2023 provided flexibility by allowing, during the voluntary adoption period, sustainability-related financial information to be published by the last day of the ninth month after the fiscal year-end. Vale applied this transitional relief in this report.

On May 29, 2026 (a subsequent event), the CVM issued Resolution CVM No. 244/2026, which amended certain provisions of Resolution CVM No. 193/2023. Among the key changes are the elimination of the mandatory disclosure of Sustainability-Related Financial Information and the requirement that, for entities that elect to disclose such information, from the second year of reporting onward it must be disclosed on the same date as the respective Financial Statements.

Resolution CVM No. 244/2026 is applicable to fiscal years beginning on or after January 1, 2026. Accordingly, for the current fiscal year, the Company maintained the flexibility provided under Resolution No. 193/2023, which was in effect at the time of its adoption decision, and disclosed the Sustainability-Related Financial Information subsequent to the issuance of the Financial Statements on February 12, 2026.

The Company used the following exchange rates to translate sustainability-related financial information:

Year ended December 31,	Closing rate		Average rate	
	2025	2024	2025	2024
US Dollar ("US\$")	5.5024	6.1923	5.5855	5.3920

All financial data is presented in millions of United States dollar, unless otherwise stated

2. Organizational reporting boundary

This Sustainability-Related Financial Information follows the same organizational boundary as the Financial Statements, as previously mentioned.

To calculate greenhouse gas (“GHG”) emissions, Vale uses the approach established by the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (“GHG Protocol”), in 2004, as required by IFRS S2, when applicable. Vale includes all Scope 1 and 21 (market-based and location-based) emissions from operations and assets over which it has operational control and its proportional share of joint operations. Any other emissions generated in the Company’s value chain, including the proportionate shares of joint ventures, are reported as Scope 3 emissions.

The Company has operational control over all of its subsidiaries, whose emissions are classified as Scope 1 and 2, it does not have operational control over any of its associates and joint ventures, and their respective emissions are classified as Scope 3. A list of the main investees controlled by the Company, as well as its main associates and joint ventures, is presented in Note 30 in the Financial Statements.

The emissions reported reflect, exclusively, the Company’s operations under its operational control, with appropriate segregation from non consolidated investees, ensuring comparability, transparency, and adherence to IFRS requirements.



Photo: Marcelo Coelho

¹ The definitions of the GHG inventory scopes are described in the [Climate Change Policy](#).



Photo: Alexandre Rezende

3 Business model

This section presents the sustainability-related risks and opportunities within the entity's business model and value chain. Refer to Section **9 – Sustainability-related risks and opportunities** and to Section **4 – Assessment of sustainability-related risks and opportunities**, which addresses the value chain

All financial data is presented in millions of United States dollar, unless otherwise stated

3. Business model

Vale is one of the world's largest producers of iron ore and nickel. Also produces iron ore agglomerates and copper. Nickel and copper concentrates also contain by-products such as platinum group metals (Platinum Group Metals – "PGM"), gold, silver and cobalt.

The Company is engaged in greenfield mineral exploration in five countries, namely Brazil, Canada, Chile, Peru and Indonesia. It also operates extensive logistics systems in Brazil and other regions worldwide, including railways, maritime terminals and ports, integrated with mining operations. Additionally, the Company operates distribution centers to support iron ore deliveries worldwide. Vale also holds investments in energy-related businesses to meet energy consumption needs through renewable sources.

INTERACTIVE CONTENT

CLICK THE LEGEND
TO EXPLORE
THE MAP

Activities

Business Segment

Product Portfolio

¹We have agreements with over 17 ports in China that provide blending services for Vale.

²Platinum group metals (PGM) are byproducts of Canada's operations.



Photo: Gabriel Lordello

4 Assessment of risks and opportunities

This section outlines the materiality assessment process for sustainability-related risks and opportunities and their concentration across Vale's value chain. Further details on these risks and opportunities are provided in Section **9 – Sustainability-related risks and opportunities.**

All financial data is presented in millions of United States dollar, unless otherwise stated

4. Assessment of risks and opportunities related to Sustainability

Vale adopts an integrated approach to managing and responding to sustainability-related risks and opportunities, covering environmental and social matters identified as material. This approach is embedded in Strategic Planning and the corporate risk management system, guiding strategic, operational, and resource allocation decisions, with a focus on business resilience, operational continuity, and value creation over the short, medium, and long term.

Sustainability-related risks and opportunities are systematically considered in the processes for setting strategic priorities, evaluating investments, operational planning, and establishing corporate initiatives. The Company defines strategic guidelines, targets, commitments and response actions for the management of its risks, which may include mitigation measures, adaptation measures, opportunity capture, or a combination of these approaches, as well as measurable targets and commitments, where applicable.

In the decision-making process, Vale considers different strategic objectives, including management of socio-environmental risks, compliance with regulatory requirements, stakeholder expectations, economic performance and impacts across the value chain. These analyses support decisions on project prioritization, capital allocation and the definition of the pace of implementation of initiatives, considering that each alternative may generate distinct benefits and risks in the short, medium and long term.

The execution and monitoring of responses to sustainability-related risks and opportunities are supported by governance processes already in place within the Company through the use of performance indicators and periodic reviews. This monitoring enables the assessment of risk evolution, the effectiveness of actions taken, and, when necessary, adjustments to strategies and response plans.

Materiality assessment

This process was led by the Executive Committee and reviewed by the Board's Audit & Risk Committee and Sustainability Committee, which advise the Board of Directors (see section 6), including the materiality assessment used to identify the risks and opportunities that could reasonably be expected to affect the Company's prospects and influence the decisions of the primary users of the Company's financial reports, considering the probability of materialization and the magnitude of the respective financial impact. The process was conducted in two phases, as summarized below:

Step 1 Identification of sustainability related risks and opportunities within the Vale's Risk Matrix and Strategic Planning that could reasonably be expected to affect the Company prospects over the short, medium, and long term.

Vale uses three-time horizons to support its Strategic Planning and decision-making:

Short term:
1 year

Medium term:
from 1 to 5 years

Long term:
from 5 to 30 years

The value chain was the primary source used to identify the Company's risks and opportunities (see [section 3](#)).

Value Chain

Vale also considered other internal and external information sources to identify whether additional risks and opportunities existed. The sources consulted included:

- Existing risk management processes;
- Educational materials issued by the IFRS Foundation related to IFRS S1 and IFRS S2;
- Disclosure topics in the SASB Standards for the Mining sector;
- Sustainability related risks and opportunities identified by entities operating in the Vale's sectors; and
- Engagement with the following stakeholders: employees, creditors, and analysts.

Step 2 Determination of the required disclosures in relation to the identified sustainability-related risks and opportunities. For this step, which involves the application of judgment and the use of assumptions, and will be reassessed in each reporting period in order to reflect the best information available, the Company considers qualitative and quantitative characteristics.



Photo: Ricardo Teles

Risks and opportunities

SUSTAINABILITY-RELATED

Temas:

Climate change

- R1
- R2
- R3
- R4
- OP1
- OP2

Dams

- R5

Biodiversity

- R6

Community relations, human rights and indigenous peoples rights

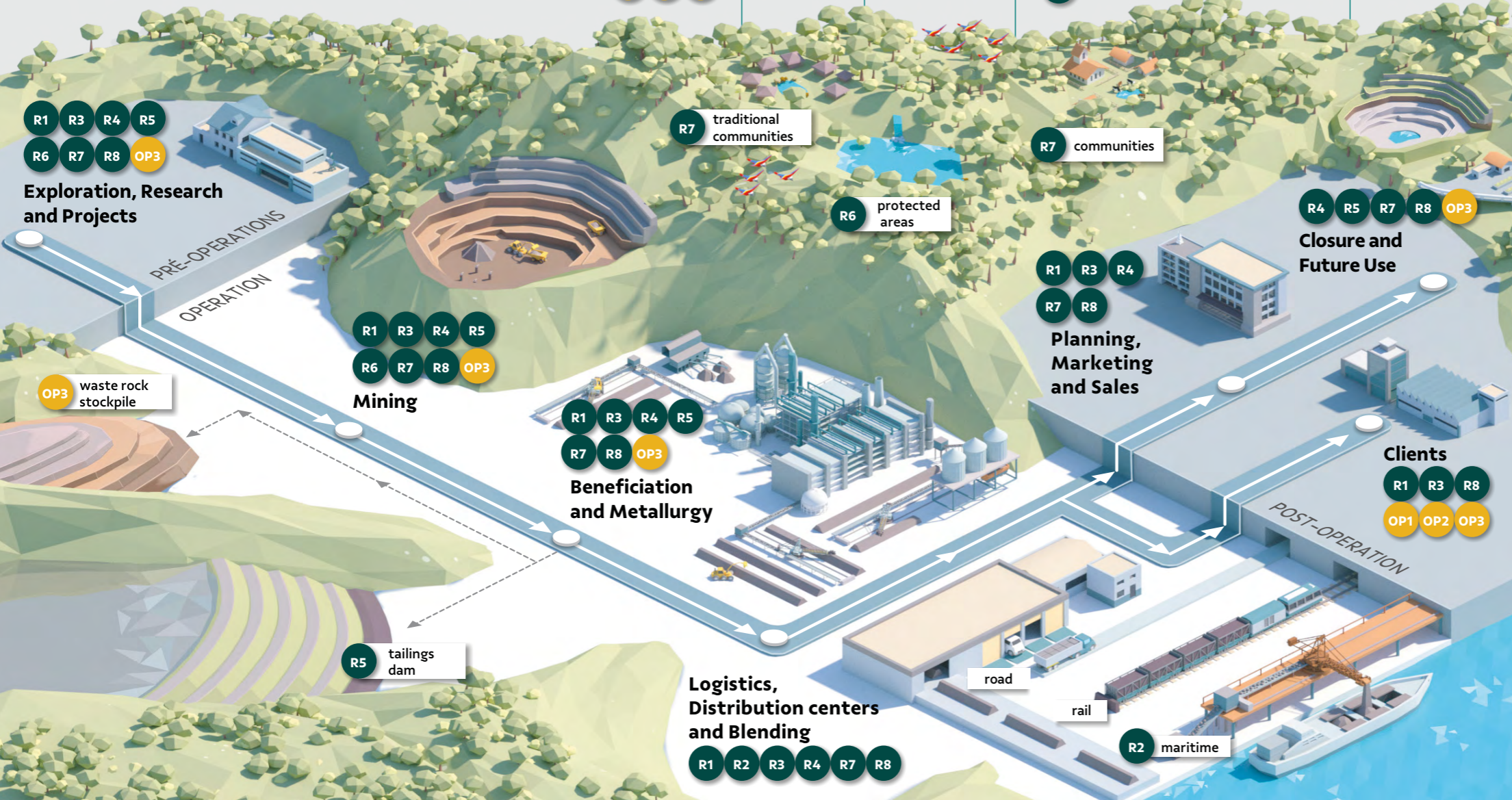
- R7

Health and Safety

- R8

Mineral waste management

- OP3



Risk and Opportunity Index

Risks

- R1** Exposure to GHG emissions-related regulations, resulting in potential loss of market share and increased operating costs
- R2** Increased shipping costs due to the potential carbon tax by the International Maritime Organization ("IMO")
- R3** Failure to meet the carbon target related Scope 1 and Scope 2 (market based) emissions reductions, and increased scrutiny of voluntary commitments and GHG reductions, including Scope 3
- R4** Changes in climate patterns in operational areas, across the value chain and in communities
- R5** Dam failure, resulting in severe damage, including harm to people, property and the environment
- R6** Delay or failure to obtain environmental licenses, affecting the outlook for production capacity growth and business profitability
- R7** Conflicts with communities and impacts on human rights may generate financial and reputational losses, and the loss of the Social License to Operate
- R8** Operations are exposed to hazards associated with mobile equipment, vehicles, industrial machinery and other critical infrastructure, which may result in potentially severe or fatal accidents

Opportunities

- OP1** Increased demand for high quality and higher efficiency products and agglomerates, with potential to reduce GHG emissions
- OP2** Growing demand for nickel, copper, and other base metals
- OP3** Reuse of Waste rock and tailings to generate value, with a focus on circular mining and reducing environmental impacts

Time horizon

- Short term:** 1 year
- Medium term:** Between 1 and 5 years
- Long term:** Between 5 and 30 years

time horizon:





Photo: Felipe Borges

5 Significant judgments and uncertainties

This section sets out the principal judgements applied in the preparation of this report, together with the most significant uncertainties affecting the reported amounts. Information on current and expected financial effects is provided in Section **9 – Sustainability-related risks and opportunities**.

All financial data is presented in millions of United States dollar, unless otherwise stated

5. Significant judgments and uncertainties

The preparation of the Sustainability related Financial Information Report requires the use of accounting estimates and Company's judgment, including the processes to identify sustainability related risks and opportunities and to determine the material information to be disclosed.

The estimates used to obtain sustainability information are subject to significant uncertainties, including data pertaining to entities in the value chain, prospective information, and limited data.

The details of critical judgments made by the Company in preparing this report, as well as amounts that are subject to a high degree of measurement uncertainty, are included in the following sections.

Reference (section)	Risks and Opportunities	Significant judgments and uncertainties
9	R1	Technological factors incorporated into the business model's mitigation and adaptation efforts
9 and 10	R3	Internal carbon price in Strategic Planning
9	R5	Provision for tailings dam decharacterization
9	R6	Environmental licenses
9	R7	Community conflicts and human rights
9	R8	Health and Safety
9	OP1	Trend in the carbon premium and its incorporation into Strategic Planning
9	OP2	Macroeconomic, climate and market assumptions
9	OP3	Reuse of waste rock and tailings
10	R1 R2 R3	Climate projections – future GHG emissions
10	R1 R2 R3 OP1 OP2	Climate projections – climate model accuracy
10	R4	Climate projections – boundary conditions
10	R1 R2 R3	Carbon pricing
10	R1 R2 R3 OP1 OP2	Climate scenarios
11	R1 R2 R3	Method for calculating GHG emissions
11	R1 R2 R3	GHG-related metrics
11 and Annex II	R1 R2 R3	Assumptions used in the calculation of GHG emissions
11	R6	Assumptions used in the measurement of protected areas and mineral reserves



Photo: Marcus Desimoni

6 Corporate Governance

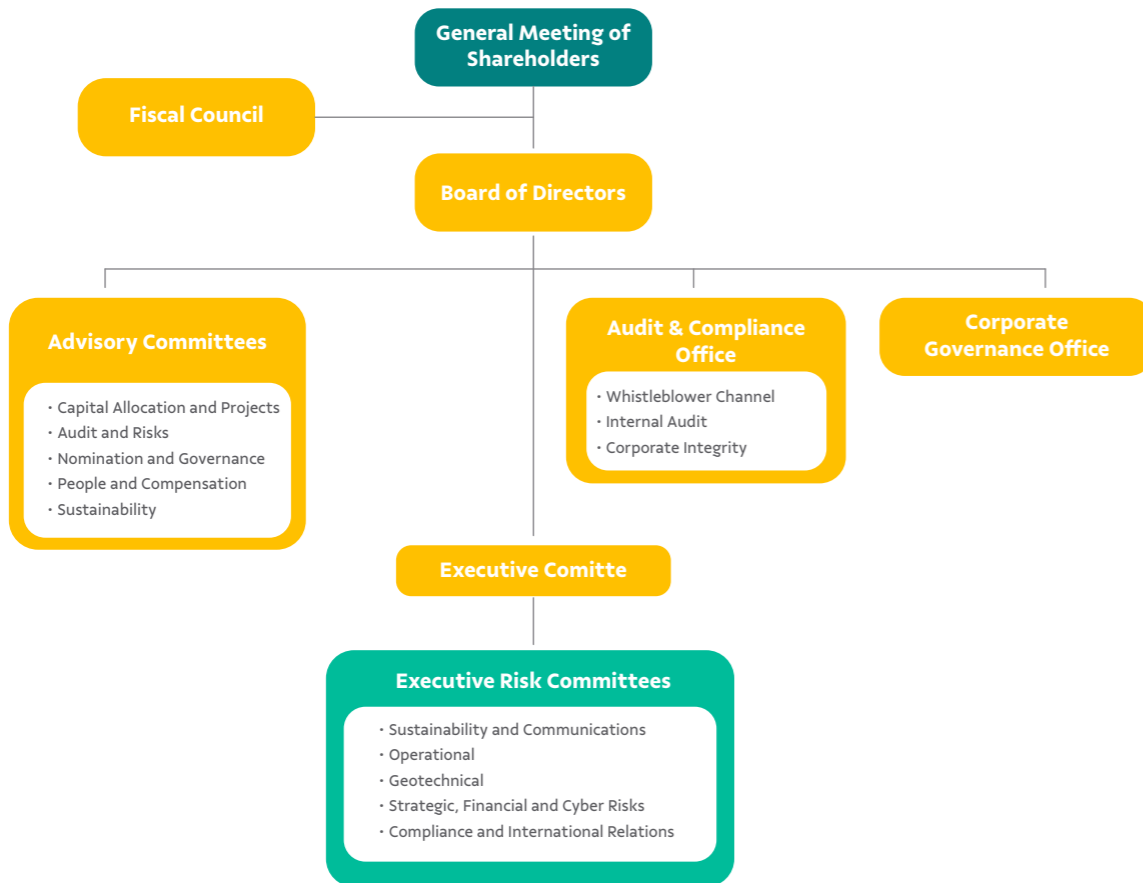
This section outlines the governance processes, controls and procedures adopted by Vale to monitor, manage and oversee sustainability-related risks and opportunities. Further details are provided in **Section 9 – Sustainability-related risks and opportunities**.

All financial data is presented in millions of United States dollar, unless otherwise stated

6. Corporate Governance

Vale maintains a corporate governance structure aligned with leading global practices, with the aim of ensuring the quality and consistency of its decision making processes.

Throughout 2025, the Company continued to advance and enhance its corporate governance practices, implementing initiatives aimed at strengthening the effectiveness of its governance bodies. Among which the strengthening of existing competencies of the Board and the implementation of onboarding programs focused on integration and knowledge sharing.



Sustainability-related Governance

Vale adopts a governance framework to oversee sustainability-related risks and opportunities, within the context of the Strategic Planning, related to sustainability, supported by controls and procedures that monitor target-setting as the Company's performance. In this context, the Company applies mechanisms that encompass the identification of risks and opportunities, materiality assessment, the development of strategy, metrics and targets, as well as the regular monitoring of progress and the integrated formulation of sustainability policies. Integrated with risk management, these controls and procedures are also incorporated into the responsibilities of the Company's Governance Bodies and other internal functions.

The Board of Directors and its advisory committees are engaged in driving the appropriate skills and capabilities to oversee sustainability-related risks and opportunities. When necessary, the Company engages external experts to support the in-depth analysis of specific topics.

Board of Directors ("BoD")

The Board of Directors is the body responsible for the Company's strategic direction and has as its mandate the protection of Vale's assets, the maximization of long-term shareholder returns, adherence to the highest ethical standards, and the assurance of the Company's long-term sustainability, in line with Vale's mission to transform natural resources into prosperity and sustainable development. In this role, the BoD approves the resources necessary for the effective management of sustainability-related initiatives and ensures the integration of sustainability into Vale's strategy, encompassing environmental, social, and governance matters.

In particular, the BoD holds, in addition to its regular annual meetings, sessions specifically dedicated to discussions on the Company's strategic planning. On these occasions, the Board deepens discussions on sustainability and climate change, including ESG strategy, mineral projects and partnerships assessed through a socio-environmental lens, and the decarbonization roadmap. The Board also monitors Vale's institutional engagement at the international, national, state, and municipal levels on environmental, permitting, and sustainability matters. In addition, it regularly oversees Vale's Global Integrated Risk Map, both directly and through the Audit and Risk Committee. In 2025, the Board approved the revision of the Integrated Risk Map and the **Risk Management Policy**.

Furthermore, the specific assessment of risks and opportunities is incorporated into each Company's projects, since Vale's relevant Company projects are submitted, prior to submission to governance bodies, to a detailed review of their socio environmental aspects. In accordance with the **Bylaws**, Vale's BoD meets at least eight times a year.

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To support its responsibilities, the Board of Directors is supported by the permanent advisory role of five Statutory Committees. These committees provide recommendations to the BoD within their respective areas of responsibility, in accordance with the rules and mandates defined in their internal bylaws. With regard to sustainability matters, the primary advisory bodies are the Sustainability Committee and the Audit and Risk Committee.

Sustainability Committee (“CSUS”)

The Sustainability Committee advises the BoD on integrating sustainability strategy into Company’s strategic planning. This involves aligning Vale’s policies and practices. Among its responsibilities are supporting discussions related to the topic, addressing critical issues that may result in socio–environmental risks or impacts, evaluating proposals for investments related to sustainability, as provided for in its [internal regulations](#). The CSUS meets in line with an annual calendar and, in 2025, held twelve meetings.

Audit and Risks Committee (“CARE”)

The Audit and Risks Committee is responsible for evaluating and monitoring the risks faced by the Company. Within the scope of its risk oversight responsibilities, the Committee may, among other measures, request detailed information on policies and procedures related to: (i) executive compensation; (ii) the use of Vale’s assets; and (iii) expenses incurred on behalf of the Company.

In addition, CARE advises the BoD on the risk management strategy, including the assessment of corporate policies related to risk management, risk appetite guidelines, the Integrated Risk Map, and the effectiveness and adequacy of risk management controls and systems, as well as their implementation, among other responsibilities set out in its [internal regulations](#).

The CARE Internal Regulations require the Committee to meet on a regular basis, at least every two months and, extraordinarily, whenever necessary. When applicable, sustainability related matters may be included on the agenda. CARE met eleven times throughout 2025.

Management’s role in sustainability–related governance

The Company’s Executive Committee is responsible for assessing and monitoring sustainability–related risks and opportunities as part of its duties:

Executive Committee (“CE”)

The Executive Committee is composed of Vale’s CEO and five executive vice presidents. Among other duties set out in the Company’s [Bylaws](#), CE has the responsibility for preparing guidelines and the strategic plan and submitting them to the BoD for approval, including socio–environmental matters. It’s also responsible for executing strategic approved plans and implementing the general risk management guidelines defined by the BoD.

In the performance of its responsibilities, Vale’s Executive Committee relies on the Executive Risk Committees to discuss sustainability–related matters. It is also supported by the Low Carbon Forum and the Territorial Committees, which are responsible for addressing, respectively, issues related to Climate Change and to Communities and Human Rights.

Executive Risk Committee (“CER”)

Vale has five Executive Risk Committees, namely: Sustainability and Communications; Operational; Geotechnical; Compliance and Institutional Relations; and Strategic, Financial and Cyber. These committees have a preventive role and are tasked with supporting Vale’s Executive Committee in monitoring the risks within the categories of the Integrated Risk Map and in the deliberations required by that body, in accordance with the [Risk Management Policy](#).

The main responsibilities of each Executive Risk Committee are:

- (i) Promoting a risk management culture across the Company;
- (ii) Issuing preventive recommendations regarding potential risks discussed in committee meetings;
- (iii) Appointing owners responsible for monitoring such actions; and
- (iv) recommending enhancements to the risk management process, when applicable.

In compliance with their Internal Regulations, the committees ordinarily meet three times per year, and extraordinarily, whenever necessary. The committees with greater relevance to sustainability–related matters are presented below.

- **Sustainability and Communications Executive Risk Committee:** Is responsible for monitoring risks related to Climate Change, Human Rights, Communities, Reparation, and Communication and Disclosure. In 2025, the Committee met the minimum requirement set out in its Internal Regulations by holding three (3) meetings, covering topics related to biodiversity, carbon pricing, management of threats and operational interdictions by social movements and Indigenous Peoples, conflicts with communities, impacts on working conditions, and reparation.
- **Geotechnical Risk Executive Committee:** Monitors risks associated with the Company’s geotechnical structures. In 2025, the Committee held four meetings to discuss priority risk mitigation topics, including progress on seasonal plans, advances in the implementation of international standards such as the Global Industry Standard on Tailings Management (GISTM), improvements to assessment methodologies, and the progress of reinforcement and decharacterization projects.
- **Strategic, Financial and Cyber Risks Executive Committee:** Monitors the risks associated with the Company’s licenses, concessions, resources, reserves, and mining rights. In 2025, held three meetings to discuss priority matters related to risk prevention and mitigation, including the analysis of risks related to licensing process.

All financial data is presented in millions of United States dollar, unless otherwise stated

• **Operational Risk Executive Committee:** Monitors risks related to the Environment, Process Safety, and Occupational Health and Safety associated with the Company's operations. In 2025, five meetings were held during which, among other matters: monitoring of the Hazard Identification and Risk Analysis ("HIRA") program; process-safety risk analyses; evaluation of drills related to emergency, crisis management and business continuity; assessment of risks associated with effluent emissions; monitoring of the Environmental Master Plan; and the readiness of operations for potential wildfire events, among other topics.

Technical Support Forums for the Executive Committee:

• **Low-Carbon Forum:**

In line with the duties set out in Vale's [Climate Change Policy](#), the Low-Carbon Forum seeks to maintain alignment between technical teams and members of the Executive Committee, in conducting the decarbonization strategy. This group meets, every four months, to discuss, in detail, the challenges and progress in the low-carbon journey. This includes: (i) an evaluation of the previous year's performance and future expectations in relation to Scope 1, 2 (market-based) and 3 emissions; (ii) a review of the roadmap and targets for GHG emissions in Scopes 1, 2 (market-based) and 3; (iii) alignment with the Company's strategic planning, considering financial impacts on Vale's valuation; (iv) identification of risks and opportunities related to areas such as the energy transition and external industry developments; and (v) analysis of investments and prioritization within Vale's sustainability strategy. As part of the Company's governance framework, the results of the Low Carbon Forum are reported to the Sustainability Committee and/or the Board of Directors, as needed for alignment or upon request.

• **Territorial Executive Committees**

The Territorial Executive Committees are internal forums for territorial strategic deliberation and alignment, whose central role is to foster a collective space for dialogue, analysis, and decision-making, ensuring that critical and priority agendas of the territories are addressed in an integrated, transparent manner and in alignment with the Company's operating strategy. The Territorial Committees include representatives from various Company areas operating in the territories and report to the Territorial Executive Committees, which meet on a quarterly basis to address topics with high potential regional, strategic, or reputational impact for Vale or for local communities, across the dimensions of relationship and reputation, territorial development, and risk and impact management. Topics discussed include community-related conflicts, potential human rights impacts, and other socio-environmental initiatives. The outcomes of the Territorial Executive Committees are presented to the Executive Committee, as required for alignment purposes, as part of the Company's governance framework.

Executive remuneration of the Company

According to Vale's [Bylaws](#), the annual overall remuneration of the members of the Board of Directors, Executive Committee, Fiscal Council and advisory committees is approved by shareholders during each year's Annual General Meeting. The responsibility for distributing the remuneration approved at the General Meeting among the members of the Executive Committee lies with the Board of Directors, with the support of the People and Remuneration Committee.

Short-term remuneration

The annual bonus is designed to incentivize the achievement of short-term targets aligned with Vale's strategic priorities and to recognize the contribution of Executive Committee members to the Company's performance. The bonus structure comprises both collective and individual targets, incorporating economic and financial metrics that reflect operational performance, as well as performance metrics linked to Environmental, Social and Governance ("ESG") pillars, in addition to other strategic initiatives.

For the 2025 financial year, one of the specific targets of the CEO and the Vice President for sustainability was related to the percentage reduction in the intensity of Scope 1 and 2 (market-based) GHG emissions for the year, compared to the 2017 base year (baseline). This target represented 7.5% of the annual bonus.

Long term remuneration

Vale offers members of the Executive Committee (a statutory body) and non statutory Officers the Vale Stock Program ("PAV"), a long term, stock based variable compensation plan structured in three year cycles. The program seeks to encourage senior management to generate sustainable long-term value by aligning corporate strategy, shareholder value creation and governance practices.


In the 2025 Cycle, the PAV performance indicators are tied to the Vale's overall performance and comprise: (i) Relative TSR (Total Shareholder Return), which assesses shareholder return compared with peer companies; (ii) ROIC (Return on Invested Capital), which measures the efficiency of returns generated on total invested capital; and (iii) ESG targets, including Climate Change indicators and Health and Safety indicators, both with a weight of 10%, reinforcing the Company's commitment to its environmental agenda, the protection of life, and the reduction of fatalities and high potential injury events, while supporting long term sustainable value creation.



Photo: Jefferson Capela

¹ Methodology adopted by operational areas for the identification and assessment of operational risks.

Corporate and administrative policies

 Click on the links to access the respective document

Vale's policies define corporate commitments and performance standards related to sustainability and environmental responsibility. These normative instruments consolidate both the commitments already undertaken as sustainability-related compliance obligations and serve as the foundation for the processes of identifying, prioritizing, and monitoring risks and opportunities associated with the Company's Sustainability agenda.

Sustainability Policy

Provides guidelines to minimize risks and negative impacts and to enhance positive impacts on people, health and safety, communities, and the environment. This policy also defines Vale's climate and social commitments, as well as the guidelines that contribute to their achievement. These include demonstrating leadership in low carbon mining, creating shared value through socio-environmental initiatives, and supporting local communities as part of a just transition.

Climate Change Policy

Establishes guidelines for Company's actions in managing climate-related risks and opportunities, with the aim of strengthening its resilience and achieving net-zero emissions, taking into account a just energy transition and seeking to influence other stakeholders across the value chain. The document provides context on the sector and highlights the importance of critical minerals both for the decarbonization of the steel industry and for the energy transition.

Code of Conduct

Describes the environmental requirements for suppliers, including compliance with local environmental regulations and required licenses, as well as an understanding of impacts and the adoption of control and mitigation measures. In this way, it contributes to the management of sustainability-related risks within Vale's supply chain and encourages suppliers to enhance their environmental performance, in support of the Company's strategic ambition engagement lever.

Socioenvironmental and Institutional External Expenditures Policy

Establishes guidelines for planning and implementing socio-environmental investments. This policy seeks to ensure that Vale's investments are directed toward meeting and/or benefiting society, including supporting the objectives of a just transition.

Policy on Dam Safety and Mining Geotechnical Structures

This policy establishes rigorous standards for the safety of dams and mining geotechnical structures, with a focus on failure prevention, continuous monitoring, physical stability, and compliance with international standards. Includes the involvement of the Engineer of Record ("EoR") and the Independent Technical Review Board ("ITRB"), clear definition of roles and responsibilities, risk management throughout the entire life cycle, water management, decharacterization of upstream structures, and the application of best engineering practices. It also reinforces governance, transparency, community engagement, and emergency preparedness, strengthening the mitigation of socio-environmental risks across mining operations in Brazil.

Human Rights Policy

Establishes guidelines aligned with the United Nations Guiding Principles on Business and Human Rights and the Performance Standards of the International Finance Corporation (IFC). These guidelines guide the protection and respect for human rights throughout the life cycle of projects and operations, across the value chain and in the territories where Vale operates. This alignment includes the management of social and human rights risks and impacts, as well as respect for the rights of own employees, contractors, local and traditional communities, Indigenous Peoples, security personnel (both internal and third-party), human rights defenders, and other vulnerable groups. It also encompasses the management of social risks associated with mining activities and Vale's Climate Transition Plan.

Risk Management Policy

Provides guidelines to proactively and effectively manage Vale's risks, including sustainability- and climate change-related risks. This policy clarifies the roles and responsibilities of risk management.

Mining and Metallurgical Waste Management Policy

Establishes Vale's guidelines and commitments for the sustainable and efficient management of mining and metallurgical waste throughout the production chain.



Photo: Alexandre Rezende

7 Management of risks and opportunities

This section describes Vale's processes for identifying, assessing, prioritizing, and monitoring sustainability-related risks and opportunities (refer to Section [9 – Sustainability-related risks and opportunities](#)), as well as analyzing risk management practices.

All financial data is presented in millions of United States dollar, unless otherwise stated

7. Management of risks and opportunities

The risk management framework is structured around three essential pillars—people, processes, and systems—fostering an integrated and effective approach. This model underpins all stages of the risk management cycle, from identification and analysis to treatment, monitoring and reporting, and enables the continuous assessment of Vale’s overall risk profile, considering the full set of risks to which the Company is exposed and its adherence to the defined risk appetite. Accordingly, the processes for managing sustainability-related risks are integrated and form part of the entity’s overall risk management, seeking to ensure informed decision-making aligned with good governance practices.

Vale adopts the lines of defense model, based on global risk management standards such as ISO 31000, ISO 55000, COSO-ERM. For its operational safety management system, Risk-Based Process Safety ("RBPS"). The Company uses the Integrated Risk Map as the main tool to identify potential risk matters that require assessment and monitoring across all Vale units, including those related to sustainability.

Sustainability related opportunities, in turn, are considered and addressed within the Company’s Strategic Planning process, supporting the definition of priorities, capital allocation and long-term decision making.

The process of managing and monitoring risks and opportunities related to sustainability contributes to the development of Vale’s strategic ambition, climate transition plan and capital allocation decisions, which consider any trade-offs associated with these risks and opportunities in the context of the Strategic Planning cycle.

Expenditures and investments related to risk mitigation efforts, business model adaptation, and the development of new opportunities are approved by the Board of Directors, as part of the Company’s annual planning cycle and the management of its commitments and obligations.

For more details on the liquidity risk management process, see Note 20(c) in the Financial Statements.



Photo: Zemakan

Methodology for sustainability-related risks

Vale’s Risk Management follows four stages: Identification, Analysis and Treatment, Monitoring, and Communication and Reporting.

Identification

The risks that could impact the Company’s objectives are mapped, whether or not their causes are under its control. External and internal sources, new market, legal or regulatory requirements, analyses of similarities between operations, historical data, and the Integrated Risk Map.

Analysis and Treatment

The identified risks are analyzed to define the best treatment approach. The analysis begins by assessing the situation and context, describing the worst-case scenario and identifying causes and impacts. A risk matrix is used to provide a graphical representation of risks classification based on the combination of probability and severity, resulting in the prioritization of risks as Very High, High, Medium or Low

Impact severity is assessed on a qualitative and/or quantitative basis, taking into account the potential negative impacts arising from the materialization of the risk. The assessment considers five dimensions: (i) People (employees, contractors and communities), (ii) Environment, (iii) Social and Human Rights, (iv) Reputation and (v) Financial. At this stage, appropriate treatment is also planned in line with risk appetite through the implementation of preventive and mitigating controls.

Monitoring

The Controls are monitored to ensure that risk levels remain within the established thresholds. Monitoring tools include, among others, assessments of adherence to the risk appetite framework and key performance and risk indicators (KRIs).

Relevant socio-environmental and operational risks are monitored, including climate, geotechnical, biodiversity, social, human rights, and risks related to interactions with Indigenous Peoples and traditional communities. Monitoring activities involve verification routines, periodic technical reviews, and specialized management systems, reinforced by the lines of defense model and the guidelines set forth in the **Risk Management Policy** and the **Sustainability Policy**. Examples of indicators include the monitoring of the effectiveness of implemented controls based on testing procedures.

Communication and Reporting

Information related to the risk management process is communicated in a clear and structured manner and aligned with the different levels of organization, taking into account the priority level of each risk. Sustainability-related risks are reported to the forums and committees responsible for corporate risk governance, including the Executive Risk Committees, the Audit and Risks Committee, and the Sustainability and Communications Committee (detailed in section 6).



Photo: João Marcos Rosa

8 Sustainability-related strategy

This section presents Vale's strategy for managing sustainability-related risks and opportunities (see Section **9 – Sustainability-related risks and opportunities**). For each risk, the areas of impact along the value chain are indicated, as well as the associated strategic drivers and targets. This approach demonstrates the integration of sustainability into the corporate strategy through the Sustainability Risk Management Plan and the Climate Transition Plan.

All financial data is presented in millions of United States dollar, unless otherwise stated

8. Sustainability-related strategy

Sustainability is a central element of Vale's strategy and guides how the Company conducts its business and engages with its stakeholders. This commitment is reflected in the pursuit of responsible performance across the entire value chain, taking into account the environmental, social, and governance impacts associated with its activities.

Managing risks and addressing sustainability challenges and the impacts of climate change is a strategic priority for Vale. In this context, the integrated management of sustainability related risks encompasses critical and interdependent topics such as tailings dam safety, environmental licensing, community relations and respect for human rights, all of which have the potential to affect operational continuity, reputation, and long-term value creation.

Accordingly, the Company seeks to reduce GHG emissions across its value chain through the offering of a high quality product portfolio, increased use of renewable energy and the adoption of lower carbon intensity energy solutions.

Vale recognizes that the path to decarbonization requires a multifaceted approach, involving employees and communities, partnerships across the supply chain, improvements in processes and licensing standards, and the use of technology and innovation to enhance efficiency and capture opportunities, in addition to the ongoing monitoring of the evolution of robust climate regulations and policies, including targets and carbon markets.

At the same time, these challenges also create value creation opportunities, particularly through the advancement of circular mining and the reuse of tailings and waste rock. These solutions strengthen the resilience of the business model and reinforce Vale's positioning in the transition to a low carbon economy.

Assumptions, dependencies and challenges related to sustainability

Vale operates in an environment characterized by the complexity of its production processes, the geographical diversity of its operations and the scale of its assets. In this context, efficient management of resources, risks and impacts throughout the production chain is a key assumption for maintaining operational performance. The Company carries out initiatives aimed at reducing waste and continuously improving processes, considering, among other factors, operational variability, dependence on inputs, the logistics associated with operations. These initiatives seek to maintain consistent standards of safety, quality, and social and environmental performance. Their effectiveness depends on integration across business areas, the availability of appropriate technologies and the Company's ability to implement them in different operational and social contexts.

The Company's production involves management of waste and tailings, which require specific structures, systems and processes with the aim of ensure operational continuity. In 2025, Vale reduced the emergency level of the Forquilha III dam from Level 3 to Level 2 and currently has no structures classified at Level 3. The Company has a schedule in place to decharacterize all of its upstream-raised structures, with completion of the works expected by 2035.

To date, 63% of the program has been completed, with decharacterization works concluded for 19 of the 30 planned structures. The Company uses tailings disposal structures in its process, whose management is based on assumptions related to physical and chemical stability, continuous monitoring, regulatory compliance, and the adoption of operational practices defined by technical standards and legal requirements. The management of these structures involves dependencies related to resource availability, maintenance of monitoring systems, the work of specialized teams, and regulatory compliance and oversight.

The continuity of the Company's operations is contingent upon the ability to maintain and expand existing assets, as well as to develop new projects to sustain production levels and meet business demands. These decisions are based on assumptions related to the availability of reserves, the technical and economic feasibility of the projects, existing infrastructure and operational capacity. The expansion of operations involves dependencies related to capital allocation, project execution within planned timelines and coordination among different areas of the Company.

The implementation of new projects and expansion projects, as well as the maintenance of existing operations depends on obtaining environmental licenses and regulatory authorizations required by applicable law.

Licensing processes are subject to specific technical requirements, deadlines established by competent authorities and interactions with multiple stakeholders, including involved authorities, local communities, Traditional Communities and Indigenous Peoples. These processes involve assumptions related to the completeness of technical information, compliance with applicable legislation, and fulfillment of conditions established in the licenses. Additionally, the Company recognizes the importance of fostering trust-based and transparent relationships with local communities, traditional Communities, and Indigenous Peoples within its areas of influence, commonly referred to as the Social License to Operate¹ ("SLO").

Changes in regulatory requirements, revisions of licensing conditions, changes in review timelines, additional demands or the influence of the sociopolitical context may impact schedules, costs and operational and project planning. In this context, the Company's reliance on operational expansion and obtaining new licenses constitutes a relevant element for strategic planning, requiring continuous monitoring of the regulatory environment, integrated risk management and alignment among strategy, operations and compliance.

Overall, the risks related to operational efficiency, waste and tailings management, operational expansion, environmental licensing and social matters are interconnected by common assumptions, including resource availability, regulatory stability, execution capability, operational predictability and the sociopolitical context. Managing these risks involves challenges associated with process coordination, operational safety, investment prioritization and continuous adaptation to internal and external factors that may influence the Company's performance over the short, medium, and long-term.

Sustainability Risk Management and Response Plan

The following tables present a consolidated view of the Company's material sustainability risks. For each risk, the table provides a consolidated view of the sustainability risks, their spheres of influence across the value chain, and their associated strategic drivers or targets, reflecting the integration of these matters into the Company's corporate strategy.

Information on governance processes, specific initiatives, and related targets and commitments for each topic are presented in the corresponding sections of this report (see sections 6, 9, and 11).

¹ It is a concept used to describe the level of ongoing acceptance that a company establishes with the communities and stakeholders affected by its operations, based on the development and maintenance of relationships grounded in trust and respect. The concept of a "Social License to Operate" (SLO) is not provided for under Brazilian law and does not constitute a legal requirement for the commencement, continuation, or expansion of the Company's activities. Its use in this document is solely descriptive and does not imply equivalence to, or substitution for, environmental licensing obligations or any other regulatory approvals required for the conduct of its activities.

All financial data is presented in millions of United States dollar, unless otherwise stated

Dam failure, resulting in severe damage, including harm to people, property damage and environmental impacts R5

Sphere of Influence	Shared Value for Society	Value Chain	Operations
<p>Strategic drivers associated with the risk (section 11)</p>	<p>Reduce the risks of harm to people, the environment and communities proximity to tailings disposal structures, contributing to the Social License to Operate, as set out under the mitigation efforts in section 9.</p>	<p>Reduce the exposure of the value chain to geotechnical risks associated with tailings disposal structures, through the progressive decharacterization of upstream dams, monitoring compliance with GISTM requirements, and the strengthening of management practices throughout the life cycle of structures, in line with sustainable value creation for the business and the resilience of the production chain, as presented in section 9.</p>	<p>Decharacterization of upstream raised tailings dams in accordance with the corporate schedule; monitoring implementation and sustaining conformance with GISTM requirements across Tailings Storage Facilities ("TSFs"); and enhancement of safety conditions through continuous monitoring, independent audits, and the strengthening of geotechnical management and emergency response systems. As presented in sections 9 and 11.</p>
<p>Responsible operator</p>	<p>Contributes to greater operational safety and social trust in the regions where Vale operates, strengthening the Social License to Operate and institutional credibility, as set out under the mitigation efforts in section 9.</p>	<p>Integrate safe tailings management practices across the value chain, encompassing the stages of mining, beneficiation, disposal, and mine closure, as part of the strategy for sustainable value creation and strengthening the business's competitiveness, as set out under the mitigation efforts in section 6.</p> <p>Engagement with partners and critical suppliers through the consistent disclosure of risk-related information, promoting transparency, trust, and alignment with international standards, disclosed to the market through the Sustainability-Related Financial Information Reports, sections 9 and 11.</p>	<p>Strengthening the management, monitoring and decharacterization of tailings structures, contributing directly to the Social License to Operate and to the trust of communities and other stakeholders, in accordance with the targets set out in section 11.</p>
<p>Sustainability strategy pillars</p> <p>Society</p>	<p>Strengthen operational resilience to protect people, communities, and the environment in the face of critical events, in line with the strategic objective of improving people's lives, addressed in an integrated manner with other risks in section 9.</p>	<p>Strengthen value-chain resilience through proactive reduced reliance on tailings dams, contributing to community safety and sustainable business continuity, in accordance with the targets set out in section 11.</p>	<p>Protect workers, assets, the environment communities surrounding the operations, aiming to ensure responsible operations aligned with the social license to operate, as set out under the mitigation efforts in section 9.</p>
<p>Climate and Nature</p>	<p>Support initiatives and technological solutions focused on tailings safety, generating environmental and social benefits and contributing to the protection of ecosystems and communities, as presented in sections 9 and 11.</p>	<p>Promote technical partnerships and investments across the value chain aimed at enhancing tailings safety, including the strengthening innovation, climate resilience, and shared value creation, development and adoption of monitoring technologies, as presented in section 9.</p>	<p>Invest in technologies and processes that reduce structural risks, integrating operational safety, climate adaptation, and environmental protection, as set out in section 6 as an adaptation effort and in section 11 as a target.</p>

All financial data is presented in millions of United States dollar, unless otherwise stated

Delay in or failure to obtain environmental license, affecting the outlook for production capacity growth and business profitability R6

Sphere of Influence	Shared Value for Society	Value Chain	Operations
<p>Strategic drivers associated with the risk (section 11)</p>	<p>Contribute to environmental conservation, responsible land use, and respect for the rights of potentially affected communities, strengthening the Social License to Operate, as presented in section 9 under the nature pillar.</p>	<p>Integrate environmental, regulatory, and social requirements into project development across the mineral exploration, conceptual studies, and engineering stages, as well as into asset expansions throughout the value chain, including the early assessment of environmental aspects and impacts, regulatory risks, and legal permitting conditions, presented as an adaptation effort in section 9.</p>	<p>Implement robust environmental management systems, periodic monitoring of legal requirements, team capability building, and a structured interface with regulators.</p> <p>Implement preventive actions to mitigate the risks of delays, operational constraints, or financial impacts associated with licensing processes, including the timely updating of environmental studies, fulfillment of permit conditions, management of biodiversity related risks, and the integration of these practices into operational decision making. As presented under the resilience pillar in section 9.</p> <p>Implement mitigation, compensation, and environmental restoration measures, as presented in section 9.</p>
<p>Responsible operator</p>	<p>Act to ensure that socio-environmental recommendations and requirements are embedded in the development and execution of projects.</p>	<p>Incorporate preliminary environmental and regulatory assessments into the design and prioritization of expansion projects and asset development.</p>	<p>Monitoring and reporting on environmental performance and the progress in meeting regulatory requirements, as presented in section 11 on targets and metrics.</p>
<p>Sustainability strategy pillars</p>	<p>Society</p> <p>Reduce socio environmental conflicts associated with projects, through structured dialogue and active listening processes with communities and other relevant stakeholders, as set out under the mitigation efforts in section 9.</p>	<p>Engage suppliers and partners in responsible environmental practices, as set out in the Code of Conduct.</p>	<p>Monitor compliance with environmental licenses and conditions and their effects on the continuity of operations, as set out under the adaptation efforts in section 9.</p>
<p>Climate and Nature</p>	<p>Mitigate environmental impacts and strengthen the Social License to Operate, as presented in section 9.</p>	<p>Consider biodiversity and land use in decision making processes related to projects and investments across the value chain, as presented under the resilience in section 9.</p>	<p>Direct investments toward socio environmental studies, territorial diagnostics and lower impact solutions that support licensing processes. as presented in sections 9 and 11.</p>

All financial data is presented in millions of United States dollar, unless otherwise stated

Conflicts with communities and human rights impacts may result in financial and reputational losses and the loss of the Social License to Operate R7

Sphere of Influence	Shared Value for Society	Value Chain	Operations
<p>Strategic drivers associated with the risk (section 11)</p>	<p>Broadly, foster long term relationships based on respect for human rights, and the reduction of social risks and impacts for communities, contributing to the preservation of the Social License to Operate, as set out in section 9 under the adaptation and mitigation efforts.</p>	<p>Mitigate social conflicts through the measures for managing community demonstrations, Community Relationship Plans, incidents involving community members, compliance with legal obligations, and the prioritization of investments, as presented in section 9.</p> <p>Reduce the value chain's exposure to human rights impacts, systematically incorporate human rights risks, social conflicts, and responsible-conduct criteria into supplier and partner management, with an initial focus on the first tier of the supply chain, as presented in section 11.</p>	<p>Comply with established commitments, such as agreements or Community Relationship Plans with local communities, Indigenous Peoples, and Traditional Communities.</p> <p>Act to mitigate social and environmental impacts arising from the Company's activities;</p> <p>Act to reduce accidents community members.</p> <p>Support Indigenous communities located near Vale's operations in Brazil in the development and implementation of their plans to pursue rights set forth in the United Nations Declaration on the Rights of Indigenous Peoples ("UNDRIP").</p> <p>Prevent, mitigate, and remediate adverse human rights impacts arising from own operations through structured due diligence processes, ongoing community engagement, and the strengthening of social management practices.</p> <p>Seek to ensure the implementation of the action plans arising from human rights due diligence, promote continuous training of employees and third parties, including training Corporate Security personnel on the principles of the Voluntary Principles on Security and Human Rights ("VPSHR").</p> <p>The information above is further detailed in sections 9 and 8.</p>
<p>Sustainability strategy pillars</p>	<p>Responsible operator</p> <p>To promote efficient operations with reduced negative impacts on people (communities, employees, and contracted workers), contributing to the strengthening of the Social License to Operate, community relations, quality of life in the territories, and respect for human rights.</p>	<p>All operations and projects, third parties, as well as the joint ventures operated by Vale, are required to act in accordance with the principles of the Human Rights Policy. The Policy and the Principles of Conduct for Third Parties require suppliers and partners to apply equivalent principles in their operations and across their value chain.</p>	<p>Comply with established commitments and agreements; mitigate risks and impacts; conduct Human Rights Due Diligence processes, in line with the United Nations Guiding Principles on Business and Human Rights of the United Nations ("UN").</p>
<p>Society</p>	<p>Dialogue with society is part of the Company's culture and contributes to the incorporation of social considerations into decision making. Vale seeks to build constructive relationships that reinforce its recognition as a good neighbor and support the achievement of its objectives, as detailed in section 11.</p>	<p>Vale's Whistleblower Channel and its Listening and Response Mechanism, through which any individual may request information, report potential human rights impacts, or request that the Company take action, thereby contributing to the resolution and prevention of conflicts.</p>	<p>Establishment of structured dialogues spaces to build relationships with Communities and other stakeholders.</p>

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Operations are exposed to hazards associated with mobile equipment, vehicles, industrial machinery and other critical infrastructure, which may result in potentially fatal accidents R8

Sphere of Influence	Shared Value for Society	Value Chain	Operations
<p>Strategic drivers associated with the risk (section 11)</p>	<p>Contribute to a safe working environment by protecting both own employees and third parties and reducing the risks of fatalities and high-potential events, while maintaining and strengthening a risk-prevention culture.</p>	<p>Reduce exposure to health and safety risks across the value chain by incorporating health and safety requirements, establishing minimum guidelines and verification criteria aiming to ensure consistency, transparency, and compliance in the execution of activities for Vale.</p>	<p>Eliminate fatalities and reduce high-potential events by strengthening operational discipline, critical risk management, and the verification of controls associated with work routines involving mobile equipment and critical infrastructure.</p> <p>Reduce occupational risks and promote health and well-being (including mental health) for both own employees and third-party.</p>
<p>Responsible operator</p> <p>Sustainability strategy pillars</p>	<p>Strengthen preparedness and response to emergencies and operational incidents through plans, training, and simulations commensurate with activity risks, prioritizing the protection of people, the environment, and assets, as well as the safe recovery of operations.</p>	<p>Expand the Lead with Safety Program to leaders of contracted companies by developing safe decision-making competencies and safety conversations, and by strengthening common prevention-culture standards across the value chain.</p>	<p>Implement and reinforce engineering controls, safe work practices, critical control verification routines, and technology to reduce the likelihood and severity of accidents involving vehicles, industrial equipment, and critical infrastructure.</p> <p>Strengthen leadership competencies for safe decision-making and safety conversations by expanding the coverage of training and management routines, with a focus on critical risks and the prevention of fatalities.</p>
<p>Society</p>	<p>Contribute to the protection of life and to the reduction of health and safety impacts in the territories where the Company operates, strengthening trust and relationships with communities and other stakeholders, in line with the commitment to operate responsibly.</p>	<p>Institutional engagement with suppliers to foster a coordinated agenda, with the objective of contributing to a culture of safe behaviors in the regions where the companies operate; preventing and mitigating identified negative impacts; disseminating a safety culture among employees and subcontractors; and engaging communities in addressing the issue.</p>	<p>Protect workers, assets, the environment, and surrounding communities by strengthening operational risk management (including HIRA and preventive and mitigative controls) and emergency preparedness, through drills, crisis management, and business continuity.</p>



Photo: Salviano Machado

All financial data is presented in millions of United States dollar, unless otherwise stated

Assumptions, dependencies and challenges related to the climate transition

Vale recognizes climate change as one of the greatest global challenges, with significant impacts on society and natural systems. Studies conducted by the Climate Action Tracker in 2025 indicate that the planet is on a trajectory toward an estimated average global temperature increase of 2.6°C (2.1–3.3°C) by 2100.¹

In this context, the Company recognizes that mining plays an essential role in supporting the transition to a low carbon economy by contributing to the decarbonization of the value chain. This approach is aligned with the ambition of the Paris Agreement to limit the increase in average global temperature to well below 2°C above pre industrial levels, while pursuing efforts to limit it to 1.5°C.

To achieve the Paris Agreement's central objective, it will be necessary to increase the average annual global investment made in low-carbon technologies² and energy infrastructure. According to the International Energy Agency³ ("IEA"), global investment in clean energy technologies have increased by 30% since 2022, approaching US\$2.2 trillion in 2025. Over the same period, investments in fossil fuels grew by only 1%, reflecting efforts to reduce greenhouse gas (GHG) emissions and the increasing relevance of energy security and industrial competitiveness.

The steel industry is the primary source of emissions in the Company's value chain, and it accounts for approximately 7–8% of global greenhouse gas emissions. Within the sector, the blast furnace–basic oxygen furnace route accounts for approximately 70% of global steel production emissions, and an increase in direct emissions intensity has been observed since 2021.

It has been estimated that decarbonizing the iron and steel industries could require investments of approximately US\$1.4 trillion⁴. Direct iron production routes based on hydrogen direct reduction and electric arc furnaces are emerging as options for emissions reduction, with the first commercial plants costing approximately 50% to 140% more than current blast furnace–basic oxygen furnace plants. Near zero emissions iron production capacity by 2030 is estimated at 10 million tonnes, with a noticeable regional concentration of new production facilities in advanced economies compared to emerging and developing markets, due to less favorable conditions for investment in first of a kind projects⁵. Despite the expected development of projects in advanced economies, a slowdown in decarbonization has been observed, particularly in the European steel industry, where approximately one third of announced projects have been suspended or canceled due to high capital costs. Meanwhile, demand for thermal coal has continued to increase, reaching a record production level of 8.85 billion tonnes⁶.

Vale believes that regulatory progress to limit GHG emissions is fundamental to meeting the challenges of the energy transition, since carbon pricing and the redistribution of revenues will encourage the development and adoption of low-carbon solutions, contributing to the economic viability of decarbonization projects.

Currently, according to the World Bank, only 28% of global GHG emissions are covered by regulated programs, representing a 4% increase compared to the previous year, driven by the expansion of the carbon market in China. Economies with carbon related regulations account for approximately two thirds of global GDP⁵.

In parallel, voluntary initiatives led by industrial coalitions, non-governmental organizations, and companies seek to establish emissions intensity thresholds that can support (or contribute to) emissions reductions and promote efficiency gains through product differentiation. For the steel sector and its value chain, approximately 150 sustainability standards⁶ and initiatives have been identified. However, only a small subset of these initiatives sets out GHG accounting methodologies with clearly defined boundaries and reporting requirements, as well as verification procedures.

Vale believes that carbon pricing can enable the adoption of processes and technologies that increase energy and industrial efficiency and consequently reduce GHG emissions, contribute to reducing dependence on imported energy and offer environmental and social benefits. However, their adoption faces political challenges, especially in the context of high inflation and rising energy prices.

Climate Transition Plan

The mining and metals sector is fundamental to achieving the core objective of the Paris Agreement, as it provides resources that drive economic development and social well being. It also plays an important role in supporting the transition to a low carbon economy through the production of strategic minerals⁷.

The Company is positioned as one of the world's leading producers and exporters of iron ore, nickel, and other minerals that are essential to scaling up transport electrification, energy infrastructure, and the technologies required for the climate transition, such as battery production, wind turbines, solar panels, and distribution systems, among others.

Aligned with its Strategic Planning and the recommendations of the Transition Plan Taskforce ("TPT"), Vale's climate transition strategy establishes objectives and priorities for a climate-resilient transition, consistent with the Company's strategic pillars and the promotion of long term sustainable growth.

¹ Source: Climate Analytics. Climate Action Tracker: 2025 warming projection update.

² Source: BloombergNEF, New Energy Outlook 2024.

³ Source: International Energy Agency (IEA), Steel – Breakthrough Agenda Report 2025.

⁴ Source: International Energy Agency (IEA). 2025. Breakthrough Agenda Report 2025 – Steel.

⁵ Source: World Bank. State and Trends of Carbon Pricing 2025.

⁶ Source: Zaccaro, F., From Niche to Mainstream: Shaping Demand for Green Steel, Sandbag Climate Campaign ASBL, 2024.

⁷ Source: International Energy Agency (IEA), The Role of Critical Minerals in Clean Energy Transitions, 2021.

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Vale of the Future Strategy

Superior portfolio

Ongoing ambition for a high quality, resilient, and competitive product mix aligned with global demand.

Cultural evolution

Integration of operational excellence and safety with innovation and social and environmental responsibility, contributing to an increasingly safe working environment.

Trusted partner

Strengthening relationships with society, authorities, and all stakeholders, with the aim of promoting socioeconomic development.

Vale Climate Transition Plan Pillars

- **Low-carbon solutions:** offering products that require less energy in steel production, therefore promoting lower carbon intensity.
- **Energy transition metals:** supplying nickel, copper, and other essential metals for transition solutions, supporting value chain decarbonization

- **Resilience:** identifying potential climate-related risks and implementing controls to monitor them and adapt operations to climate change, strengthening the resilience of assets, workers, communities, and the environment.
- **Benchmark for operational excellence:** mapping and implementing market-leading solutions aiming to ensure greater operational and energy efficiency, seeking to reduce input consumption and mitigate impacts arising from operations.

- **Cultivating institutional relationships:** maintaining partnerships with companies and organizations to develop solutions and influencing market best practices, ensuring robust and transparent standards and regulations that enable greater climate ambition.
- **Transparency and positive impact generation:** engaging with and collaborating with stakeholders affected by transition strategies, promoting value creation for people and nature, while continuously reducing operational impacts.

Vale's climate transition strategy considers the complexities of decarbonizing the hard-to-abate sector in which it operates, based on assumptions such as collaboration across the value chain through structured partnerships, increased availability and feasibility of low-carbon technologies, and the evolution of regulatory environments aligned with climate objectives.

Recognizing the uncertainties associated with these assumptions, the Company performs scenario analyses and adjusts its approach in line with technological advances, market dynamics, and public policies, adopting an integrated perspective that considers climatic, environmental, and social factors.

In this context, the Company has made consistent progress in the implementation of its strategy, through initiatives focused on operational decarbonization, value chain engagement, and the strengthening of resilience to climate-related risks.

In Vale's operations (Scopes 1 and 2), the main initiatives include:

- Continuation of projects aimed at replacing conventional fuels with less carbon intensive alternatives, as well as expanding the adoption of renewable fuels across the Company's fleet and equipment.
- Progress on energy efficiency improvement projects, such as the expansion of artificial intelligence initiatives that optimize fuel consumption in off highway trucks and locomotives, and electricity consumption in operational equipment.

In the value chain (Scope 3), progress includes:

- Progress on Mega Hubs partnerships—industrial complexes located in strategic areas to supply briquettes and iron ore agglomerates with lower carbon intensity, which are essential inputs for the production of low carbon steel products
- Enhancement of technologies aimed at reducing emissions in maritime transport, through the implementation of rotor sails on cargo vessels and the testing of bunkers (marine fuels) derived from renewable sources.

For Vale to support the decarbonization of the steel industry and supply critical minerals for the energy transition, it is necessary to increase production, establish new operations, and adapt its business models. However, certain actions that enable reductions in Scope 3 emissions may run counter to efforts to reduce Scope 1 and 2 emissions in the Company's own operations. The Company understands that achieving the global net zero emissions goal in a socially and economically viable manner will require recognition of these particularities and a consistent focus on the core objectives of global climate commitments.

Supporting lower-carbon steelmaking pathways

Today, more than 70% of global steel production relies on carbon intensive technologies, such as the blast furnace–basic oxygen furnace (BF–BOF¹). In recent years, the steel industry has seen a significant increase in announcements focused on lower carbon technologies. However, the global decarbonization process of the steel sector is expected to occur asynchronously, as the priority of this agenda varies across countries.

The growth of low carbon steel production depends on enabling levers such as research and development ("R&D"), penalties, public policies, and incentives that support the transition. As a result, low carbon steel production is expected to vary by region, depending on the availability of local resources to ensure competitiveness. In 2023, 92% of the new steelmaking capacity announced worldwide was allocated to Electric Arc Furnaces ("EAF"), a substantial increase compared to the 33% recorded in 2020. This progress brings within reach the International Energy Agency's ("IEA") net zero scenario target of achieving 37%⁴ of global steel production via EAF by 2030, as the current announcements project an EAF capacity of 36%^{2,3,4}. The expansion of the EAF production route, combined with current effective recycling rates estimated at 85%⁴ already near technical limits, indicates that the world is likely to face a global shortage of scrap in coming years.

¹ Source: International Energy Agency (IEA). 2025. The Breakthrough Agenda Report 2025.

² Source: Global Energy Monitor. 2024. Growth in cleaner steel project pipeline puts industry's net zero goal in sight.

³ Source: International Energy Agency (IEA). 2021. Net Zero by 2050: A Roadmap for the Global Energy Sector.

⁴ Source: Global Energy Monitor (GEM). 2024. Pedal to the Metal 2024.

All financial data is presented in millions of United States dollar, unless otherwise stated

As part of Vale’s efforts to reduce Scope 3 emissions, the Company has been adjusting its portfolio, with the goal of supporting new steelmaking routes. Vale is the world’s largest producer of DR grade (Direct Reduction) iron ore, a significant competitive advantage, considering that only 3% of seaborne iron ore meets this specification¹. Vale’s DR grade iron ore can be used in standard and widely established DRI EAF (Direct Reduction–Electric Arc Furnace) steelmaking operations—a process that, by its nature, does not involve a blast furnace smelting stage, unlike the traditional route that uses blast furnace–grade (BF–grade²) iron ore. Leveraging the strengths of its business model, its expertise, and the quality of its ore products, the Company believes it can support the transition to net zero emissions steel production, helping to address the supply gap.

Vale Base Metals

Vale Base Metals (“VBM”) takes a four–lever approach to managing the climate transition: Reduce, Replace, Remove & Restore, and Resilience, aimed at decarbonizing operations while strengthening long–term business resilience.

Through Reduce, the company improves efficiency across mines, plants, and logistics by lowering energy use, optimizing processes, and eliminating waste. Under Replace, VBM is advancing projects focused on less carbon– and energy–intensive sources, including the use of renewable energy, fleet electrification, and the adoption of low–carbon solutions, aligning with global decarbonization pathways and the growing market demand for low–carbon

minerals. The Remove & Restore invests in nature–based solutions to address emissions reduction, including reforestation, watershed protection, and ecosystem restoration. Finally, Resilience anchors the strategy in long–term business goals by preparing for climate impacts through a comprehensive adaptation plan alongside a decarbonization roadmap.

Driven by the growth in demand for electric vehicles (“EVs”), battery energy storage, and other energy technologies, the International Energy Agency (“IEA”) projects that by 2040, demand for copper, cobalt, and nickel will increase by up to 30%, 50%, and 70%, respectively, when compared to 2024 levels³. Vale understands that the nickel and copper produced by Vale Base Metals are important to clean energy technologies and other industry sectors, holding a competitive position, with independently verified carbon footprints.



¹ Source: Institute for Energy Economics and Financial Analysis, Iron Ore Quality a Potential Headwind to Green Steelmaking, 2022.

² Source: Vale. 2023. Vale successfully tests new direct-reduction briquette, making steel production cleaner.

³ Source: International Energy Agency (IEA). 2025. Global Critical Minerals Outlook 2025.

All financial data is presented in millions of United States dollar, unless otherwise stated

The Company adopts an integrated approach to climate-related matters across different spheres of influence, structured around its climate pillars.

Spheres of influence	Value shared with society	Value chain	Operations
Decarbonization targets (section 11)	Support the central objective of the Paris Agreement, to limit the increase in average global temperature increase to below 2°C, while making efforts to limit the increase to 1.5°C, relative to pre-industrial levels.	Reduce net Scope 3 emissions by 15% by 2035. Contribute to the International Maritime Organization's (IMO) strategy of achieving net-zero GHG emissions by 2050.	Reduce absolute Scope 1 and 2 (market-based) emissions by 33% by 2030. Reach net-zero Scope 1 and 2 (market-based) emissions by 2050.
Low-carbon Solutions	Supply products that support the transition to a low-carbon economy and embrace circularity, creating business models. Presented in section 9, in the topic on business model adaptation.	Portfolio of products and technological solutions that support the transition to the production of low-carbon steel and other metals. Presented in section 9, in the topic on climate-change-related opportunities.	Efficient allocation of capital to implement low-carbon fuels and technologies. – Obtain 100% of electricity from renewable sources globally by 2030. In Brazil, 100% of Vale's power consumption has come from renewable sources since 2023. Presented in section 11, in the topic of climate-related targets. – Improve global energy efficiency indicator by 5% by 2030. Presented in section 11, in the topic of climate-related targets.
Climate Strategy Pillars			
Resilience	Generate positive social and environmental impacts, in line with climate strategy. Presented in section 10, in the topic of adaptation and resilience efforts.	Develop the ability to assess and mitigate climate change-related risks in the Company's value chain, logistics and supply chain. Presented in section 10.	Assessment, monitoring and management of physical climate risks, protecting workers, operational assets and local communities. Presented in section 10.
Partnerships and investments	Invest in technological and scientific solutions to global climate-related problems. Presented in section 9.	Partners with suppliers and customers to mitigate investment risks, collaborate on solutions to shared challenges, and support the transition of the metals and mining value chain. Presented in section 9.	Strategic partnerships to accelerate the study and implementation of technological solutions and new fuels in operations. Presented in section 9.
Transparency and engagement	Monitor the development of robust climate regulations and policies, including carbon targets and markets.	Actively collaborate in industry groups and initiatives and support technical studies.	Commitment to monitoring and verification processes, promoting transparency in the identification and disclosure of climate risks and opportunities.



Photo: Carol Veloso


9 Sustainability-related risks and opportunities


This section presents a description of the risks and opportunities, their financial impacts, and information that supports an understanding of Vale's ability to adapt to uncertainties related to sustainability-related risks. Climate resilience is detailed in Section **10 – Building resilience through climate-related scenario analysis.**

9. Sustainability-related risks and opportunities

R1 Exposure to regulations related to GHG emissions, resulting in a possible reduction in market share and higher operating costs

Transition risk category

 **Political and legal:** Increased operating costs resulting from carbon regulation

 **Market:** Market demand for less carbon-intensive products, resulting in loss of market share for products with a higher carbon footprint

Time horizon

 **Political and legal:** Short, medium and long term

 **Market:** Long term

Concentration of business activities vulnerable to this risk

Operations related to the Iron Ore Solutions and Vale Base Metals segments are exposed to this risk, with assets concentrated in Brazil, Oman, Malaysia and Canada.

Main line items potentially impacted in the Financial Statements

- Revenue from sales (note 3(b) to the Financial Statements)
- Cost of goods sold and services rendered (note 4(a) in the Financial Statements)
- Research and Development expenses
- Property, plant and equipment (note 13 in the Financial Statements)
- Provisions associated with GHG emissions regulation

a) Nature of risk

Vale is exposed to uncertainty concerning regulations related to GHG emissions in the jurisdictions where they operate and in its value chain, which may directly and indirectly impact on its business value.

The Company monitors the development of climate policies, including carbon pricing mechanisms such as the Canadian Federal Output-Based Pricing System, the Brazilian GHG Emissions Trading System ("SBCE"), the Chinese National Carbon Trading Scheme, the European Union Emissions Trading System ("EU ETS") and the EU's Carbon Border Adjustment Mechanism ("CBAM").

In December 2025, the CBAM transitional period ended and the mechanism entered its definitive phase in January 2026, making the reporting of embedded emissions in imported products mandatory for five sectors, including iron and steel. This scope covers iron ore agglomerates and iron nickel, with the aim encouraging emissions reductions on a global scale and enhancing the traceability of imports related to GHG emissions. The financial impacts associated with these developments in EU carbon pricing have been incorporated into the projected financial effects.

Depending on the carbon pricing model established by different jurisdictions and the carbon price adopted, as well as other climate-related regulations, increased costs may affect the competitiveness of Vale's products, particularly in comparison with competitors operating in jurisdictions without carbon regulation or with less stringent climate policies. This may, in turn, impact on the recoverable value or even the economic viability of Vale's assets.

b) Mitigation efforts

The Company assesses its portfolio of decarbonization initiatives and prioritizes them according to their technical and economic feasibility, with the aim of achieving its GHG emission reduction targets. As a risk mitigation measure and to support decision-making, Vale uses a Marginal Abatement Cost Curve ("MACC curve") to estimate the costs of solutions to achieve its Scope 1 and 2 (market-based) emission reduction targets. This tool provides an internal estimate of the potential costs related to decarbonization, which are considered in the Company's strategic plan.

Strategy for reducing GHG emissions

Vale's targets in this area, presented in section 11, are voluntary. The following table describes the Company's investments in the following initiatives to reduce its Scope 1 and 2 (market-based) GHG emissions that contribute to risk mitigation:

Category	Description of solution	Main projects, initiatives and partnerships
Renewable energy (b.1)	Renewable energy solutions to achieve zero Scope 2 (market-based) emissions, which refer to indirect emissions from electricity purchases.	As a milestone for its target of reducing absolute GHG emissions from Scopes 1 and 2 (market-based), the Company has achieved 100% use of renewable electricity sources in its operations in Brazil through power purchase agreements, as well as through concession agreements and the purchase of a small portion of renewable energy certificates. Details of these targets are presented in section 11.
Energy efficiency (b.2)	Solutions to optimize the use of energy inputs such as diesel, natural gas and anthracite in industrial operations.	<p>Investment in more modern, automated, georeferenced assets (trucks, drilling rigs, machinery and equipment), using radar and artificial intelligence. In addition to enhancing safety and energy efficiency, these investments contribute to sustainability benefits due to reduced fuel consumption and increased useful life of components.</p> <p>In 2025, EFC and EFVM recorded their highest energy efficiency levels in the past ten years. This remarkable performance avoided the projected consumption of 11 million liters of diesel, equivalent to approximately 28 thousand tons of CO₂e. This advancement reinforces the Company's consistent strategy to address climate change through innovation, technology, operational improvements and increasingly efficient operations.</p> <p>This performance is particularly relevant because, in 2025 and 2024 the railways account for approximately 14% of the Company's direct emissions (Scope 1). Advancing in this area is fundamental to strengthening the Company's decarbonization journey.</p>
Low-carbon process inputs (b.3)	Solutions that seek changes in production processes.	This includes inputs for briquettes production (see the topic on business model adaptation to find out more about risk) and the replacement of anthracite, a type of coal, with low-carbon solutions.



Vale and Progress Rail develop Brazil's first 100% electric mining locomotive – Vitória, Espírito Santo, Brazil. Photo: Carlos Vagner Bissoli

Category	Description of solution	Main projects, initiatives and partnerships
<p>Biofuels, natural gas and other low-carbon energy solutions (b.4)</p>	<p>Low-carbon energy solutions to replace traditional energy inputs with low-carbon alternatives where, (i) biofuels contribute to decarbonization when their full life cycle is considered, since the carbon emitted during combustion is previously captured from the atmosphere by the biomass used in their production. Although these emissions are biogenic, they are not accounted for in the Scope 1 and 2 targets (market-based); (ii) low-carbon solutions include process electrification, the use of renewable energy, and energy efficiency; and (iii) natural gas is used as a transitional energy source, with lower emission factor than liquid fossil fuels.</p>	<p>Replacing diesel with biodiesel, considering a renewable fuel produced from vegetable oils or animal fats. In addition to biodiesel, natural gas is a transitional fuel, as despite being a fossil fuel, its combustion generates less CO₂ and other pollutants compared to coal and fossil fuel oils used in the production process.</p> <p>Vale and Petrobras have a strategic alliance agreement with the potential to commercialize three products: (i) biofuel bunker (a fuel used in ships), (ii) Diesel R5 (diesel co-processed with vegetable oils, which is being tested on the Vitória-Minas Railroad and at Fábrica Nova Mine in Minas Gerais); and (iii) natural gas, an essential input for the production of pellets and iron ore briquettes. This agreement will allow a range of possibilities to replace fossil fuels and promote the use of more sustainable energy sources.</p> <p>Vale has partnerships with its truck suppliers (Komatsu and Caterpillar), to develop dual-fuel trucks, which consist of converting existing diesel engines to run on a mixture of ethanol and diesel, making these trucks more sustainable. In addition, Vale has signed an agreement with Caterpillar to decarbonize mining operations, which includes testing large electric battery-powered trucks.</p> <p>In March 2025, Vale and Wabtec Corporation entered into an agreement to acquire 50 new locomotives for the Vitória a Minas Railway ("EFVM") and the Carajás Railway ("EFC"). These locomotives are expected to operate using higher biodiesel blends, contributing to a reduction in greenhouse gas (GHG) emissions.</p> <p>In November 2025, Vale initiated field trials with off-highway trucks using B30 and B50 biodiesel, which can reduce emissions by up to 35% compared with the diesel consumed by the Company in Brazil. The objective is to assess the increase in the renewable fuel blend in large-scale equipment from the current 15% mandated by Brazilian legislation to a 30%-50% blend.</p>



Photo: Irisvelton Silva

Resilience

As part of strengthening its resilience capabilities, the Company seeks to ensure that exposure to increasing regulatory costs and changes in carbon requirements does not compromise the continuity of operations or the long-term competitiveness of the business. This resilience is built through the diversification of low carbon solutions, the continuous evolution of the product portfolio,

and the integration of transition risks into the strategic planning process. For further details on the resilience approach and its assessment under climate related scenarios, please refer to section **10 - Building resilience through climate related scenario analysis.**

c) Efforts to adapt the business model

Briquettes (c.1): Iron ore briquettes are a new product developed by Vale. The production process operates at low temperatures and involves the agglomeration of iron ore using a technological binder solution, which gives the final product high mechanical strength. When used by steel producers, briquettes can contribute to an estimated potential reduction of up to 10%¹ in greenhouse gas emissions due to their unique characteristics and the possibility of eliminating the sintering process. Additionally, briquettes require lower energy consumption during production compared to traditional agglomeration processes.



Lower CO₂ emissions

The production of these briquettes emits less carbon dioxide compared to traditional agglomeration processes.



Lower emissions of other gases

The production of iron ore briquettes results in lower emissions of gases such as sulfur dioxide (SO_x) and nitrogen oxides (NO_x).



Production process

Briquettes have lower particulate emissions, and sand from mining tailings can be incorporated into the binder's production process.



Water

No water is used to make briquettes.

Vale has two iron ore briquette plants at the Tubarão Complex, which were both converted from pelletizing plants. The first plant is already in operation. In addition, a mobile briquetting unit has also been operating at the same site since 2024. The production process is being enhanced, with regular progress in product testing in blast furnaces and direct reduction furnaces, in collaboration with its clients.

¹ Estimates of the reduction in greenhouse gas emissions associated with the use of iron ore briquettes were based on Vale's internal data, considering information from its own database and specific operating parameters. As these are estimates, the results may vary according to different application scenarios, technologies used and future operating conditions.



Photo: Congpeng Zhand

Negotiations and Partnerships

The Company advanced in its strategy of increasing briquette production in order to develop low-carbon solutions for steel production, particularly through the briquette plant in the United States

In 2024, through its subsidiary Vale USA LLC, the Company was selected by the U.S. Department of Energy ("DOE") to enter into a cooperative agreement involving a financial reimbursement mechanism under the Inflation Reduction Act. The agreement aims to develop an industrial-scale briquette plant in the state of Louisiana. In 2025, significant progress was achieved in Phase 1 of the project, particularly in the areas of conceptual engineering, permitting (preliminary studies), engagement with potential offtakers and engagement with community stakeholders.

The partial cost reimbursement mechanism provides for an amount of up to US\$282.9 to be allocated to Vale USA LLC, subject to successful progress across the four phases of the partnership through 2031. This industrial iron ore briquetting facility in the United States may become the first in the world to apply the patented cold agglomeration process, focused on briquettes destined for the direct reduction route.



Photo: Jeferson Capela

d) Current financial effects

The following table shows the financial impacts of decarbonization projects and costs related to carbon pricing expenses.

	Reference	Income statement		Cash flows Statement				Balance Sheet	
		Depreciation and income from equity interests		Costs, expenses and equity interests ³		Payments		Property, plant and equipment and investments	
		2025	2024	2025	2024	2025	2024	2025	2024
Briquettes and Mega hubs	c.1	(9)	(2)	(4)	(25)	(66)	(116)	375	288
Investments in renewable energy companies and consortiums¹	b.1	(54)	(97)	15	58	(31)	(22)	536	226
Renewable energy¹	b.1	(5)	(18)	-	(5)	(3)	(17)	-	219
Energy efficiency	b.2	(10)	(12)	(6)	(2)	(7)	(5)	94	93
Low-carbon process inputs	b.3	-	-	(4)	(2)	(123)	(39)	106	41
Biofuels, low-carbon energy solutions and natural gas	b.4	-	(1)	(23)	(31)	(26)	(46)	32	26
Other decarbonization projects		(1)	(2)	(23)	(4)	(16)	(13)	25	24
Carbon pricing²		-	-	(5)	(11)	(7)	(5)	-	-
Total		(79)	(132)	(50)	(22)	(279)	(263)	1,168	917

¹In September 2025, Vale S.A. contributed the assets of the Sol do Cerrado solar park to Aliança Geração de Energia S.A. ("Aliança") as part of the transaction involving the sale of a 70% ownership interest in the investee to Global Infrastructure Partners. Consequently, as at 31 December 2025, these assets are accounted for within "Investments in renewable energy companies and consortia" through the Company's 30% equity interest in Aliança, which is classified as an associate. Further details of the transaction are disclosed in Note 31 to the financial statements.

²Due to GHG emission regulations in Canada. The Company also has assets in other jurisdictions that have regulated carbon markets, such as the United Kingdom and Japan, for which there were no expenses related to this matter in the 2025 and 2024 financial year.

³These financial impacts affected the Company's adjusted EBITDA.



Photo: Gabriel Lordello

e) Anticipated financial effects

The Company estimates that it may incur costs arising from carbon pricing mechanisms up to US\$4 billion (US\$3.5 billion in 2024), measured at present value, which could impact the Company's income statement and cash flows substantially from 2030 onwards, therefore, over the long-term horizon as defined in section 4. The amount and timing of disbursements will depend on the achievement of Vale's emissions targets and the significant uncertainties described in section 5. For more details on the Company's targets, please refer to section 11.

Pursuant to the implementation of its decarbonization roadmap to achieve voluntary targets and consequently reduce costs associated with the pricing mechanism, Vale is investing in decarbonization solutions for its operations by prioritizing the most efficient alternatives for reducing Scope 1 and 2 emissions. In the fiscal year ended December 31, 2025, Vale estimated expenditures of up to US\$ 712, measured at present value, in capital projects, with cash outflows expected to occur in the medium term (24%) and long term (76%).

In steelmaking, the Company invests in proprietary technologies and partnerships to support the transition of blast furnaces and has developed an iron ore briquette. These investments are estimated at up to US\$1.5 billion (US\$1 billion in 2024), measured at present value, and are substantially linked to the construction and development of Mega Hubs. Cash outflows are expected to occur in the short term (6%), medium term (58%) and long term (36%) and will be recognized in the statement of financial position as property, plant and equipment and/or investments in associates and joint ventures. In addition, for the financial year ended 31 December 2025, Vale estimated research and development expenses of up to US\$235 (US\$250 in 2024), measured at present value, with cash outflows expected in the short term (13%), medium term (50%) and long term (37%).

Significant judgments and uncertainties

The following assumptions were used to quantify the anticipated financial effects of carbon taxation in the cash flows projected in the Strategic Plan.

Technological factors included in mitigation efforts and business model adaptation

The Company faces significant technological uncertainties when seeking to align its business model with the transition to a low-carbon economy, mainly due to the maturity of emerging technologies, many of which are still in the development or pilot testing phase. In addition, high implementation costs and scalability challenges, especially in remote regions, make large-scale adoption difficult. Another relevant factor is the speed at which new technologies emerge.

R2 Increased shipping costs due to the potential carbon tax by the International Maritime Organization (“IMO”)

Transition risk category

 **Political and legal:** Carbon regulation

Time Horizon

 **Political and legal:** Medium and long term

Concentration of business activities vulnerable to this risk in the value chain

Indirect exposure of the Iron Ore Solutions business to global fuel standards and the global emissions pricing mechanism for international maritime transport proposed by the IMO.

Main items potentially impacted in the Financial Statements

- Cost of goods sold and services rendered (note 4(a) in the Financial Statements)
- Research and development expenses



Photo: Vitor Nogueira

a) Nature of risk

The IMO is implementing measures to reduce GHG emissions from international shipping, which may significantly impact costs related to Vale’s distribution and logistics.

According to the 83rd session of the IMO Marine Environment Protection Committee (MEPC), held in April 2025, the Net Zero Framework was approved, establishing a global fuel standard and a global GHG emissions pricing mechanism. The measures, initially scheduled for adoption at the 84th session, in October 2025, and expected to be implemented starting in 2027, were postponed by at least 12 months to allow Member States to continue negotiations. The Net Zero Framework will be mandatory for vessels above 5,000 gross tons, which account for approximately 85% of the sector’s emissions.

b) Mitigation or adaptation efforts

Vale seeks to mitigate the impacts of this regulation through its EcoShipping program, which aims to develop and accelerate the adoption of greenhouse-gas (GHG) emissions-reduction technologies of the global maritime fleet, as well as to capture freight cost-reduction opportunities. Given the challenges facing the international shipping sector, in which carbon emissions are hard to abate due to its dependence on fossil fuels, the Company is investing in the development and adoption of innovative low-carbon technologies, in line with the ambitions set out by the International Maritime Organization in connection with the Paris Agreement.

Ecoshipping program's decarbonization focus areas, which demonstrate the Company's resilience

New Construction of advanced, energy-efficient vessels

Objective: Energy-efficient fleet offering high transportation volumes and economies of scale

The next generation of vessels will be equipped with high-efficiency engines, rotor sails and multi-fuel tanks (ethanol, methanol and fuel oil). In addition, they will be designed to enable future conversion to low-carbon fuels. These combined technologies have the estimated potential to reduce GHG emissions by approximately 70% to 90%¹.

Retrofitting to improve energy efficiency

Rotor sails: wind is used as auxiliary propulsion to generate fuel savings of up to 8% and an estimated reduction in CO₂ emissions reductions of up to 3,000 metric tons per ship per year. Currently, 40% of the global bulk carrier fleet operating with rotor sails is dedicated to Vale.

Frequency inverters: electronic devices that control the speed of electric motors can generate a fuel use reduction in the order of 1-3% and an estimated reduction in CO₂ emissions of approximately 2,000 metric tons per ship per year.

High-performance paints: state-of-the-art ship hull coatings are used to reduce friction and increase vessel efficiency by 2-4%, with the potential to cut CO₂ emissions around 3,000 metric tons per ship per year.

Competitive alternative fuels

Alternative fuels: biofuel trials have been carried out using B24, a blend of conventional marine fuel and UCOME (a fuel derived from used cooking oil).

Multi-fuel tanks: Vale conducted a project together with DNV for the concept of Type B tanks compatible with Liquefied Natural Gas (LNG), methanol, ethanol and ammonia. The project has the potential to reduce GHG emissions by approximately 40-80%, considering the emissions along the entire production chain of these alternative fuels, from production to consumption on board.

The new Guaibamax ships have dual fuel capability as they use methanol as an alternative to fuel oil. In line with the multi-fuel strategy, in April 2026 (subsequent event) an agreement was executed between Vale and Shandong Shipping Corporation for the construction of two triple-fuel Guaibamax vessels, to be delivered from 2029 onward, with triple-fuel capability ("triple fuel") including ethanol in addition, to methanol and fuel oil. This represents the first order of ethanol-powered vessels. All of these vessels have been designed to allow for potential future conversion to LNG and ammonia.



Photo: Vitor Nogueira

Resilience

Resilience to this risk stems from Vale's ability to adapt its logistics matrix, assess alternative routes, and incorporate technologies that aim to minimize exposure to increased transportation costs associated with carbon pricing in the maritime sector. The Company integrates climate and regulatory analyses into its risk models and fleet planning, strengthening its ability to respond to sectoral and regulatory changes. For further details on the resilience assessment, please refer to section **10 – Building resilience through climate-related scenario analysis**.

¹ The estimated emissions reduction considers a comparison between the emission factors of ethanol and high-sulfur fuel oil (HSFO), reflecting the potential for energy substitution between these fuels.

c) Current financial effects

Carbon pricing: The adoption of the IMO Net Zero Framework was postponed by at least 12 months following the session held in October 2025, due to the lack of consensus among Member States. There were no financial impacts in the current year, as the framework has not yet been formally adopted and its measures remain under negotiation, with no applicable requirements for current operations.

Mitigation of GHG emissions related to international shipping: In 2025, Vale recorded US\$4 in research and development expenses related to the EcoShipping program, compared to US\$15 in 2024. The program aims to reduce emissions from shipping through new technologies focused on energy efficiency, scale gains from increased shipment volumes, and the use of lower carbon fuels.

d) Anticipated financial effects

Carbon pricing: Although the IMO's Net-Zero Framework has not yet been formally adopted, its approval establishes a global maritime fuel standard and GHG emissions pricing mechanism for international shipping, with entry into force expected from 2027, subject to the risk of postponement.

With the future adoption, the Company has been reassessing the scenarios and financial impacts anticipated in the medium and long term during its strategic planning review, and it expects that the GHG emissions pricing mechanism will result in an increase in shipping costs.

Due to the high degree of uncertainty associated with the terms and the commencement of the IMO Net-Zero Framework, arising from the current lack of consensus among Member States that has resulted in the postponement of its adoption, it is not possible to reliably estimate the future financial effects related to this matter.


Mitigation of GHG emissions related to international shipping: Within the EcoShipping program, the Company intends to invest in solutions aimed at decarbonizing the fleet of vessels in service of the Company. These investments will be recognized as research and development expenses in the statement of income and will result in cash outflows in Vale's statement of cash flows. For the year ended December 31, 2025, Vale projects an average annual expenditure of US\$8 (US\$5 in 2024).




Photo: Pietro Allevalo

R3 Failure to meet the carbon target for Scope 1 and 2 (market-based) emissions reductions; and increased scrutiny of voluntary commitments and GHG reductions, including but not limited to Scope 3 emissions reductions

Transition risk category

 **Reputational:** Failure to meet carbon target

 **Reputational:** Increased scrutiny of voluntary commitments and GHG reductions, including but not limited to Scope 3 emissions reductions

Time horizon

 **Reputational:** Medium and long term

Concentration of business activities vulnerable to this risk in the value chain

Exposure to this risk could lead to a loss of confidence among stakeholders throughout the Company's value chain, as presented in section [4 – Assessment of sustainability-related risks and opportunities](#).

Main items potentially impacted in the Financial Statements

- Provisions associated with the Company's decarbonization goals (Note 17(a) in the Financial Statements)
- Operating Expenses (Note 4(c) to the Financial Statements)

a) Nature of risk

Failure to meet the voluntary target for reducing Scope 1 and 2 (market-based) emissions by 2030 could impact the Company's credibility among some stakeholders, lead to a loss of positions in ESG ratings, hinder access to financing and harm Vale's reputation.

Within the scope of the voluntary Scope 3 reduction target, there is a risk of increased scrutiny of voluntary commitments and GHG emission reductions. This could impact investors and stakeholders' perception of Vale's climate strategy and expose the Company to climate litigation.

This risk may materialize as a result of challenges in implementing decarbonization projects, technological delays, operational constraints, dependence on third parties across the value chain—particularly for Scope 3 emissions—and changes in the regulatory or market environment that affect the feasibility of the planned initiatives.

b) Mitigation or resilience efforts

Vale has been communicating progress and achievements in its decarbonization journey, including 100% consumption of renewable electricity in Brazil, which enabled a reduction in Scope 2 emissions (market-based), and the complete replacement of fuel oil with natural gas in all pellet plants. It has also been communicating its efforts, investments, challenges, risks and opportunities involved in solutions to cut its Scope 1 and 2 (market-based) emissions.

In addition to monitoring and transparently reporting on the performance and progress of its goals, Vale has been engaging and establishing key partnerships to achieve its targets, as detailed in the mitigation efforts described under **R1**.

In 2025, Scope 1 and Scope 2 (market-based) emissions decreased by 25.3%, compared with a 26.6% reduction in 2024, relative to the 2017 base year (Section 11). This reduction was largely driven by lower volumes and changes in the production mix compared with the base year and was also supported by improved operational performance and a decrease in Scope 2 (market-based) emissions due to the renewable energy attribute coverage of the Company's electricity consumption. Historical trends indicate that the Company has been reducing its emissions.

Mitigation efforts related to reducing emissions of Scopes 1, 2 and 3 are presented in the descriptions of initiatives to mitigate **R1** and **R2** risks.

Resilience

The Company strengthens its resilience to reputational risks related to climate commitments through robust governance, transparency, strategic partnerships, and regular monitoring of emissions aligned with established targets. This resilience is reflected in the ability to adjust strategies, prioritize investments, and manage stakeholder expectations even in the face of regulatory or market changes. Further details on the resilience assessment are presented in section [10 – Building resilience through climate-related scenario analysis](#).

c) Current and anticipated financial effects

The timeline for the targets is linked to future reporting periods and, therefore, there was no direct impact from this risk in 2025 or 2024. The progress achieved as of December 31, 2025, for each of the Company's targets is disclosed under the topic "climate-related targets" in section [11 – Metrics and Targets](#).

If this risk materializes, the Company's reputation could be affected, potentially resulting in impacts such as reduced sales, increased cost of capital, among others. Due to the level of uncertainty involved in measuring the anticipated financial effects of this risk, the Company concluded that any quantitative estimate would not constitute material information. Nevertheless, the projected financial effects described in risks [R1](#) and [R2](#) represent efforts that contribute to the achievement of the Company's targets and are therefore also related to this risk.

Significant judgments and uncertainties

The following assumptions were used to quantify the anticipated financial effects of carbon taxation on the cash flows projected in the Strategic Plan:

Internal carbon pricing in Strategic Plan

The internal carbon price is one of the main strategic tools used by the Company for decision-making, allowing it to assess the global and geographically dispersed distribution of operational and client markets. Integrated into the scenario analysis and strategic planning cycle, carbon pricing helps evaluate the financial impacts on the value of the business over time.

Further details are set out in sections 9 and 10, which describe the methodology and assumptions used to calculate carbon pricing under the climate scenarios.




Photo: Ricardo Teles

R4 Changes in climate patterns in operational areas, across the value chain and within communities

Risk category

 **Physical risks:** Acute and chronic

Time horizon

 Short, Medium and long term

Concentration of assets vulnerable to physical risks

The Company's property, plant and equipment, which are mainly located in Brazil and Canada, are potentially vulnerable to physical risks resulting from extreme weather events and long term changes in climate. Further details on the composition of Vale's fixed assets are presented in Note 13 in the Financial Statements.

Main items potentially impacted in the Financial Statements

- Sales revenue (Note 3(b) in the Financial Statements)
- Cost of goods sold and services rendered (Note 4(a) in the Financial Statements)
- Expenses due to operational stoppages (Note 14 in the Financial Statements)
- Impairment and write-offs of non-current assets (Note 12 in the Financial Statements)
- Property, plant and equipment (Note 13 in the Financial Statements)
- Provisions for legal and administrative proceedings (Note 27 to the Financial Statements)

a) Nature of risk

The Company is exposed to risks arising from changes in climate patterns, through acute physical events, such as intense rainfall, wind gusts, floods, prolonged droughts, and severe temperature variations, as well as chronic threats such as changes in precipitation regimes, which may impact its operations, logistics chain and the lifespan of its infrastructure assets, workers, and nearby communities.

The variety of climate risks varies by region. In Brazil in particular, rainfall above the historical average may cause flooding in operating sites, hindering or temporarily halting mineral extraction, transportation and processing activities, as well as the increase in water levels in the Company's dams and tailings storage facilities. Similarly, long periods of drought may impede the containment of particulate matter, water availability and increase the risk of forest fires in areas adjacent to operations. In Canada, wildfire, spring freshet, intense rainfall and snow or ice storms can cause operational and logistical disruptions.

Such situations may result in increased operating costs and the need for additional investment in containment and drainage systems, and any compensation for environmental damage and harm to third parties caused by extreme weather events. In addition, any potential public exposure or impacts on communities may lead to a loss of confidence in the safety of the structures, resulting in reputational impacts on civil society and investors. The Company understands these risks and proactively works to manage potential impacts where possible.

b) Adaptation efforts

The Company monitors climate indicators relevant to its operations and aims to incorporate this information into its process for identifying, assessing and managing operational risk, with a focus on reducing impacts on people's safety, the environment, operational continuity, financial performance and resilience.

In the short term, adaptation efforts are led by operational teams, which are responsible for implementing and managing specific plans for the wet and dry seasons. These plans are developed based on data and analyses from meteorology teams and, when available, weather radar systems, and are updated periodically to enhance asset resilience to chronic physical impacts associated with climate change.

Physical risk analyses conducted to date are still maturing and, therefore, have not yet resulted in changes to the Company's strategy and business model. However, as methodologies, climate data, and the understanding of asset vulnerability evolve, this position may be reassessed in the medium term.

Over this horizon, the Company intends to deepen the monitoring of identified climate-related physical risks, assess emerging risks, and define appropriate adaptation measures, considering the specificities of each asset and changes in the frequency and intensity of climate events. Ongoing studies will be able to support the understanding of potential impacts, such as slope stability along the railway and effects on the water balance of the river basins in which the Company's operations in Brazil are located. Where applicable, operational and business risks will be updated and incorporated into asset adaptation plans.

In the long term, the Company's efforts aim to ensure the adoption of leading international practices, the continuous updating of climate-related physical risk assessments across operations, projects and the value chain, the performance of new climate simulations when necessary, and the monitoring of the effectiveness of, and adherence to, the implemented adaptation plans.



Resilience

Resilience to physical risks is built through the Company's ability to absorb, respond to, and adapt to extreme climate events by means of structural reinforcement, monitoring systems, predictive analyses, planning for rainfall and drought conditions, and investments in infrastructure. This level of preparedness enables Vale to maintain operational continuity and reduce financial impacts under more severe climate scenarios. For a consolidated view of climate resilience and its assessment across different scenarios, please refer to section [10 – Building resilience through climate-related scenario analysis](#).

During fiscal year 2025, the Company undertook various investments that, directly or indirectly, enhanced climate resilience across its value chain, including the installation of new meteorological stations; increases in water reservoir capacity; capacity upgrades (repowering) of effluent treatment plants and drainage systems; slopes stabilization works; and the monitoring of geotechnical assets.

Detail of the meteorological station, which measures temperature and humidity, wind direction and speed, rainfall (rain gauge), and barometric pressure. Photo: Paulo Moreira

c) Current and anticipated financial effects

In the first quarters of 2025 and 2024, sporadic events related to increased rainfall levels in the Northern System affected pellet feed moisture levels and resulted in shipment restrictions. Nevertheless, the Company did not identify any material financial impacts arising from these climatic events for the years ended December 31, 2025 and 2024.

The potential impacts of changes in climate patterns may be identified at different stages of Vale's production process, including, but not limited to: increased shipping disruptions due to intense rainfall; a reduction in average effective payload on specially constructed cargo ships, resulting in the procurement of additional freight capacity and higher costs; capital investments in structural reinforcements or drainage systems; and damage to infrastructure and other assets. The Company concluded that any quantitative estimate would not constitute material information at this time, given the current stage of analyses related to physical risks, the inherent uncertainties associated with the topic, and the difficulty of attributing potential financial effects exclusively to changes in climate patterns.


The occurrence of extreme weather events may result in operational shutdowns, impacting the Company's production volume and, consequently, reducing adjusted EBITDA. For reference, a sensitivity analysis applied a 5% reduction in the volumes sold of Iron Ore and Vale Base Metals products reflected in sales revenue and the respective associated variable costs, would have represented a reduction of US\$745, or 4.8% in relation to Vale's adjusted EBITDA for the year ended December 31, 2025, which totaled US\$15,458 (note 3(a) to the Financial Statements). For the 2024 financial year, the same sensitivity would have represented a reduction of US\$1,234, or 8.3% of the year's adjusted EBITDA.



Alegria Mine effluent treatment plant – Minas Gerais, Brazil. Photo: Ricardo Teles

R5 Dam failure, resulting in severe damage, including personal injury, property damage and environmental harm

Time horizon

 Short, medium, and long term

Concentration of business activities vulnerable to risk in the value chain

This risk particularly affects business areas located in Brazil and Canada, as well as mining, mineral processing, and mine closure activities, and is considered material to the business model and the value chain.

Main items potentially impacted in the Financial Statements

- Sales revenue (Note 3(b) to the Financial Statements)
- Cost of goods sold and services rendered (Note 4(a) to the Financial Statements)
- Liabilities related to Brumadinho (Note 25 to the Financial Statements)
- Liabilities related to investments in associates and joint ventures (Note 26 to the Financial Statements)
- Provision for dam decharacterization and asset retirement obligations (Note 14 to the Financial Statements)

a) Nature of the risk

Dams are essential operational structures designed for the safe storage of residues from the beneficiation process. In 2025, these structures remain part of Vale's asset base. Within Vale's context, these structures are classified as critical assets due to their potential material impact on community safety, environmental integrity, and operational continuity.

In Brazil, Law No. 14.066/2020 prohibited the construction of new dams using the upstream raising method. Existing dams originally built using this method were deactivated and are undergoing decharacterization, with completion expected by 2035.

The management of dams involves compliance with national and international standards, including governance, monitoring and disclosure requirements, which determine the need to report risks and the mitigation strategies adopted.

The risk associated with Vale's dams encompasses physical, biodiversity, community relations, health and safety aspects, as well as other environmental, social, regulatory and financial aspects, failures or dam breaches, may result in severe impacts, including personal injury, environmental and communities, in addition to significant financial losses.

As examples of the materialization of the risk, the failure of the Fundão tailings dam in 2015, owned by Samarco (a joint venture between Vale and BHP Billiton Brasil Ltda.), occurred in the municipality of Mariana, Minas Gerais and the Córrego do Feijão tailings dam failure in 2019, in the municipality of Brumadinho, Minas Gerais.

These events resulted in severe impacts on local communities, including loss of human lives, as well as damage to the environment and Vale's facilities, and generated significant obligations for the Company, such as compensation to victims' families, remediation of affected areas, socioeconomic compensation, and the funding of long term environmental and social programs.

The Company enhanced its safety standards, including the adoption of the Global Industry Standard on Tailings Management (GISTM), which is mandatory for ICMM members as an industry commitment to mitigating the risks associated with tailings dams. In addition, the Company recognized specific provisions in its financial statements to meet reparation obligations and maintains regular investments in the decharacterization of upstream tailings dams and safety enhancements, with the aim of mitigating these risks.

Connectivity

Vale conducts an integrated assessment of water-related risks, labor practices, business ethics and transparency as cross-cutting elements related to prevention, response, and mitigation within the context of tailings dam failure risk. This approach considers the potential secondary impacts resulting from the materialization of such risk, acknowledging that these topics may be indirectly affected in a dam failure scenario, even though they do not, in themselves, constitute material risks to the Company, given the effectiveness of existing controls, the maturity of the associated management and governance systems, the integration of these aspects into the Global Industry Standard on Tailings Management (GISTM), and ongoing investments in preventive measures.

The topics of health and safety and biodiversity, assessed as material to the Company, are encompassed within the aforementioned approach, taking into account the indirect impacts associated with the crystallization of risk. Among these impacts are the elevation of safety standards, resulting in the strengthening of operational controls and the enhancement of emergency response plans, as well as the enactment of more stringent regulations for dam structures, which, in turn, lead to more rigorous and stringent environmental licensing processes.

b) Mitigation or adaptation efforts

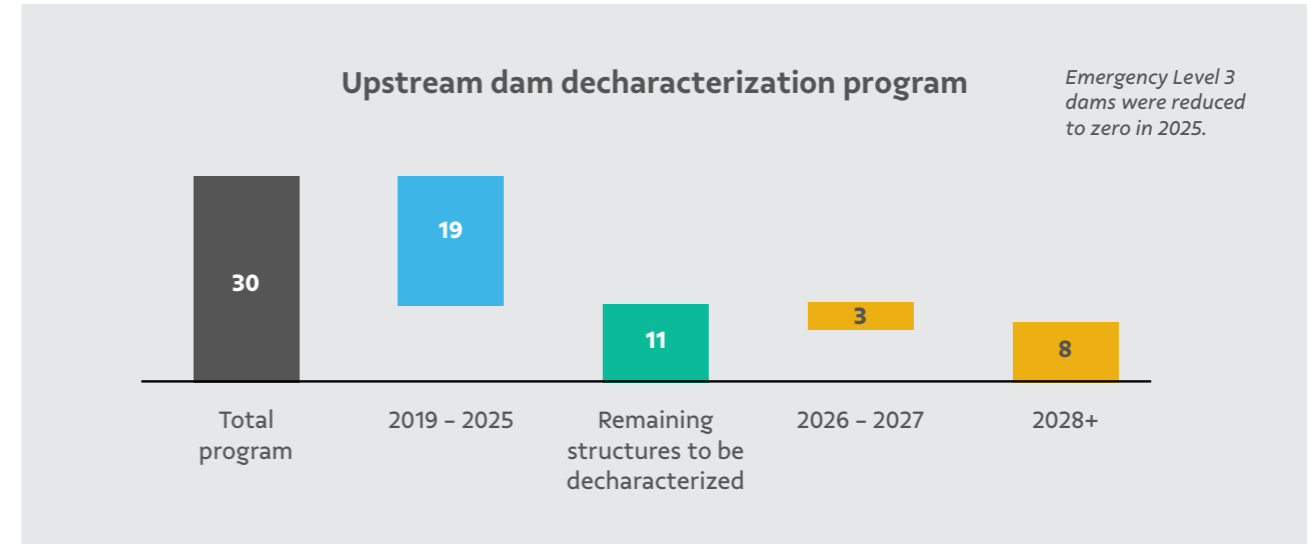
Mitigation. Vale has adopted the (GISTM), launched in 2020 through an initiative of the United Nations Environment Program (“PNUMA”), the Principles for Responsible Investment (“PRI”), and the International Council on Mining and Metals (“ICMM”). Its primary objective is to eliminate harm to people and the environment by establishing a robust global benchmark for the socioenvironmental and technical management of Tailings Storage Facilities (“TSFs”). The standard requires that the safety of these structures be treated as a priority throughout all phases of the life cycle, including planning, design, operation, closure, and post closure. For further details on the EARs, refer to **Annex II**, which presents the inventory of all structures.

The adoption of the GISTM is part of the set of measures aimed at strengthening controls related to tailings storage structures, through requirements covering respect for the rights of affected communities and workers, the environment, governance, engineering, monitoring, and operational performance. The initiative involves the incorporation of internationally recognized leading practices.

The GISTM incorporates specific guidelines focused on the management of climate-related physical risks and associated uncertainties, including the consideration of extreme-event scenarios, precipitation variability, rainfall intensity, and other climate uncertainties that may influence the stability of structures. The standard provides for the continuous assessment of dam resilience in light of emerging climate trends, the regular updating of adaptation strategies, and engagement with affected communities, with the aim of strengthening the Company’s ability to anticipate, respond to, and prepare for increasing risks arising from climate change.

From a social standpoint, the GISTM sets specific requirements aimed at protecting human rights and ensuring meaningful engagement with communities potentially affected by Tailings Storage Facilities (TSFs). The standard requires the conduct of human rights due diligence throughout the entire lifecycle of the facilities, and the implementation of effective grievance mechanisms for receiving and addressing complaints and reports.

Another mitigation initiative is the decharacterization of upstream constructed tailings dams, which increases the level of operational safety and substantially reduces the potential for negative impacts on communities and ecosystems, thereby contributing to the objective of zero harm to people and the environment, with zero tolerance for human fatalities. To achieve this objective, Vale has committed to completing decharacterization works for all upstream constructed tailings dams located in Brazil by 2035.



Adaptation. As part of its management efforts, Vale has been adopting practices that reduce exposure to more vulnerable structures and prioritize safer alternatives.

The Company has progressed in expanding the use of natural moisture processing, which reduces reliance on conventional dams. Since 2024, approximately 81%¹ of Vale’s iron ore production does not depend on the use of dams. At the same time, it continues to invest in the decharacterization and gradual removal of upstream constructed dams, complemented by structural reinforcements, revisions of safety zones, updates to licenses, and the enhancement of geotechnical studies and controls. This shift is not merely corrective but represents an adaptation aiming to operate with lower risk, aligned with industry best practices and strategic decisions in favor of safety.

In this context, the construction of Downstream Containment Structures (“DCSs”) has become an essential component of this strategy, providing a physical barrier that reduces residual risk during decharacterization by retaining tailings in the event of failure. Between 2020 and 2025, Vale implemented DCSs for certain upstream-raised dams undergoing decharacterization, reinforcing operational safety and allowing the works to proceed with greater control, including through the use of remote equipment.

Another essential dimension of this adaptation is the evolution of monitoring, risk management and emergency-response practices, including the Mining Dam Emergency Action Plans (“PAEBM”) (see details in section 11). Vale has consolidated geotechnical monitoring systems, such as radars, automated piezometers, displacement sensors, real-time monitoring centers, and multidisciplinary teams dedicated exclusively to dam safety.

¹ The value assumes processing at natural moisture content and the use of pits and stockpiles.



Photo: Agência Vídeo Delivery

Resilience

In this context, resilience refers to Vale's ability to adapt and continue operating even in the face of unexpected or extreme situations, such as dam failure risks. Resilience is reflected in the combination of mitigation measures such as the implementation of the GISTM and dam decharacterization and adaptation actions, including continuous monitoring, independent audits, and preventive measures. Together, these practices strengthen the Company's risk management and enabling Vale to maintain operational safety and business continuity.

The table below presents the main risk mitigation and adaptation measures related to dam failure implemented by the Company, which together represent Vale's resilience:

Implemented mitigation and adaptation measures

Risk	Potential Impacts	Time Horizon			Resilience
		Short term	Medium term	Long term	
Dam failure, resulting in severe damage, including personal injury, property damage and environmental harm.	A dam failure may cause loss of life and harm to people, property, and the environment, as well as negative social impacts and adverse effects on Vale's business and reputation.				<ol style="list-style-type: none"> 1. Decharacterization of upstream-raised tailings dams; 2. Construction of downstream containment structures (ECJs); 3. Preventive evacuation and emergency plans; 4. Advanced monitoring and independent audits; 5. Implementation of the global GISTM standard; 6. Reduced reliance on tailings dams.

c) Current financial effects

The current financial impacts represent the effects arising from the Brumadinho and Mariana dam failures, as disclosed in Notes 25 and 26 to the Financial Statements, in addition to the obligations associated with tailings-dam decharacterization and decommissioning, as disclosed in Note 14 to the Financial Statements.

The amounts presented in the table below represent the effect on profit or loss for 2025 and 2024 arising primarily from additions to provisions, changes in estimates of future disbursements associated with these obligations, the unwinding of discount, and the recognition of executory costs associated with the obligations. For further information, see the respective notes to the Financial Statements.

	Income Statement	
	Year ended December 31, 2025	Year ended December 31, 2024
Brumadinho dam failure ¹	(596)	(483)
Mariana dam failure ¹	(616)	(956)
De-characterization of upstream geotechnical structures ¹	185	206
Asset retirement obligations ²	(105)	(31)
Monetary and present value adjustments	(678)	(634)
Total	(1,810)	(1,898)

¹ These financial effects impact the Company's adjusted EBITDA.

² Refers to the decommissioning obligation of the Company's other dams, which are not raised using the upstream method and are not subject to mandatory de-characterization.

The amounts presented in the table below represent the disbursements associated with the fulfillment of the obligations arising from these events in the fiscal years 2025 and 2024.

	Cash flows Statement ¹	
	Year ended December 31, 2025	Year ended December 31, 2024
Brumadinho dam failure ²	(874)	(909)
Mariana dam failure ³	(2,298)	(808)
De-characterization of upstream geotechnical structures	(378)	(533)
Asset retirement obligations ⁴	(26)	(31)
Total	(3,576)	(2,281)

¹ Between 2019 and 2025, the Company incurred cash outflows totaling US\$18 billion related to the fulfillment of obligations arising from the Brumadinho and Mariana events, as well as expenditures associated with the dam decharacterization program.

² In addition to the obligations related to the Judicial Agreement for Full Reparation, the Company incurred execution-related expenditures, including, but not limited to: tailings management, communication services, humanitarian assistance, payroll, legal services and water supply, among others.

³ Payments substantially related to the obligations under the Final Agreement for Full Reparation.

⁴ Refers to the decommissioning obligation of the Company's other dams, which are not raised using the upstream method and are not subject to mandatory de-characterization.

The amounts presented in the table below correspond to the present value of the estimated future cash outflows required to settle the obligations arising from these events, as of 31 December 2025 and 2024.

Balance Sheet – Provision		
	Balance as of December 31, 2025	Balance as of December 31, 2024
Brumadinho dam failure ¹	1,911	1,970
Mariana dam failure ²	2,613	3,663
De-characterization of upstream geotechnical structures	2,097	2,213
Asset retirement obligations ³	749	595
Total	7,370	8,441

¹ This provision substantially comprises obligations arising from the Judicial Agreement for Full Reparation, including tailings containment, geotechnical safety, socio-environmental compensation and individual indemnities, as disclosed in Note 25 to the Financial Statements.

² This provision includes the benefit of obligations related to the Judicial Settlement for Full Reparation and the estimated disbursement associated with legal proceedings in the United Kingdom, as disclosed in Note 26 to the Financial Statements.

³ Refers to the decommissioning obligation of the Company's other dams, which are not raised using the upstream method and are not subject to mandatory de-characterization, whose the carrying amount of the fixed assets corresponds to US\$159 as of December 31, 2025 (2024: US\$189).

d) Anticipated financial effects

The projected financial impacts represent the estimated effects arising from the Brumadinho and Mariana dam failures, as well as the obligations associated with tailings-dam decharacterization. For further information, see the respective notes to the Financial Statements.

Income statement ¹			
	Short term	Medium term	Long term
Recognition of the present value adjustment of the dam decharacterization provision	(18)	(287)	(388)
Depreciation and recognition of the present value adjustment of the asset decommissioning provision.	(45)	(238)	(838)
Recognition of the present value adjustment of the Brumadinho provision	(89)	(267)	(18)
Recognition of the present value adjustment of the Mariana provision	(112)	(2,842)	(536)
Total	(264)	(3,634)	(1,780)

¹ For the measurement of the present value adjustment of the provisions for dam decharacterization and decommissioning, Brumadinho and Mariana, annual discount rates in real terms of 7.77%, 7.88%, and 7.66% were considered as of December 31, 2025, respectively.

Statement of cash flows			
	Short term	Medium term	Long term
Cash outflows associated with tailings dam decharacterization	(400)	(1,494)	(896)
Cash outflows associated with asset decommissioning activities	(54)	(385)	(1,157)
Cash outflows associated with the Brumadinho dam failure	(900)	(1,331)	(53)
Cash outflows associated with the Mariana dam failure	(1,194)	(4,306)	(602)
Total	(2,548)	(7,516)	(2,708)

In addition to the effects described above, the Company incurs execution-related expenditures, which affect the income statement, adjusted EBITDA and the statement of cash flows. On December 31, 2025, expenditures associated with the decharacterization and decommissioning of dams at US\$22 (2024: US\$21). Estimates for the medium and long-term horizons are not considered relevant due to the significant uncertainties associated with their measurement.

Additionally, with respect to the reparation commitments related to the Brumadinho dam rupture, for the year ended December 31, 2025, the Company estimated that it will incur execution-related expenditures totaling US\$291 (2024: US\$305) in the short term and US\$967 (2024: US\$1,040) in the medium term. Estimates for the long-term horizon are not considered relevant due to the significant uncertainties associated with their measurement.

As of 31 December 2025, the estimated amount of potential cash outflows related to legal proceedings arising from the materialization of this risk and the likelihood of loss has been classified as possible totaled US\$167 (2024: US\$141). The evolution of these legal proceedings over future reporting periods may result in impacts on the income statement, adjusted EBITDA, and cash flows in the short, medium or long term.

Other potential impacts arising from the materialization of a dam breach include the recognition of substantial liabilities related to social-environmental and socioeconomic reparation, as well as other significant expenses, encompassing remediation, decharacterization of similar structures, fines, and emergency safety investments. In addition, the materialization of this risk may result in asset write-offs and impairment losses. Therefore, the Company concluded that any quantitative estimate would not constitute material information, due to the level of uncertainty and the high degree of complexity involved in measuring the potential effects of new dam failure.



Nova Lima, Vargem Grande complex, dam 8B. Photo: Agência Vídeo Delivery

Critical accounting estimates and judgments

Provision for dam decharacterization – The measurement of costs and the recognition of provisions for dam decharacterization relies on technical estimates prepared with the support of engineering and geology specialists. Key factors considered include the volume of tailings to be removed, the availability of disposal areas, engineering methods and solutions, safety requirements, equipment productivity, as well as advances in geological studies, hydrological information, and updates to the discount rate. Due to these variables, the amounts ultimately incurred may differ from the provisioned amounts, as some assumptions depend on external factors and are subject to change. As a result, the provision may be subject to material adjustments in future periods.

Asset retirement obligations – The definition of the main critical assumptions and estimates applied by the Company in the asset retirement obligations is supported by internal and external engineering and geology advisors and considers, among others: interest rate, cost of closure, useful life of the mining asset considering the current conditions of closure and the projected date of depletion of each mine. Any changes in these assumptions may significantly impact the recorded provision. Therefore, the estimated costs for closure of the mining assets are deemed to be a critical accounting estimate and annually reviewed.

Provisions for social, economic, and environmental remediation – Provisions for social, economic, and environmental remediation are subject to variability arising from estimates and assumptions that may change over time. Key factors influencing these amounts include changes in the costs of inputs and services, revisions to schedules and payment cash flows, adoption of new technologies, updates to the number of individuals eligible for compensation, developments in legal matters, demographic and actuarial assumptions, as well as adjustments to the discount rate. These variables, individually or in combination, may significantly affect the amount of provisions recognized.

R6 Delay or failure to obtain environmental licenses, affecting the outlook for production capacity growth and business profitability

Time horizon



Medium and long term

Concentration of business activities vulnerable to risk in the value chain

This risk affects projects that depend on authorizations, concessions, permits, and licenses issued by governmental regulatory bodies and other authorities in the countries where Vale operates.

Main line items potentially impacted in the Financial Statements

- Sales revenue (Note 3(b) to the Financial Statements)
- Costs of goods sold (Note 4(a) to the Financial Statements)

a) Nature of the risk

Vale's products and businesses, including mine closure activities, are subject to regulations and may be affected by social and cultural regulations, environmental, and health and safety regulations. These regulations require Vale to obtain environmental licenses, permits, concessions, and authorizations for its operations and projects, as well as to carry out environmental and social impact assessments, including risk identification and analysis, in order to secure project approvals and authorization to commence construction and to continue operations.

The Company may also be subject to restrictions in the process of obtaining environmental licenses, related to biodiversity protection including, but not limited to, species conservations (flora and fauna), natural caves, protected areas, which may limit or alter mine plans, affecting production volumes, costs, and mineral reserves and mineral resources.

Obtaining these licenses is essential for the continuity of Vale's operations, including new activities, and constitutes fundamental requirements both for commencing and for maintaining Company's activities. Such licenses are subject to legal, regulatory, and social-environmental conditions, as well as ongoing oversight and inspections by the competent authorities. Difficulties or constraints in obtaining such licenses directly affect the value chain, resulting in construction delays, increased costs, and a reduction in the volume of mineral resources convertible into mineral reserves, which may impact the economic viability of projects and the Company's production volumes.

b) Mitigation or adaptation efforts

Mitigation. Vale adopts as a mitigation measure, investments in production planning by assessing the economic feasibility and market factors of its projects. Another mitigation measure adopted by Vale is the execution of long term biodiversity studies initiated prior to the formal permitting/licensing phase, focused on the early identification of threatened, endemic, or micro endemic species that may represent future constraints. Additionally, conservation strategies are developed, where applicable, with the aim of reducing technical and regulatory uncertainties associated with the licensing of new projects. Based on these results, the Company may revise its production planning.

Adaptation. Within the scope of adaptation, Vale recognizes the relevance of biodiversity and enhances its risk assessment policies and processes by using sensitivity analyses to understand the interface between its operations and projects and nature. This process is guided by the mitigation hierarchy and prioritizes, from the early stages of planning, the identification of alternative locations and project configurations with lower potential impacts on natural ecosystems and environmentally sensitive areas or areas more vulnerable to biodiversity loss, aligned with the "design for permit" concept, which aims to enable the anticipation of impacts, the direction of preventive and mitigation measures, and greater predictability regarding business continuity and viability.



Photo: Isaque Junior

Resilience

It is considered that Vale has the capability to adapt and continue operating even in the face of unexpected changes, environmental challenges, or extreme events. This resilience is reinforced by a combination of preventive, mitigation, and adaptation measures, which support business continuity and the Company's operational safety, even under adverse scenarios.

Vale has biodiversity management guidelines and processes, that are established through an internal normative standard applicable to the planning, implementation, operation, and closure phases, and are based on the mitigation hierarchy, with a focus on managing biodiversity-related risks and impacts, thereby contributing to greater regulatory predictability, operational resilience and business continuity. Operational sites are supported by environmental teams and biodiversity specialists responsible for managing plans, programs, and operational risks, working in coordination with the corporate biodiversity team, which is part of the Sustainability Vice Presidency.

The table below presents the main mitigation and adaptation measures for the risk of delays in and failure to obtain licenses implemented by the Company, which, together, demonstrate Vale's resilience.

Mitigation measures and adaptation implemented

Risk	Potential impacts	Time horizon			Resilience
		Short term	Medium term	Long term	
Delay or failure to obtain environmental licenses, affecting the outlook for production capacity growth and business profitability	Failure to obtain licenses may result in construction delays, increased costs, and a reduction in mineral resources that could otherwise be converted into mineral reserves, affecting Vale's economic viability and production volumes.				<ol style="list-style-type: none"> 1. Management of biodiversity impact risks applicable across the entire project lifecycle, with the establishment of an Impact Mitigation Hierarchy (IMH) that recommends the sequential execution of four key actions—avoid, mitigate, restore and offset—in order to anticipate and manage biodiversity risks and impacts. 2. Audit processes and internal assessments under the Vale Management System (VPS).

c) Current and anticipated financial effects

The delay or failure to obtain environmental licenses for new projects may require adjustments to mine plans and implementation schedules, potentially impacting expected production volumes. This may occur due to increased costs arising from the rescheduling of investments, adjustments to the operational timeline, or the adoption of additional environmental compensation measures, which may compromise the achievement of the production guidance associated with these projects, affecting future revenue generation and leading to a material reduction in the Company's EBITDA in the medium term. If these factors materialize, they may result in lower cash generation and put pressure on the profitability of operations over the affected periods.

The potential financial impacts associated with this risk are linked exclusively related to projects and operations whose start up or expansion is planned in the guidance from 2029 onwards. Therefore, there was no material impact on the 2025 Financial Statements resulting from delays or failure to obtain environmental licenses.

Due to the high level of uncertainty involved in measuring the potential effects of the materialization of this risk, the Company has concluded that no quantitative estimate would not provide relevant information.

For reference, a sensitivity analysis applying a 5% reduction in volumes sold of Iron Ore Solutions and Vale Base Metals products reflected in sales revenue and the respective associated variable costs would have represented a reduction of US\$745 or 4.8% relative to Vale's Adjusted EBITDA for the year ended December 31, 2025, which totaled US\$ 15,458 (see Note 3(a) to the Financial Statements). For the 2024 financial year, the same sensitivity would have represented a reduction of US\$1,234 or 8.3% of the year's adjusted EBITDA.


Judgments and uncertainties

The assessment of the financial effects associated with the risk of delayed or unsuccessful environmental licensing involves significant judgments and estimates that are subject to uncertainty. The Company exercises judgment in evaluating whether this risk may result in financial impacts that require, the revision of investment schedules or the reassessment of the recoverable amount of assets related to projects or operations dependent on environmental licensing.

The estimates involved consider, among other factors, the stage of licensing processes, the likelihood of additional requirements from regulatory authorities, the possibility of litigation and potential delays in the start up of projects. These assumptions affect cash flow projections and capital expenditure timelines.

R7 Conflicts with communities and impacts on human rights may generate financial and reputational losses and loss of the Social License to Operate

Time horizon

 Short, medium and long term

Concentration of business activities vulnerable to risk in the value chain

The risk is concentrated in mining and logistics activities throughout their lifecycle, particularly those located near and/or interacting with local communities, traditional communities or Indigenous Peoples.

Main items potentially impacted in the Financial Statements

- Sales revenue (note 3(b) to the Financial Statements)
- Operating expenses (note 4(c) to the Financial Statements)
- Provision for legal and administrative proceedings (note 27 to the Financial Statements)
- Loans and borrowings (note 21 to the Financial Statements)
- Property, plant and equipment (Note 13 in the Financial Statements)
- Other financial liabilities (note 23(a) to the financial statements)
- Other current liabilities

a) Nature of the risk

Community-conflict risks and human-rights impact risks have a social and territorial nature and are associated with how the Company's activities may generate negative impacts on communities and people throughout the project lifecycle and across the value chain. These risks arise when perceived, potential or actual socio-environmental impacts are not adequately prevented, mitigated, or remedied, particularly in contexts of land disputes and the use of natural resources, failures in grievance handling, lack of consensus regarding assumed commitments, and the occurrence of adverse events that directly affect the local population. In such circumstances, impacts may escalate into social conflicts, community mobilizations, blockages of logistics routes, operational stoppages, restrictions on access to assets and critical infrastructure, litigation, and institutional pressures, with direct effects on the Company's operational performance, commercial partnerships, and reputation.

In this context, the Social License to Operate represents harmonious coexistence between the Company's activities, communities, including Indigenous Peoples and Traditional Communities (IPTCs), and other stakeholders. It is underpinned by the responsible management of social environmental risks and impacts, respect for human rights, and the maintenance of relationships based on trust, dialogue, and transparency. Despite its informal nature, obtaining and maintaining the SLO is a strategic objective pursued by the Company due to its critical importance for the continuity of operations, the execution of projects, and the preservation of long-term value, as its deterioration may result in conflicts, operational disruptions and constraints, as well as material financial and reputational impacts.

Human-rights impact risks materialize when the Company's activities or those of third parties with which it maintains business relationships impact on the full exercise of rights such as decent working conditions¹, freedom, security, livelihoods, access to water, land, housing and income generation, including the specific rights of Indigenous Peoples and Traditional Communities.

An associated consequence of human-rights risk relates to the potential inclusion of the Company in the Register of Employers that have subjected workers to conditions analogous to slavery (the "Dirty List"²), maintained by the Ministry of Labor and Employment, in Brazil. The materialization of this risk—whether involving the Company's own employees or third parties, including practices such as forced labor, child labor or human trafficking—may result in significant reputational and financial consequences, increasing risk perception among creditors and investors.

Additionally, should Vale (not applicable to subcontractors or outsourced parties) employ child labor or labor under conditions analogous to slavery and, following a final court decision, be included on Brazil's "Dirty List" of Slave Labor, holders of certain debt securities issued by the Company may, pursuant to contractual covenants, require immediate repayment of the indebtedness. If this occurs, other creditors will likewise have the right to declare the early maturity (acceleration) of their respective instruments.

¹ For further details, please refer to the [Modern Slavery Report 2024](#).

² It is a Brazilian public transparency mechanism, created in 2003, which discloses the names of individuals and legal entities that have been found to be using labor under conditions analogous to slavery.

Risks of conflicts with communities and impacts on human rights affect and may continue to affect the Company's value chain, especially in territory-intensive activities in which interaction with local communities, Indigenous Peoples and Traditional Communities is decisive for operational continuity. Materialization of this risk may result in delays, restrictions or suspension of licenses and permits, operational stoppages, increased regularization costs and legal contingencies, in addition to reputational impacts that weaken the Social License to Operate.

The materialization of human-rights risks may therefore lead to significant impacts, including delays or restrictions in obtaining environmental and social licenses and commercial partnerships, operational shutdowns, contract terminations, and the early settlement of liabilities.

b) Mitigation efforts

Mitigation. Vale's approach to mitigating the risks of conflicts with communities and human-rights impacts is integrated and structured, combining corporate policies, risk-management processes and continuous territorial engagement. The Company maintains global human rights and sustainability policies that guide its conduct across operations, critical projects and the value chain, serving as the basis for the identification, prevention and treatment of social risks.

As the primary instrument for mitigating risks related to human rights impacts, Vale conducts independent Human Rights Due Diligence (HRDD) across operations, critical projects and suppliers, complemented by routine inspections, risk monitoring and capacity-building for employees and suppliers through training and targeted awareness campaigns. These processes are supported by formal listening and response mechanisms, including accessible community channels and the Whistleblower Channel, enabling timely identification of potential impacts and the adoption of corrective measures.

In engagement with local communities, Indigenous Peoples and Traditional Communities, the mitigation of risks of conflicts with communities is carried through the implementation of controls to ensure community safety, the management of environmental and coexistence impacts, the management of demonstrations/grievances, and ensuring compliance with commitments that involve them, among other measures. This is a structured process and presupposes ongoing dialogue between the Company and the community, as well as the permanent presence of teams and investments in territories where the Company operates. In its engagement with Indigenous Peoples and traditional communities, the Company adopts processes aligned with Free, Prior and Informed Consent (FPIC), in accordance with International Labour Organization ("ILO") Convention 169.



Photo: Elienai Araujo

Resilience

The Company's resilience to risks of conflicts with communities and human rights impacts is underpinned by structured management processes, including predictive analyses, monitoring of indicators (social and territorial), the definition and implementation of controls addressing the drivers of the risks, verification (inspections and audits), and monitoring and of outcomes. It is a process in continuous improvement, carried out in coordination with operational, projects, sustainability, legal, security and other areas. Formal instruments—such as agreements, terms of commitment, community relationship plans and basic environmental plans, help increase the predictability of interactions with communities and allow operational adjustments when necessary, supporting the continuity of operations even under adverse scenarios.

Above are the key mitigation measures implemented by the Company to address the risk of conflicts with communities and human rights violations.

Mitigation measures implemented

Risk	Potential impacts	Time horizon			Resilience
		Short term	Medium term	Long term	
Conflicts with communities and impacts on human rights.	<p>Risk of delays in, failure to obtain, or suspension of licenses; impacts on human rights related matters; and loss of credibility due to reputational issues.</p> <p>Inclusion on the Ministry of Labor and Employment's "Dirty List" for slave-like labor conditions, potentially resulting in the early settlement of liabilities (Increase in costs and contract terminations).</p>				<ol style="list-style-type: none"> 1. International commitments and global policies; 2. Human rights policy and processes, and internal standards for social performance; 3. Human Rights Risk Management in Operations Critical Projects and Suppliers; 4. <i>Independent Human Rights Due Diligence in operations, critical projects and suppliers</i>; 5. Community engagement strategy; community relationship plans; 6. Whistleblower channel and Listening and Response Mechanism; 7. Integrated Community Security Plan (ICSP); 8. Basic Environmental Plan (BEP); 9. Agreements; 10. Voluntary initiatives focused on health, education, and income generation, and the Indigenous Rights Agenda.

c) Current financial effects

The current financial effects of this risk are mainly related to disbursements made to comply with agreements related to conflicts with local and traditional communities and to mitigation initiatives, as well as to the remediation of damages resulting from the materialization of the risk. These agreements may be classified into two categories: (i) provisions, where a present obligation arises from past events and an outflow of resources is probable and can be reliably measured; and (ii) executory agreements, which do not qualify for recognition as provisions and represent contracts under which Vale's obligations arise over time and are recognized in profit or loss as the related costs are incurred.

The disbursements are duly reviewed by the Company's Corporate Integrity area, which guides decision-making and ensures compliance in the use of resources.

Income Statement		
	Year ended December 31, 2025	Year ended December 31, 2024
Research and development (R&D) expenses ¹	(7)	(7)
Expenses associated with judicial agreements ¹	(34)	(20)
Other operating expenses, net ¹	(88)	(89)
Monetary restatement and present value adjustment	(4)	(4)
Total	(133)	(120)

¹These financial effects have an impact on the Company's adjusted EBITDA.

Statement of Cash Flows		
	Year ended December 31, 2025	Year ended December 31, 2024
Investments in Intangible assets and property, plant, and equipment	(18)	(29)
Executory cost expenditures related to the commitments	(95)	(97)
Disbursements associated with provision	(22)	(17)
Total	(135)	(143)

Balance Sheet		
	Balance as of December 31, 2025	Balance as of December 31, 2024
Provision for legal proceedings	2	1
Provision - Agreements	57	36
Total	59	37

d) Anticipated financial effects

Over the coming periods, the continued implementation of agreements, mitigation programs, and human-rights and community-relations management measures is expected to contribute to a gradual reduction in legal provisions and operating costs associated with social conflicts and human-rights impacts. These initiatives tend to reduce the recurrence of litigation, the judicialization of disputes, and the need for higher-magnitude corrective measures.

Conversely, the occurrence of new conflicts with communities, the identification of human-rights impacts in the value chain, or regulatory changes may lead to material variations in these costs and provisions, including higher operating expenses, the need for new agreements, additional investments in mitigation and compensation, as well as potential impacts on financing and contracts.

These effects make human-rights management and community relations central elements of strategic planning, as they can affect multiple links in the value chain and require significant adjustments to project execution, investment schedules and the prioritization of assets and territories. Accordingly, this risk is considered in an integrated manner in the assessment of the feasibility of new projects, expansions, operational maintenance and capital-allocation decisions.

In the business model and in decision-making, risks of community conflict and human-rights impacts influence the need to adapt processes and operational practices, as well as the prioritization of investments in impact mitigation, community engagement, territorial development and the strengthening of human-rights policies and practices. Incorporating these factors seeks to reduce exposure to conflict, avoid operational interruptions and preserve value in the short, medium and long term.

For the year ended December 31, 2025, the Company estimated expenses related to mitigation programs, human rights management measures, and community engagement of approximately US\$144 (2024: US\$78) in the short term and US\$322 (2024: US\$220) in the medium term. The estimated amount of these expenditures over the long-term horizon does not constitute relevant information due to the uncertainties inherent in their measurement.

The estimated disbursement related to legal proceedings associated with this risk assessed as having a possible likelihood of loss totaled US\$ 594 as of December 31, 2025 (2024: US\$ 477), for which the progression of these legal proceedings over the coming financial years may result in impacts on the income statement, adjusted EBITDA and cash flows in the short, medium or long term.

Additionally, In January 2026 (subsequent event), there was a leak of water containing sediments (soil) at the operational units of Fábrica and Viga, located in the municipalities of Ouro Preto, Minas Gerais, and Congonhas, Minas Gerais, respectively. The occurrence of these events constitutes the materialization of Risk **R7** – Community conflicts and human rights impacts, as they may intensify risk perceptions among the affected communities, increasing demands for clarification, remediation, and mitigation, and elevating the risk of social conflicts and of challenges related to human rights.

The Municipality of Congonhas suspended the operating permits for Vale’s activities at the aforementioned units. As a result of these events, the Company is a party to four judicial proceedings. Preliminary injunctions of a predominantly preventive nature were granted, aimed at the provision of information and technical documents, the implementation of emergency containment and mitigation measures, structural and environmental monitoring, and the imposition of operational restrictions in the affected areas. Requests for the freezing of financial assets were denied, without prejudice to the freezing of mining rights in the federal lawsuits. In one of these proceedings, a Commitment Agreement was entered into by and among the Public Prosecutor’s Office of the State of Minas Gerais, the State of Minas Gerais, and the Company, providing for the engagement of an Independent Technical Auditor to monitor compliance with the preliminary obligations, along with a request for the suspension of the proceeding for up to 90 days for the implementation of the agreed measures, without acknowledgment of fault or admission of liability by Vale. The request for suspension of the proceeding was extended to all four actions and is currently pending review. The total amount estimated across the four actions is US\$587, and the likelihood of loss has been classified as possible.

Judgments and uncertainties

The measurement of potential financial effects arising from conflicts with communities and/or possible human rights impacts involves significant judgments, given the socially sensitive nature of the topic and the diversity of territorial and cultural contexts in which the Company operates. The Company exercises judgment in assessing whether such risks may give rise to present obligations that require the recognition of provisions, or potential obligations that must be disclosed as contingent liabilities.

The main estimates consider the likelihood of financial impacts materializing, including additional operating costs, project delays, expenditures associated with mitigation and/or remediation measures, as well as potential indirect effects on future cash flows arising from operational interruptions or restrictions on the development of assets. These assessments involve assumptions related to the evolution of dialogue with communities, the outcome of administrative or judicial proceedings and the institutional and regulatory environment. Among the uncertainties regarding potential financial effects, we note the risk of Vale being excluded from investor or customer lists, reputational impacts resulting from coordinated civil society actions opposing the Company, and increased pressure for social compensations in the mining sector.

Due to uncertainty regarding the timing and magnitude of potential financial disbursements, the Company prioritizes the use of qualitative estimates when reliable measurement is not possible. Changes in circumstances — such as the intensification of social conflicts and/or adverse human rights impacts, or the resolution of disputes — may require revisions to previously adopted estimates, with corresponding effects on the Financial Statements.



Photo: Marcelo Coelho

R8 Operations are exposed to hazards associated with mobile equipment, vehicles, industrial machinery and other critical infrastructure, which may result in potentially severe or fatal accidents

Time horizon

 Short, medium and long term

Concentration of business activities vulnerable to risk in the value chain

The risk is concentrated across Vale's operational activities throughout the value chain, particularly in mining, processing, maintenance and logistics, where exposure is heightened due to interactions among personnel, mobile equipment, vehicles, industrial machinery and critical infrastructure. These risks extend to Vale's employees, contractors and business partners and may also potentially affect nearby communities of the operations.

Main items potentially impacted in the Financial Statements

- Cost of sales and services rendered (Note 4(a) to the Financial Statements)
- Provisions for legal and administrative proceedings (Note 27 to the Financial Statements)

a) Nature of the risk

Vale is exposed to significant risks related to process safety and occupational health and safety, arising from the nature, scale and complexity of its operations. Safety guides decisions, processes and behaviors across the Company and is a core value underpinning the protection of life and the safe continuity of operations.

Operations involve the use of, and interaction with, mobile and industrial equipment, heavy vehicles, systems that handle hazardous energies and substances, and other critical infrastructure. Failures in hazard identification, risk assessment and analysis, or in the effective implementation and maintenance of critical controls prevention and mitigation barriers may give rise to incidents, including fires, explosions, releases, structural failures, collisions and other severe or fatal accidents.

The materialization of these risks may result in significant impacts on people, including serious injuries, fatalities or life altering outcomes, as well as potential environmental, social and human rights impacts associated with such events, in addition to impacts on operational continuity, asset damage, financial losses, legal liabilities and reputational impacts.

In this context, health and safety events involving critical assets and infrastructure may result in material adverse impacts on the Company's operations, financial results, liquidity position, reputation and business continuity. Vale treats such events as high-potential occurrences, requiring prioritized attention, formal investigation and robust corrective actions, with a focus on preventing fatalities and catastrophic incidents. As part of this approach, the Company defines and monitors specific Health and Safety metrics and targets, which are used to anticipate risks, assess the effectiveness of controls and track progress in reducing such events over time.

b) Mitigation or adaptation efforts

Mitigation. Vale's health and safety approach is guided by the principle that life, and people's physical and psychological integrity and safety, are more important than any operational results or material assets, and must therefore be prioritized in all decision-making. The safety strategy prioritizes the prevention of injuries and illnesses, the prevention of fatalities, and the prevention of catastrophic incidents, in line with the Vale Production System ("VPS").

Vale mitigates this risk through the application of an integrated Health and Safety management system, aligned with the VPS, which establishes a logical prevention chain to ensure that risks associated with mobile equipment, vehicles, industrial equipment and critical infrastructure are identified, assessed, prioritized and controlled before and during the execution of activities.

This system includes the systematic application of Task Risk Analysis ("TRA"), Critical Activity Requirements ("CAR")—defined based on technical studies, the historical record of high-potential events and the Bow Tie methodology—and the Safe Work Permit ("SWP"), aiming to ensure an integrated risk assessment and the consistent application of critical controls/barriers.

With respect to process safety, mitigation measures comprise structured hazard identification and risk analysis, Management of Change ("MoC"), Pre Start-up Safety Reviews ("PSSR"), and asset integrity and reliability programs, aiming to ensure that systems and equipment operate within defined operational and safety limits.

Indicators related to the occurrence of incidents, fatalities, near misses and workforce training are used to track trends, identify deviations and support the prioritization of preventive and corrective actions. These indicators support routine management, the early identification of deviations, and the prioritization of corrective and preventive actions, reinforcing commitment to the effectiveness and continuous functioning of critical controls, which constitute a last barrier to preserving life during the execution of activities.

In addition, the Company promotes measures to prevent—and, when necessary, mitigate—employees’ and contractors’ exposure to health risk factors, fostering prevention, health promotion, education, facilitated access to treatment and psychosocial support, with a focus on preserving work capacity, people’s well-being, and strengthening operational safety as a preventive element.

Adaptation. In the context of adaptation, Vale periodically reviews its critical risks, controls and procedures, considering operational, technological, organizational and environmental changes. This approach includes the systematic incorporation of lessons learned from incidents, near misses and lower-severity events, which are used as preventive inputs to avoid the materialization of high-potential events.

External factors that may intensify the risk of serious or fatal accidents are also considered, including adverse environmental conditions and extreme weather events. This is aligned with VPS guidelines and the Company’s corporate risk management and business continuity processes, strengthening Vale’s ability to anticipate and respond.



Photo: Zemakan

Resilience

Resilience is defined as Vale’s ability to anticipate, absorb, respond to and adapt to adverse Health and Safety events, while maintaining the integrity of people, the reliability of assets and the safe continuity of operations.

This capability is underpinned by the Vale Production System (VPS), which integrates requirements for health, occupational safety, process safety, emergency response, crisis management and business continuity. Operating units are supported by specialized technical teams, conduct systematic monitoring of critical controls, and carry out periodic drills and simulation exercises, strengthening operational discipline and risk-informed decision-making.

This model reinforces the Company’s commitment to building a culture of Health and Safety excellence, focused on preventing high-potential events and on the consistent and sustainable reduction of fatalities and life-altering outcomes among employees, contractors, partners and communities, contributing to operational resilience, strengthens corporate strategy, maintaining stakeholder trust and the social license to operate, and supporting long-term sustainable value creation and contributes to long-term sustainable value creation.

The table below presents the key mitigation measures for health and safety risks involving critical assets and infrastructure, contributing to Vale’s resilience.

Implemented mitigation measures

Risk	Potential impacts	Time horizon			Resilience
		Short term	Medium term	Long term	
Operations are subject to hazards associated with mobile equipment, vehicles, industrial equipment and critical infrastructure, with the potential for serious or fatal accidents.	Serious injuries, fatalities or life-altering outcomes involving employees, contractors, partners and communities; operational disruptions; damage to critical assets; financial losses; legal and regulatory liabilities; reputational impacts and impacts on value creation.				<ol style="list-style-type: none"> 1. Integrated Health and Safety management system focused on preventing high-potential events, controlling critical risks and protecting life across the entire value chain. 2. Structured VPS processes, including process safety, critical controls, Management of Change (MoC), emergency response and business continuity, strengthening operational resilience.

c) Current and anticipated financial effects

Despite the occurrence of isolated Health and Safety-related incidents, the Company did not identify any material financial impacts arising from these events in the years ended 31 December 2025 and 2024. However, the Company maintains ongoing investments in initiatives and measures designed to mitigate health and safety risks, thereby reinforcing its commitment to incident prevention and the protection of its employees.

Health and safety risks associated with mobile equipment, vehicles, industrial equipment and critical infrastructure may give rise to financial effects, primarily related to increased operating costs to remedy damage resulting from the materialization of the risk, as well as costs associated with mitigation, prevention, control and response efforts in relation to adverse events.

Should these risks materialize, potential impacts may include temporary operational interruptions, productivity impacts, the need to reinforce or repair assets, additional costs for investigations, immediate corrective actions and containment measures, as well as the recognition of provisions for legal or administrative proceedings or other liabilities, as applicable.

Given the contingent nature of these events and the challenges in isolating their specific financial effects from other operational factors, the Company is unable to estimate the magnitude of the related financial impacts with a reasonable degree of certainty. Accordingly, management determined that providing a quantitative estimate of the current and expected financial effects would not be relevant or decision-useful information.

Judgments and uncertainties

The assessment of Health and Safety risks involves significant Company judgement, particularly in relation to the identification of critical hazards, the classification of event severity and potential, the determination of which controls are considered critical, and the prioritization of preventive and corrective actions across the Company's different operations. These judgements take into account the nature, scale and complexity of the activities performed, as well as the incident history, operating conditions and the human and organizational factors associated with the execution of activities.

There are also inherent uncertainties regarding the occurrence, frequency and severity of Health and Safety events, as such events depend on multiple factors, including human behavior, operating conditions, asset integrity and external variables. Although the Company adopts structured prevention, monitoring and control practices, it is not possible to fully eliminate the risk of serious or fatal accidents.

These judgements and uncertainties are continuously considered in the management of Health and Safety risks and are revisited as new information becomes available, operating conditions change, or learnings derived from incidents and near misses are incorporated into prevention and control practices.




Photo: Nilmar Lage

OP1 Increased demand for high-quality, higher-efficiency products and agglomerates, with the potential to reduce greenhouse gas (GHG) emissions.

Business activities aligned with the opportunity

 Iron Ore Solutions segment

Time horizon

 Short, medium and long term

Main items potentially impacted in the Financial Statements

- Sales revenue (Note 3(b) in the Financial Statements)
- Property, plant and equipment (Note 13 in the Financial Statements)

a) Nature of opportunity

Vale anticipates growth in global steel demand over the next few years, driven by factors such as urbanization and economic expansion in emerging markets. While steel production in China is expected to gradually decline, this reduction will likely be offset by growth in the Middle East, India and Southeast Asia. Thus, demand for iron ore in global trade is projected to remain stable at around 1.7 billion metric tons per year¹.

Regarding the Company's value chain, the increasing adoption of direct reduction steel production processes will require high-grade iron ore. This shift aligns with new technologies that utilize less carbon-intensive energy sources, including green hydrogen in the long term (Scope 3). As a result, the mining and steel supply chain will need to be redesigned, with steel plants relocating to regions that have competitive access to renewable energy.

b) Adaptation to business model

Mega Hubs The Company's Mega Hubs represent a strategic opportunity to meet the growing demand for high-quality, more efficient iron ore products and agglomerates. These industrial centers are designed to offer solutions that enable the production of iron and steel with lower carbon intensity, promoting the use of raw materials with a higher iron content and lower levels of impurities, which result in lower GHG emissions in the steelmaking process. By integrating the production chain in regions with access to sustainable energy and optimized logistics infrastructure, Mega Hubs will enable the production of intermediate products such as Hot Briquetted Iron ("HBI" or Ferro Esponja, in Portuguese), leading to greater energy efficiency and contributing to the reduction of emissions in steelmaking processes. Accordingly, this initiative has the potential to position the Company as a strategic partner in its clients' transition to production models with a lower climate impact, capturing the opportunities associated with growing demand for more sustainable solutions in the global steel industry.

In addition, the Company is committed to offering integrated and competitive solutions, in line with the sector's transformations, and a high-quality portfolio, including agglomerates compatible with the energy transition, such as briquettes, presented in the topic about business model adaptation efforts as **R1** risks mitigation.

The Company has been entering into agreements and partnerships for the development of Mega Hubs, where iron ore concentration plants will be built. Planned for locations such as Oman, the United Arab Emirates, Saudi Arabia, the United States, and Brazil, these industrial hubs are expected to contribute to the decarbonization of global supply chains.

¹ Office of the Chief Economist, Australian Government, Resources and Energy Quarterly.

Mega Hubs

The steel industry's transition requires the reconfiguration of its business model, promoting integration between various agents in the production chain and the use of cleaner and more competitive energy sources. The Mega Hubs model stands out for aligning industrial production with a low-emission strategy, fostering greater cooperation between companies, sectors, investors and countries. Notably:

(i) an agreement with Jinnan Iron & Steel Group ("Jinnan Group") to build an iron ore concentration plant in Sohar, Oman. Construction works are underway, with operations expected to commence in mid-2027;

(ii) execution of a land reservation agreement in Duqm/Oman granting Vale the right to develop the Mega Hubs on a 678 hectare site in the Port of Duqm area; and

(iii) industrial demonstration plant for direct-reduction briquettes with a capacity of up to 1.5 Mtpa in Louisiana, along the Mississippi River, with a US\$282.9 incentive from the U.S. government under the new-technologies program and the Mega Hubs strategy, which contribute to emission reduction and improved industry performance.

(iv) partnership with Green Energy Park, an initiative aimed at deploying a ("DRI")/HBI production plant together with a hydrogen production unit in northern Brazil. The initiative combines high grade iron ore and electricity sourced predominantly from renewable energy, enabling the use of green hydrogen as a reducing agent in the industrial process.

Circularity in mining – Waste to Value Program

The Company seeks to incorporate emerging opportunities aligned with the circular economy, with emphasis on Vale's Circular Mining Program, known as the Waste to Value Program, which promotes the reuse of waste from the iron ore production process (overburden and tailings) and the more efficient use of mineral resources. For further details on the opportunity and its objectives, please refer to the relevant section **OP3**

c) Current and anticipated financial effects

The briquettes initiative, which is the Company's strategic response to adapt its business model to this opportunity, is in the research and development phase. Consequently, there was no material impact on revenue in the 2025 financial year.

Due to the maturity level of the briquettes initiative and the resulting uncertainties associated with the materialization of its financial impacts in future periods, Vale concluded that any quantitative estimate would not be relevant information.

Because they are less carbon-intensive products, briquettes can capture a higher premium value. As a reference, a US\$1 increase per ton in the premium received for Iron Ore Solutions products would have represented an increase of US\$251 or 1.8% in relation to the adjusted EBITDA of that segment in the financial year ended December 31, 2025, which totaled US\$13,803 (see Note 3(a) in the Financial Statements). Compared with the 2024 financial year, the same US\$1 per ton change would have resulted in an estimated increase of US\$239, equivalent to 1.6% of the adjusted EBITDA of the relevant segment.

The current and anticipated financial effects regarding expenses associated with the development of this opportunity are described in the **R1** section.

Significant judgments and uncertainties

The following assumptions were used to quantify the anticipated financial effects of carbon taxes on the cash flows forecast in the Company's strategic plan:

Carbon premium trend in Strategic Planning

Iron ore supply and demand are expected to be significantly influenced by measures to reduce carbon emissions and the transition to more sustainable practices. Given global efforts by countries and industries to reduce carbon emissions, the trend is for the steel industry to gradually adapt to this new situation. With regard to base metals, the Company foresees an increase in demand for critical metals, such as nickel and copper, driven by growing production of electric vehicles, battery storage systems and other technologies. The Company expects steel production to partially shift from blast furnaces to less carbon-intensive methods, such as electric arc furnaces and direct reduction processes. These methods will require high-grade iron ore with iron content of 67% or more and pellets suitable for direct reduction, particularly in Europe, the Middle East and North Africa, and North America.


Even countries that rely heavily on blast furnaces, such as China, or those expanding steel production using this traditional model, such as India and Southeast Asian nations, are likely to adopt measures to reduce carbon emissions intensity in pig iron production. This can be achieved by increasing the use of iron ore pellets, which are more efficient and generate lower emissions compared to sintered ore. Furthermore, these countries are expected to use iron ore fines with higher iron content, contributing to a more efficient and cleaner production process. By implementing these measures, they can enhance the sustainability of their steelmaking operations while meeting high production demand.

On the supply side, mining companies will need to invest heavily in sustainable mining practices and technologies to comply with environmental regulations and meet clients' expectations. Vale is closely monitoring these transformations, adjusting its product portfolio and forming strategic partnerships with customers to co-develop solutions. These initiatives aim to maximize operational efficiency and position the Company in line with the sector's global sustainability goals.


Despite the iron ore supply-demand trends presented, geopolitical dynamics and regional conflicts affecting global commodity trade—and the supply-demand balance—may create significant uncertainties in the short and medium term, with inevitable implications for the long term depending on the severity and magnitude of these factors.

OP2 Growing demand for nickel, copper, and other base metals

Business activities aligned with the opportunity

 Exposure of Vale Base Metals segment

Time horizon

 Short, medium and long term

Main items potentially impacted in the Financial Statements

- Sales revenue (note 3(b) of the Financial Statements)
- Cost of goods sold and services (note 4(a) of the Financial Statements)
- Property, plant and equipment (note 13 of the Financial Statements)

a) Nature of opportunity

The energy transition will require a global increase in the deployment of low-carbon technologies, driving growing demand for critical metals and minerals.

According to the IEA, demand for copper from energy technologies is projected to rise from 29% of total copper demand in 2024 to 35% by 2030. Over the same period, nickel demand from energy technologies is expected to increase from 17% to 31% of total demand. In response to this growing demand for base metals, Vale is seeking to position itself strategically, consolidating its assets to enable long term partnerships and investments, deliver a robust pipeline of nickel and copper projects, and unlock the value potential of this segment for the energy transition.

It is important to note that the realization of this opportunity occurs in a context in which the Company adopts price risk management strategies, including hedging instruments for fixed price nickel and copper sales, as disclosed in note 20 to the Financial Statements. These strategies contribute to greater predictability of cash flows, while also potentially influencing the capture of gains associated with favorable short term price movements for these metals.

b) Adaptation to business model

New Carajás Program: In February 2025, Vale announced the New Carajás Program in the state of Pará, Brazil, which is focused on maintaining and increasing iron ore volumes and raising copper production. The initiative provides for investments of approximately US\$13 billion over five years (2025 –2030), in line with Vale’s guidance, in the Carajás region. The program will expand mining in Carajás by means of existing mines, expansions, and new targets, thereby boosting the production of high-grade iron ore, which is critical to green steel production (high-quality iron ore).

The Bacaba project, part of the New Carajás Program, obtained its installation license to begin construction. The objective is to extend the life of the Sossego Mining Complex and produce an average of approximately 50 ktpa of copper over eight years, with start-up expected in the first half of 2028.

Iron ore production in Carajás is expected to reach approximately 190 million metric tons per year by 2030, with an increase to the region’s copper output.

Strategic partnership in Vale Base Metals business: In April 2024, the Company finalized a transaction with Manara Minerals for the sale of a 10% stake in Vale Base Metals for US\$2,455. As a result of the transaction, Vale’s equity interest was diluted to 90%, while it retained control of VBM.

¹ Source: IEA Global Critical Minerals Outlook 2025.

This strategic partnership, first announced in July 2023, will accelerate the generation of value from the first-class assets and projects that VBM has in its portfolio, enabling it to support the global energy transition at a faster pace and on a larger scale in the main jurisdictions where it operates. It is estimated that, over the next 10 years, VBM invests in new projects in Brazil and Canada.

c) Current and anticipated financial effects

Average realized copper prices increased by 10.8% in 2025 compared to 2024. This movement resulted in an increase of US\$577 in sales revenue for the current year compared to the previous year.

Due to the complexity and level of uncertainty involved in determining the proportion of future periods results of the Vale Base Metals segment specifically attributable to this opportunity, the Company has concluded that any quantitative estimate of anticipated financial effects would not constitute relevant information.

In addition, the Company conducted a sensitivity analysis of this opportunity as part of its estimation of the recoverable amount of assets, as described in section **10 – Building resilience through climate change scenario analysis**.

Significant judgments and uncertainties


The assumptions used depend, among other factors, on the future trajectories for the adoption of low carbon technologies, the evolution of climate and industrial policies in relevant markets, global supply and demand dynamics, and commodity price volatility. In addition, the economic impacts of the opportunity are subject to uncertainties related to project execution, capital availability, permitting, development timelines, and the operational performance of the assets. The Company's price risk management strategies, including the use of hedging instruments, introduce additional judgments, as they mitigate short term cash flow volatility but may limit exposure to favorable price movements.




Salobo Plant. Photo: Ricardo Teles

OP3 Reuse of waste rock and tailings to generate value, with a focus on circular mining and reducing environmental impacts.

Business activities aligned with the opportunity

 Iron Ore Solutions segment

Time horizon

 Short, medium and long term

Main items potentially impacted in the Financial Statements

- Sales revenue (Note 3(b) to the Financial Statements)
- Cost of Goods Sold and Services Rendered (note 4(a) to the Financial Statements)
- Research and Development expenses

a) Nature of the opportunity

The Company has been incorporating emerging opportunities into its operations as part of its long-term strategy, in alignment with circular economic principles. Vale's Circular Mining Program, called Waste to Value, aims to generate value through the reuse and reprocessing of waste rock and tailings, with a focus on optimizing the use of mineral residues, mitigating environmental impacts, and sharing value with communities.

The Waste to Value initiative is tied to Vale's strategy to structurally reduce costs related to managing tailings and waste-rock inventories, while identifying economic potential in reusing these materials. The core focus of the opportunity is to transform inputs formerly treated as operational liabilities into productive feedstock, as well as to reduce operating and maintenance costs. This approach makes reuse economically viable while contributing to greater operational efficiency and the circular economy.

The positive economic impact stems from the operational efficiency generated by the combination of reduced operating costs associated with tailings and waste management, enabling the development of new production volumes at lower costs. As a significant portion of the mining and processing stages has already been carried out, the ore from these sources has a lower production cost, allowing for the reduction of expenses related to the handling, disposal, and maintenance of these accumulated materials.

Circularity serves as an operational efficiency lever by enabling the use of already processed materials in the production process, with positive effects on the cost structure and operating margin. This integration strengthens business resilience and expands the Company's capacity to capture recurring economic benefits from more efficient operating practices. The program drives adjustments to production and logistics flows, promoting greater integration between operating stages and contributing to the optimization of mineral resource use. Scaling these practices supports operational predictability and cost reduction throughout the production cycle, in addition to encouraging technology partnerships and the development of complementary circular-economy solutions.

Additionally, this opportunity is aligned with the Company's Mining of the Future agenda, under the pillar "Zero waste rock, tailings and carbon." Mining of the Future also encompasses Smart Operations, Minimally Invasive Mines, Shared Value, and the Workforce of the Future, reinforcing the integration of sustainability into the business model.

b) Adaptation in the business model

Vale's efforts involve incorporating circular economy practices, reusing waste rock and tailings to increase operational efficiency and reduce environmental impacts.

In addition, the expansion of partnerships and investments in innovation and technology—which may culminate in the generation of co products—directly contributes to mitigating climate risks by promoting carbon emissions reductions and optimizing the use of natural resources.

As part of this effort, Vale has established partnerships with universities, research centers, and a range of stakeholders, directing efforts toward the circular economy applied to mining. Based on initiatives with demonstrated technical and economic feasibility, the Company has advanced the implementation of innovative projects, such as sustainable sand production and the Blocks and Paving Plant, reinforcing opportunities for value creation, operational efficiency and the development of new markets.

The program encompasses approximately 150 initiatives related to waste rock and tailings, which together support the ambition of achieving, by 2030, 10% of iron ore production from circular sources, as detailed in section **11 – Metrics and targets**. Among the various ongoing initiatives are the reuse of tailings from the Vargem Grande Dam and material from the waste rock pile at the Serrinha Mine, as well as projects in progress, such as the utilization of material deposited in the Sul Superior Dam at the Gongo Soco mine. Presented below are two initiatives that are particularly relevant to the program:



View of the Capanema Mine. Photo: Nayara Leite

Reuse of the “WH” waste-rock pile in Capanema production

Operation: Capanema Mine
Location: Mariana Complex

In 2025, Vale inaugurated the Capanema mine in Ouro Preto, Minas Gerais (MG), marking the beginning of a new phase in mining in the state, with investments totaling US\$12 billion through 2030. These funds will be allocated to promote safer, more innovative, and more sustainable production processes, prioritizing the reduction in the use of dams, lower carbon emissions, and the expansion of circular mining, supported by new technologies across the Company’s five operational complexes in Minas Gerais. Most of the investments will be directed to solutions that expand tailings filtration and dry stacking, with the objective of reducing the use of dams in the Company’s operations in the state from 30% to 20%. Capanema will operate at natural moisture, without using water in

ore processing and without generating tailings, thereby eliminating the need for a tailings dam. This process also known as dry processing or natural moisture processing, already accounts for more than 65% of the Company’s total iron ore production in Brazil.

It is estimated that the Capanema mine will add approximately 14 million tonnes per annum (Mtpa) to Vale’s iron ore production, supporting the achievement of the 2026 guidance of 335–345 Mtpa. The new model also includes five autonomous off highway trucks and circularity solutions, leveraging iron ore placed in waste rock stockpiles, thereby intensifying circular mining practices.

Approximately US\$ 900 was invested in reactivating the unit which had been idle for 22 years including the modernization of facilities and integration with other mines in the region to optimize processes and reduce environmental impacts. The works lasted five years,

involved around 40 companies and more than 6,000 workers at peak, with a priority given to local labor. The operation employs 800 people.

Capanema exemplifies a new phase of mining in Minas Gerais and reinforces Vale’s commitment to a more responsible production process, with technology and innovation applied to the optimal use of mineral resources and to decarbonization initiatives.

Tailings reprocessing

Operation: Gelado
Location: Carajás, Pará

The Gelado Project was revised¹ in 2025 and contemplates the production of more than 40 million tonnes of pellet feed² and sinter feed with 63% iron grade by 2038, through the reuse of tailings stored in dams.

The production process comprises two main routes: (i) material recovery through electric dredging, directed to Concentration Plant 5 and processed through screening, pumping, magnetic separation and filtration, resulting in the production of pellet feed; and (ii) mechanized mining, directed to Plant 4, processed at natural moisture, achieving mass recovery close to 100% and resulting in the production of sinter feed.

The pellet feed previously routed to Vale’s pelletizing plant in São Luís (MA), which is currently idled, will be incorporated into the sinter feed stream. As of December 31, 2025, the carrying amount of property, plant and equipment associated with the project totaled US\$353 (2024: US\$308).

The project incorporates the use of electric equipment, such as dredges and pumps, with power supply backed by Renewable Energy Certificates, complemented, to a lesser extent by mechanized mining operations.

¹ Regarding the projection disclosed in the 2024 Sustainability-Related Financial Information Report (80 million tonnes by 2035), the estimate has been revised to reflect updates to resource and reserve assumptions, as well as operational adjustments to the project. Consequently, both the estimated volumes and the production horizon have been revised.

² Finer iron ore obtained after the flotation process for use in steelmaking.

c) Current financial effects

In 2025, Vale produced 26.3 million tonnes of iron ore from the reuse of waste rock and tailings, which represented around 8% of total annual production. For the year ended December 31, 2024, production was 12.7 million tonnes of iron ore, corresponding to approximately 4% of total production for the same period.

The Waste to Value program is designed to reduce the impact of Vale's operations by enhancing the utilization of natural resources, either through the reintegration of waste into the production cycle or its use as feedstock for co-products. Notwithstanding the inherent trade-offs between increased iron ore production and higher greenhouse gas emissions, the program's key objectives include expanding production from existing stockpiles and Dams, reducing tailings generation in mineral processing, and developing co-products such as sand and construction materials. Beyond strategic benefits, these initiatives support sustainability outcomes, including circular economy gains, reductions in greenhouse gas emissions across the value chain, mitigation of environmental liabilities and improved efficiency in the use of mineral resources.

Measuring the direct and indirect contribution of this program to the Company's results involves a high degree of complexity, particularly due to the sensitive assumptions underlying the assessment of indirect gains arising from the conversion of waste management costs into value generation through the creation of new products, as well as limitations associated with tracking the final destination of the products generated, which may be used either as part of blending processes or for direct sales. Therefore, given the level of uncertainty involved, Vale has concluded that any quantitative estimate of the current financial impacts does not constitute relevant information.

The integration of the Waste to Value program into Vale's strategy strengthens the efficiency of the business model and financial sustainability by incorporating the reuse of waste rock and tailings as productive inputs in operations. This approach contributes to operational gains by reducing costs associated with handling, disposal and stockpile maintenance, while also enabling the development and scalability of circular-economy-based operating solutions.

d) Anticipated financial effects

In 2025, 26.3 million tonnes of iron ore were produced from circular sources, and there is potential for the Company to reach 10% of total production from these sources by 2030. In line with this ambition, the Company estimates a significant benefit by reducing (eliminating) 117 thousand tonnes of CO₂e in 2030. Thus, in addition to diversifying the product portfolio and supporting delivery of the production plan, execution of this strategy also minimizes the environmental impacts of operations.

Over the coming periods, the continuation and expansion of the Waste to Value program are expected to continue generating financial effects associated with lower operating costs and the production of additional volumes, as the reuse of waste rock and tailings is scaled across the Company's operations.

Waste to Value influences the prioritization of investments in innovation, technology and infrastructure, guiding capital allocation toward initiatives that enhance operational efficiency and economic value capture. The program also supports the definition of specific targets and metrics to monitor the performance of circular initiatives, ensuring alignment between strategy, business model and operating decisions over the short, medium, and long term.

Judgments and uncertainties

The assessment of the opportunity related to the reuse of waste rock and tailings involves judgments regarding economic feasibility and the potential to generate future financial benefits. The Company exercises judgment in determining whether certain investments associated with circular-economy initiatives meet the criteria for capitalization, as well as in estimating the expected economic return of these projects.

The estimates consider factors such as technological maturity, production scale, market demand for the resulting products, future prices, operating costs, additional investments required, and the economic useful life of the assets involved. These assumptions directly influence the cash-flow projections used in the economic feasibility assessment and, where applicable, in asset recoverability (impairment) tests.

Given the dependence on market conditions, technological advances, and regulatory milestones, there is uncertainty regarding the timing and magnitude of the financial benefits that may ultimately be realized. Changes in these assumptions may result in revisions to financial projections, affecting the carrying amount of related assets and the recognition of future results.



Photo: Arquivo Vale



Photo: Marcus Desimoni

10 Building Resilience through Climate-related scenario analysis

This section presents Vale's ability to adapt to changes, developments, or uncertainties related to climate. Climate scenario analysis is required to assess the Company's resilience regarding climate-related risks and opportunities; see **Section 9 – Sustainability-related risks and opportunities.**

For resilience analysis purposes, the Company adopted the Technological Transformation and Fractured World scenarios, which differ from its Base Case (Slow and Constrained) and aim to reflect varying levels of ambition related to the global effort to limit the increase in average global temperature through the reduction of greenhouse gas (GHG) emissions. It is important to note that Vale considers its Base Case (Slow and Constrained) as the most likely scenario, while the other scenarios are used for resilience or sensitivity analysis purposes.

10. Building resilience through the analysis of climate change-related scenarios

The Company uses scenarios to identify, classify and quantify physical risks related to climate change, as well as transition risks and opportunities that may potentially impact its operations, production, portfolio, and value chain.

Climate scenarios are selected based on the international recognition of their models by the scientific community, as they are developed using robust research and projections. These scenarios provide a reliable technical reference for assessing future climate conditions and potential economic effects. Consideration is also given to the scope of potential climate impacts that enables an assessment of the Company's resilience, as well as to the geographic coverage required

to tailor the analysis to specific contexts and address stakeholder expectations and concerns, demonstrating the Company's commitment to transparency and risk management.

To assess the resilience of its operations, strategy, and business model, the Company focuses on identifying and evaluating medium- and long-term risks and opportunities. Short-term assessments are aligned with the annual planning process, based on market analysis, financial performance, and projected operating costs.

Climate Scenarios

The climate scenarios adopted by the Company for transition risk analysis are:

SLOW & CONSTRAINED

In our **Base Case**, the global economy continues to be driven by the dual forces of economic growth and inflation.

Following current tendencies, there is an increase in protectionism and vacuum of global climate leadership.

The Climate Transition is delayed – with less investments, harming growth – and temperatures rise to 1.8°C until 2050.

TECH TRANSFORMATION

The Energy Transition is one of the main drivers of global economic growth.

Greater incentives for the adoption of technology and innovations generate high productivity gains.

With high economic growth, cooperation and global integration, the world manages to limit global warming to 1.6°C by 2050.

FRACTURED WORLD

Deglobalization and high tensions hinder growth and integration for global policies.

Trade barriers, tariff policies and increased uncertainties sustain a high inflation.

Without cooperation, there are no incentives to decarbonization, and the world remains dependent on fossil fuels.

Scenarios	Assumptions				Impacts				
	Geopolitical Tensions	Demographics	Technology	Carbon Prices	Inflation vs 2%	Temp °C em 2050	Temp °C em 2100	Finance Int. Rates(%) ²	Activity Global GDP (% CAGR)
Slow & Constrained (Caso Base)	Medium	-1.1%	Medium	Medium	+ 0.7 ppt	1.8	2.2	3.1%	2.1%
Technological Transformation	Low	0.0%	High	High	+ 0.1 ppt	1.6	1.5	3.4%	3.1%
Fractured World	High	-2.0%	Very low	Very low	+ 1.7 ppt	2.2	3.9	3.5%	1.3%

¹ Change in labor supply in advanced economies between 2025 and 2050.
² Federal Reserve policy rate in 2050.
 Source: Oxford Economics.

Based on scenarios developed by the Intergovernmental Panel on Climate Change ("IPCC"), the International Energy Agency (IEA), and the consulting firm Oxford Economics, the climate scenarios adopted by the Company incorporate global temperature increase pathways and medium- and long term energy projections. These references combine macroeconomic and sectoral analyses produced by Oxford Economics that consider energy demand and supply by sector, technological development, economic growth sections, and assessments of public and environmental policies. The integration of these inputs enables the construction of detailed scenarios by sector and region. These scenarios support decision making by providing emissions pathways, required investment levels, technology deployment forecasts, and implications for energy security. With respect to climate policies, each scenario seeks to reflect different levels of ambition regarding global efforts to limit the increase in average

global temperature through the reduction of greenhouse gas (GHG) emissions. For these reasons, the Company considered the inclusion of these scenarios in its annual strategic and financial planning cycles to be relevant, also contributing to the monitoring of trends that may affect the direction of its strategy and base case assumptions.

The Base Case scenario, referred to as Slow & Constrained, serves as the starting point for the development of Vale's business strategy and relates to medium- and long term projections for the global economy and sectors relevant to the Company, as well as market analyses of demand, supply, and pricing. The Slow & Constrained scenario and its macroeconomic assumptions are reviewed annually and include updates on implemented and planned climate policies, as well as regional carbon pricing curves and legal requirements related to GHG emissions.

The economic scenarios adopted by the Company in its strategic cycle are correlated with global net emissions trajectories, enabling the assessment of climate impacts while also considering asset locations, site categories, and climate modeling based on the IPCC SSP1 2.6, SSP2 4.5, and SSP5 8.5¹ reference scenarios.

The data used were sourced from the Climate Model Intercomparison Project (CMIP), which is recognized as the best available technology for analyzing the effects of climate change, given its broad acceptance in the market.

In the 2024 fiscal year, Vale's current operating units were assessed for vulnerability of assets exposed to physical risks, establishing the basis for the development and

implementation of climate adaptation plans. In the 2025 fiscal year, additional analyses were conducted for specific operations to complement prior studies.

Scenarios characterized by higher levels of fossil fuel adoption generally indicate an increase in the intensity and/or frequency of extreme weather events and more significant changes in climate patterns, thereby increasing risk across the Company's value chain.

Scenario analysis	
Macroeconomic trends	The scenarios are primarily based on four macro-trends: (i) economic and population growth (ii) technological development (iii) global temperature increase; and (iv) geopolitical tensions.
Assumptions	Technological Transformation (SSP1-1.9), Slow and Constrained (SSP1-2.6), and Fractured World (SSP5-8.5) scenarios, using data from versions 5 and 6 of the Climate Model Intercomparison Project, along with macroeconomic assumptions that include population and economic growth projections, carbon prices, fossil fuel prices, subsidies, and techno economic assumptions. Additionally, an SSP2-4.5 scenario is applied for the analysis of physical risks.
Time horizon	Short, medium, and long term.
Scenario analysis exercise	The scenario analysis took place during 2024 and 2025.
Scope of analysis	The analysis was conducted at the level of the Iron Ore Solutions and Vale Base Metals businesses. For physical risks, the assessment considered operational-level exposures across underground and open-pit mines, rail loading terminals, port terminals, mineral processing plants, power generation assets, and rail concessions.

¹ The SSP1 2.6, SSP2 4.5, and SSP5 8.5 scenarios are socioeconomic, and emissions pathways used by the IPCC to assess potential future climate conditions. SSP1 2.6 represents a low emissions pathway, with estimated warming of approximately 1.8°C by 2081–2100; SSP2 4.5 represents an intermediate scenario, with warming of around 2.7°C; and SSP5 8.5 represents a very high emissions pathway, with estimated warming of approximately 4.4°C.

Connectivity with the Financial Statements

Physical Risks: Impacts on the Company's Critical Accounting Estimates

In the 2025 and 2024 financial year, the Company recognized impairment losses on certain nickel assets, which are not direct effects of climate-related physical risks. Further details, including the respective triggers and amounts, are presented in Note 12(a) in the Financial Statements.

The potential financial impacts arising from physical risks associated with climate change were considered in the assessment of the Company's critical accounting estimates, including in the measurement of the recoverable value of assets, where Vale assessed scenarios including potential operational disruptions

caused by an increase in the frequency and/or severity of extreme (acute) and chronic weather events. However the complexity of physical risk modeling, the continuous evolution of the assessment process and the possible identification of additional risks may result in material impacts on the Company's results and on the accounting balances of assets and liabilities in future periods.

Significant judgments and uncertainties

There are uncertainties in climate projections, both in the short and long term, mainly due to:

(i) Future GHG emissions: Vale uses multiple reasonably possible emissions scenarios and climate models that provide a range of projections.

(ii) Climate model inaccuracies: no climate model can perfectly represent the climate. The analyses used seek to reduce uncertainties through bias adjustments, statistical

treatments when combining projections from different climate models, and summarizing exposure across different time horizons.

(iii) Surrounding conditions: the impact on Vale's operations of various climatic threats, such as landslides, floods, wildfires and wind, is affected by land use outside the boundaries of the Company's sites. For the current analysis, current conditions were considered.

The difference between the scenarios lies in the frequency of climate events. However, the Company's integrated operating model contributes to provide adaptive capacity for managing operational disruptions and resilience enough to withstand an increase in the frequency of climate events through higher investments in adaptation costs.

Resilience analysis in relation to transition risks and opportunities

The table below summarizes the impacts on the Company's strategy and business model in the event of the materialization of the Technological Transformation and Fractured World, compared to the Base Case (Slow and Constrained).

Scenario – Fractured World

This scenario reflects a contraction in economic activity, with a weakening of globalization and multilateralism, reduced investment levels, and lower trade activity. As a consequence, demand for iron ore and certain critical minerals would decline, with a significant impact on prices, revenues, and EBITDA.

The partial and uneven implementation of climate policies may generate competitive distortions across regions **R1**, resulting in trade barriers for markets with more stringent policies. Over the medium and long term, this effect could be partially offset by lower production costs in regions where the Company operates.

Potential implications of this scenario for sector specific climate policies would result in a lower impact on the costs of carbon intensive inputs **R1**, due to less restrictive mechanisms and lower carbon prices. Despite a more gradual and slower transition, the implementation of the IMO Net Zero Framework would introduce additional pressures on international shipping **R2**.

This scenario reflects a reduced sense of global urgency with respect to GHG emissions mitigation, limiting opportunities related to the energy transition **OP2 OP2** and reducing direct regulatory pressure to meet voluntary targets. As a result, expectations across markets and stakeholders could diverge, partially undermining the Company's credibility among certain groups **R3**.

Vale estimates that, depending on the pace at which its strategy adapts, the materialization of this scenario could reduce EBITDA by up to 10% in the short term and up to 15% in the medium term.

Scenario – Technological Transformation

This scenario reflects global efforts to limit the increase in global temperature to 1.5 degrees Celsius by the end of the century, supported by incentives for innovation and technological development. This context tends to increase commodity prices and strengthen the Company's product portfolio, with positive effects on revenue and EBITDA.

The intensification of global climate policies, such as more aggressive carbon pricing and stricter regulatory requirements, could accelerate the obsolescence of carbon intensive assets. This could pressure the Company **R1** to bring forward decarbonization investments and to review its product and operations portfolio in order to maintain market access **OP2**.

More stringent sector specific climate policies arising from this scenario could materially increase Vale's freight costs due to higher carbon prices, leading to a reassessment of logistics routes **R2**. However, the Base Case already envisages the adaptation of the Company's business model, which may mitigate these impacts through initiatives such as the Mega Hubs **OP2**.

Direct regulatory pressure to meet voluntary targets would intensify, along with increased scrutiny of mitigation measures adopted for the reduction, offsetting, and neutralization of GHG emissions, including heightened requirements for transparency and traceability. Failure to achieve voluntary targets could result in significant reputational and financial penalties for Vale **R3**.

The materialization of this scenario would result in higher investments in GHG emissions mitigation **R1 R2**. Conversely, opportunities related to the energy transition would be enhanced **OP2 OP2**.

Vale estimates that the materialization of this scenario could increase EBITDA by up to 5% in the short term and up to 10% in the medium term.

Connectivity with the Financial Statements

Sensitivity analysis for transition risks on the estimate of the recoverable amount of assets

The potential financial impacts of climate change and the transition to a low-carbon economy were considered in the assessment of the Company's critical accounting estimates, including impairment indicators, such as potential reductions in demand for commodities resulting from changes in policies, the regulatory environment (including carbon-pricing mechanisms), and legal, technological, market or reputational developments. Therefore, the scenarios used in this sensitivity analysis are not considered by the Company as the best estimates for determining the expected impacts of impairment losses.

In 2025, the Company recognized impairment losses totaling US\$3,578 in certain nickel cash-generating units ("CGUs") in Canada, including goodwill. Further details, including the respective triggers and assumptions adopted by Vale, are presented in Note 12(a) to the Financial Statements.

In this context, based on the models used to measure the recoverable amount of these CGUs, the Company performed a sensitivity analysis on the nickel price curve, assuming an average increase of 11% compared with the curve used in the base models, substantially concentrated in long term prices, reflecting the potential materialization of a scenario in which the pace and intensity of the energy transition are more favorable to nickel and, as a result, the impairment losses recognized in 2025 would have been reduced by US\$1,426.

Vale also assessed an alternative downside scenario, applying an average 7% reduction to the nickel price curve compared to the curve used in the base models. This scenario reflects the potential materialization of conditions in which the pace and intensity of the energy transition are less favorable to nickel. As a result, the impairment losses recognized in 2025 would have increased by US\$1,262.

Significant judgments and uncertainties

1) Internal carbon price in Strategic Planning

Carbon pricing is one of the Company's main strategic tools to support decision making, enabling the assessment of the globally distributed and geographically diverse network of operational markets and customers. Incorporated into the scenario analysis cycle and strategic planning, carbon pricing makes it possible to evaluate the financial impacts on the business value over time.

In the 2025 cycle, three main effects were analyzed: (i) the direct costs avoided through decarbonization; (ii) the net CapEx and OpEx impacts associated with the 2030 Scope 1 and 2 (market based) reduction targets and (iii) the potential increase in demand for agglomerated iron ore products—such as pellets and briquettes—driven by emissions limit regulations and the steel industry's need for lower emission feedstocks.

Decarbonization capital allocation: Carbon prices are incorporated into Marginal Abatement Cost Curve (MACC) and are considered part of Vale's capital investment analysis and decision making. In the absence of legislated pricing, a shadow price is considered. Accounting for existing and potential carbon costs within the net present value of potential projects ensures the integration of associated risks and the appropriate prioritization of initiatives that align with the Company's decarbonization ambitions.

More detailed information is presented in section 7, which describes the methodology and assumptions used for calculating carbon pricing under the climate scenarios.

2) Carbon pricing - One of the main tools associated with climate scenario analysis is carbon pricing to identify transition risks and quantify their financial impacts.

In the 2025 financial year, Vale updated its carbon pricing approach, using climate scenarios and a survey of regulations related to economic mechanisms. This process involved developing regional carbon price curves and assessing current and forecast GHG emission limits, aligned with Nationally Determined Contributions (NDCs) and compliance requirements. This analysis covers the markets in which Vale and its value chain operate. The assumptions adopted by the Company are consistent with its Climate Policy, as presented in section 6 – Corporate Governance, in the Corporate Policies topic.

This approach aims to represent the global and geographically dispersed distribution of Vale's operational and client markets, while also aiming to ensure that the carbon price analysis adequately reflects how its exposure to these costs may change over time.

The curves are consolidated into two categories: Advanced Economies and Developing Economies.

Carbon price curves under "Slow and Constrained" scenario

Year	2025	2030	2040	2050
Advanced economies	US\$26	US\$64	US\$129	US\$193
Developing economies	US\$0	US\$14	US\$33	US\$65

Uncertainties in climate scenario assumptions

– demographic changes, the pace of the energy transition, geopolitical dynamics, the evolution of the supply chain, the future of mining, the risk of scenario volatility, technology and GHG emission restrictions in some countries

Impairment – Significant judgments, estimates, and assumptions are required to determine the existence of objective evidence of impairment and to prepare the Company's cash flow projections. The Company uses Board approved budgets as a starting point, and the key assumptions include, but are not limited to: (i) mineral reserves and mineral resources estimated by internal specialists; (ii) operating costs and capital expenditures based on the best estimate for the projects, with reference to past performance; (iii) selling; consistent with projections available in industry published reports, considering market quotations where appropriate; (iv) the useful life of each cash generating unit (relationship between production and mineral reserves); and (v) discount rates that reflect risks specific to each cash generating unit (CGU).

These assumptions are subject to risks and uncertainties and may change the Company's projections and, therefore, may affect the recoverable amount of the assets.

Sustainability Resilience

Vale understands resilience as the ability to prepare for, respond and adapt its business to risk and changes in the operational environment, including climatic, socio-environment, regulatory and market factors. Throughout this report, resilience is addressed within each identified material risk, whether through mitigation measures, adaptation actions, strengthened controls, operational adjustments or investments.

Vale presents a consolidated view of the Company's efforts and approach to strengthening its climate resilience. For specific details on how resilience is reflected in each risk, refer to the notes on the risks listed in section **9 – Sustainability related risks and opportunities**, where each risk includes its own mitigation, adaptation and response actions aligned with Vale's operational and strategic context.



Photo: Gabriel Lordello



Photo: Marcelo Coelho

11 Sustainability-related metrics and targets

This section presents the entity's performance in relation to sustainability-related risks and opportunities (refer to Section [9 – Sustainability-related risks and opportunities](#)), including progress against targets set by Vale or required by law.

All financial data is presented in millions of United States dollar, unless otherwise stated

11. Sustainability related metrics and targets

11.1 Climate-related metrics and targets

Climate change-related cross-sector metrics

Absolute gross greenhouse gas emissions

The Company discloses its absolute gross GHG emissions expressed in million metric tons of CO₂ equivalent ("MtCO₂e"), unless otherwise stated. For the purposes of quantifying its greenhouse gas inventory, the gases established by the Kyoto Protocol are considered: carbon dioxide ("CO₂"), methane ("CH₄"), nitrous oxide ("N₂O"), hydrofluorocarbons ("HFCs") and sulfur hexafluoride ("SF₆").

In the financial year ended December 31, 2025, Vale's total absolute gross GHG emissions were 495.78 MtCO₂e, including biogenic¹ emissions of Scopes 1 and 3, for Scope 2, under the location-based approach. For the year ended December 31, 2024, these emissions totaled to 479.54 (MtCO₂e).

Total GHG emissions – Scope 1, 2 and 3:

In million metric tons of CO₂e

Metric	Financial year ended December 31, 2025	Financial year ended December 31, 2024
Scope 1 emissions	7.97	7.81
Scope 2 emissions (location-based) ²	0.72	0.78
Scope 2 emissions (market-based) ²	0.32	0.34
Total Scope 1 and 2 emissions (location-based)	8.69	8.59
Total Scope 1 and 2 emissions (market-based)	8.29	8.16
Scope 3 emissions ³	487.09	471.00
Total Scope 1, 2 (location-based), and 3 emissions	495.78	479.59
Total Scope 1, 2 (market-based), and 3 emissions	495.38	479.15

¹ Scope 1 and Scope 3 emissions presented include biogenic emissions, remaining virtually stable between 2024 and 2025, at 0.44 MtCO₂e for Scope 1 and 0.01 MtCO₂e for Scope 3 in both years.

² The Scope 2 location-based emissions for the year 2024 were adjusted due to the update of the Ontario grid emission factor, as disclosed in the 2024 NIR. It should be noted that the impact of this adjustment was immaterial.

³ In alignment with the GHG Protocol and the recommendations of the International Council on Mining and Metals (ICMM), adjustments were made to Scope 3 emissions accounting. These adjustments covered Categories 1, 2, 10, and 15, as well as the inclusion of subcategories 3B and 3D. As a result, previously reported figures were recalculated back to the baseline year, with no material impact on the total Scope 3 emissions.

Scopes 1 and 2

The Company's operational units are located in six countries: Brazil, Canada, Japan, Malaysia, Oman, and the United Kingdom. Brazil concentrates the main operational and administrative activities, accounting for 77.9% of Scope 1 and Scope 2 (location-based) emissions in 2025 (2024: 78.1%). In absolute terms, these emissions totaled 6.8 MtCO₂e (2024: 6.7 MtCO₂e).

Scope 1 and Scope 2 emissions represent only Vale S.A. and its subsidiaries. The Company does not have operational control over any of its associates or joint ventures and, therefore, no disaggregated disclosures are provided.

Calculation methodology – Scopes 1 and 2

The calculation of Scope 1 and 2 emissions in Vale's inventory is carried out in a disaggregated manner, based on a combination of top-down⁴ and bottom-up⁵ approaches (by business unit and by type of equipment when available), using mass balance and emission factors for each type of input and activity and countries where the Company operates.

The Company collects and consolidates data from its operations to quantify its Scope 1 and 2 emissions, such as fuel consumption, electricity, blasting, industrial process activities, the boundaries of areas owned by the Company, areas with vegetation suppression and use of refrigerant gases. Some of these data is also used to calculate Scope 3 categories 1 and 3.

Direct and indirect emissions from waste and effluent treatment processes (landfills, biological treatment, composting and incineration), direct emissions from the combustion of acetylene in welding processes, and fugitive emissions from fire extinguisher gases and anthracite stockpiles are not recorded, as they are considered immaterial to Vale's overall results.

In producing the inventory, various factors, such as mass and volume, are used to convert consumption into greenhouse⁶ gas emissions. Every year, Vale updates its database, which includes information on the physical and chemical properties of the production processes and fuels used, such as density, lower calorific value and carbon content. These parameters are measured directly in an in-house laboratory, obtained from suppliers or based on technical references. The GHG emission factors for each type of emission source included in the inventory, the composition of electricity supplies, and the percentage of losses in the transmission and distribution systems in the countries in which it operates, as well as the mix of renewable and fossil fuels in the locations where it operates, are updated at the same basis and obtained from technical references.

These GHG emission factors, as well as fuel properties and the composition of electricity generation sources in each country where Vale operates, are updated annually and are based on nationally and internationally recognized technical references, such as the GHG Protocol, IPCC, EPA, DEFRA, and national inventories. There were no changes to the measurement approach in the current reporting period.

⁴ It considers only national energy supply, without providing a breakdown of how the energy is consumed.

⁵ It identifies where and how emissions occur, including emissions of CO₂, CH₄, N₂O, CO, NOx and VOCs.

⁶ Vale follows the GHG Protocol guidelines in selecting the emission factors used in the calculation of its inventory. For 2025, the Global Warming Potential values ("GWP 100 years") were sourced from the Sixth Assessment Report ("AR6") of the Intergovernmental Panel on Climate Change ("IPCC").

All financial data is presented in millions of United States dollar, unless otherwise stated

The Company's direct Scope 1 emissions mainly stem from transportation and industrial processes that take place within its operational boundaries. In 2025, 7.3% of Scope 1 (2024: 6.6%) emissions were subject to emissions limitation regulations, involving operations located in Canada, Japan, and the United Kingdom.

Indirect Scope 2 emissions result from the purchase of electricity, steam, heating, and cooling. These emissions are registered using two different approaches: (i) the location-based approach, in which the emission factor is the average of the power generation emissions in each electricity system in which Vale operates and purchases electricity; e (ii) The market-based approach, which quantifies Scope 2 GHG emissions based on the specific emission factor of each source of purchased electricity generation.

Generation emission factor [gCO₂e/kWh]

Location	Year ended December 31, 2025	Year ended December 31, 2024
Brazilian grid	46.10	54.50
Canadian grid – province of Manitoba	2.20 ¹	2.20
Canadian grid – province of Newfoundland and Labrador	16.00 ¹	16.00
Canadian grid – province of Ontario	54.00 ¹	54.00
Japanese grid	445.70	435.57
Malaysian grid	617.70	631.05
Omani grid	390.30	370.90
United Kingdom grid ²	177.00	207.07

Vale has power purchase agreements (“PPAs”) with electricity from renewable sources suppliers, as well as instruments to verify the origin of the energy sources, enabling the quantification of Scope 2 emissions (market-based). These contracts guarantee competitive costs in the long term, as well as contributing to Vale's public commitment regarding Scope 2 (market-based) emissions.

In Brazil, all electricity contracted and consumed via the grid by the operations is sourced from renewable energy. This energy is secured through concession contracts for owned assets and through Vale's power purchase agreements (PPAs), with renewable origin certified by generators' declarations and Renewable Energy Certificates.

The Company's Scope 2 greenhouse gas inventory, under both approaches, is presented below by country in which Vale has operations:

In million tonnes of CO₂e

	Year ended December 31, 2025		Year ended December 31, 2024	
	Location-based	Market-based	Location-based	Market-based
Brazil	0.38	–	0.42	–
Canada	0.07	0.07	0.08	0.08
Japan	0.01	0.01	0.01	0.01
Malaysia	0.04	0.03	0.04	0.03
Oman	0.20	0.20	0.22	0.22
United Kingdom	0.01	0.01	0.01	0.01
Total	0.72	0.32	0.78	0.34

In 2025, global Scope 2 emissions under the location-based approach totaled 0.72 MtCO₂e, associated with the consumption of 40.0 million gigajoules (GJ) of electricity. Of this total, 97.8% refers to electricity purchased from the grid, with 87.2% coming from renewable sources. In 2024, emissions amounted to 0.74 MtCO₂e, with consumption of 38.2 million GJ, of which 98.0% was sourced from the grid, with a 75.7% share of renewable energy.

Scope 3

Vale's Scope 3 GHG inventory covers nine of the 15 categories established by the GHG Protocol. The remaining categories are not reported, as they are considered as either not applicable or not material¹. Many factors affect the assessment of whether to include Scope 3 categories. The main ones are: (i) significant changes in the Company's value chain; and (ii) significant changes in the Company's business model, activities or corporate structure.

Upstream categories register emissions associated with the production of materials and services purchased by the Company, as well as the transportation and distribution of inputs and products. In 2025, these categories represented around 4.5% of Vale's Scope 3 emissions. Downstream categories, which accounted for the other 95.5% of Scope 3 emissions, are linked to the processing of products sold by the Company – such as (i) iron ore and pellets, (ii) nickel, (iii) copper, (iv) cobalt and (v) ferroalloys – as well as investments made in other entities.

¹The Company considers the generation factors and used the 2025 National Inventory Report (“NIR”). Vale assessed the impacts of updating the factors using the NIR 2026 and concluded that the difference would not be material for reporting.

²The Company considers the generation factors and used the prior-period DEFRA (Department for Environment, Food & Rural Affairs) factors for the United Kingdom. Vale assessed the impacts of updating the factor and concluded that the difference would not be material for reporting.

³Categories not accounted for in the inventory because they are not material and/or not applicable: (5) Waste generated in operations and wastewater discharged, (8) Upstream leased assets, (11) Use of sold products, (12) End-of-life treatment of sold products, (13) Downstream leased assets, and (14) Franchises.

All financial data is presented in millions of United States dollar, unless otherwise stated

Calculation methodology – Scope 3

Vale follows the GHG Protocol¹ guidelines for calculating Scope 3 emissions, along with the mandatory Scope 3 measurement framework in IFRS S2 paragraphs B38–B57. A combination of methods is applied to the calculations of the nine categories material for by the Company, including “average-data,” “fuel-based,” “distance-based,” and “investment-specific.” The method is selected in line with the availability and quality of data, the effort required to apply each method and by the representativeness of the emissions from each activity throughout the value chain.

The Company collects and consolidates emissions data from its value chain. Data related to fuel and electricity consumption, used to calculate category 3, are collected and analyzed on a monthly basis. Data concerning purchases of materials and services, capital goods, the quantity of products sold, business travel, employee transportation, transportation carried out by third parties, and investments, among other items, is collected annually.

The GHG emission factors used in Scope 3 calculations are updated annually and are based on nationally and internationally accepted technical references, such as the GHG Protocol, IPCC, EPA, DEFRA, Ecoinvent, and national inventories.

Throughout the evolution of its Scope 3 emissions accounting, Vale implemented refinements for accounting purposes aligned with ICMM recommendations, grounded in the GHG Protocol, with the objective of continuously enhancing the consistency, relevance, and transparency of the disclosed information. These improvements included prioritizing the most emissions-intensive categories, using robust technical estimates as a starting point with a gradual enhancement of data quality, and strengthening engagement with suppliers and customers across the value chain. As a result of this process, previously reported figures were adjusted back to the baseline year, even though the difference in the result was not material.

Category 10 alone represents 90.1% of Scope 3 emissions and refers to emissions from the processing of sold products in the Iron Ore Solutions and Base Metals businesses. For ferrous products, the calculation considers sales volumes, steelmaking routes (blast furnace and direct reduction), and the iron content of the products, estimating the production of pig iron, DRI, and steel, to which the respective emission factors are applied. For base metals, emissions are calculated based on sales volumes, end uses, and the emission factors of the first finished product. For further details on Vale’s GHG emissions accounting, please access [2025 GHG Emissions Report](#).

Vale’s Scope 3 categories with the most material emissions are presented below, and category 15 is presented in accordance with IFRS S2 for GHG emissions stemming from company investments:

In million tonnes of CO₂e

Category	Financial year ended December 31, 2025	Financial year ended December 31, 2024
10 – Processing of Sold Products	438.92	430.16
15 – Investments ²	24.63	16.72
Other categories ³	23.54	24.11
Scope 3 emissions⁴	487.09	471.00

Significant judgments and uncertainties

Method for calculating GHG emissions: Scope 1 and Scope 2 emissions (under both the market-based and location-based approaches) are calculated based on internal sources, such as energy consumption data and process input data from the Company’s operations, as well as external sources, including the annual collection and updating of emission factors derived from nationally and internationally recognized databases and technical references. This set of inputs provides a consistent level of reliability in the measurement process and the quality of the disclosed information.

For Scope 3, Vale applies a combination of different calculation methods to determine its GHG emissions. The calculation method used in each category is defined according to the availability and quality of data, prioritizing the use of supplier-specific data when available and reliable.

The GHG emissions inventory indicates a low level of uncertainty, approximately 2.8% for Scope 1 and Scope 2, and 9.1% for Scope 3—based on analysis conducted in accordance with methodologies recommended by the GHG Protocol and the IPCC. This estimate covers only data from activity.

Metrics related to GHG: Scope 3 metrics are subject to significant uncertainties due to the dependence on activity data and emission factors made available by suppliers and value chain partners. When such data and factors are not available, Vale uses estimates and/or secondary data.

Assumptions used to calculate GHG emissions: The Company uses the data and assumptions contained in Annex I of this report to calculate its greenhouse gas emissions.

² The emissions from investees included in Scope 3, Category 15 were calculated based on information provided by Vale’s investees, considering the respective ownership interests and the most recent information available.

³ Includes GHG Protocol Scope 3 categories 1, 2, 3, 4, 6, 7, and 9, as well as biogenic Scope 3 emissions.

⁴ Calculations apply 100 year Global Warming Potential (GWP100) values sourced from the IPCC Sixth Assessment Report (AR6).

All financial data is presented in millions of United States dollar, unless otherwise stated

Climate-related targets

The Company understands that it can play an important role in the global energy transition, with its portfolio of high-quality iron ore products and solutions, which can contribute to the decarbonization of the steel industry, as well as being a producer of essential metals for global electrification.

In order to support the decarbonization of the steel, metallurgical and shipping chain, in 2019 the Company set a GHG reduction target for Scopes 1 and 2 (market-based) in line with the Paris Agreement’s goal of limiting global warming to “well below 2°C” compared to pre-industrial levels.

In 2020, it established its Scope 3 target, aligned with the scenario of a maximum global temperature rise of 2°C.

To achieve the voluntary targets set, Vale has included investments aimed at decarbonization in its strategic plan, as presented in the mitigation plan highlighted in section **9 – Sustainability-related risks and opportunities**.

In 2025, Scope 1 and Scope 2 (market-based) emissions, covered by the 2030 emissions reduction¹ target, totaled 7.85 MtCO₂e, a reduction of 25.3% compared to the 2017 baseline year. This reduction is mainly driven by lower production volumes and changes in the production mix compared to the baseline year, as well as improvements in operational performance and a decrease in Scope 2 (market-based) emissions associated with the share of electricity consumption sourced from renewable energy. The target calculation follows the Company’s organizational boundary, encompassing Scope 1 and Scope 2 (market-based) emissions from operations and assets under operational control.

The following table presents these targets:

Target: 33% reduction in absolute Scope 1 and 2 (market-based) GHG emissions	
Metric	Percentage reduction (%) in absolute Scope 1 and 2 (market-based) GHG emissions by 2030 (33% target), relative to the 2017 base year
Objective	Mitigation of absolute Scope 1 and 2 (market-based) GHG emissions
Coverage	Vale and assets under operational control
Greenhouse gases covered by the target	Carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), hydrofluorocarbons (HFCs) and sulfur hexafluoride (SF ₆)
Scope	Scopes 1 and 2 (market-based)
Period	2017 – 2030
Base year	2017

Basis of preparation for targets

The Company established its GHG emissions reduction targets in line with international practices, using the Science Based Targets initiative (“SBTi”) as a methodological reference. The target-setting process considered the principles and criteria of the GHG Protocol Corporate Standard, applicable to Scopes 1, 2, and 3, as follows:

i) Scope 1 – Direct emissions: Scope 1 targets were determined by considering only direct emissions from sources controlled by the Company, excluding biogenic emissions. This exclusion is in accordance with the criteria established by the GHG Protocol Corporate Standard, which recommends that biogenic emissions be reported separately from fossil fuel-based emissions.

The decision not to include biogenic emissions in the target definition stems from the fact that these emissions originate from renewable sources, whose carbon flows are part of natural cycles, contributing to a more sustainable product life cycle.

ii) Scope 2 – Indirect emissions from purchased electricity: Scope 2 targets were defined based on SBTi criteria, adopting the market-based approach, in line with the Company’s strategy of sourcing electricity from renewable sources.

iii) Scope 3 – Indirect emissions from the value chain: The Scope 3 target was established using the “Science Based Target Setting Tool” provided by the SBTi, aligned with a pathway to limit global warming to 2°C above pre-industrial levels. This target does not include biogenic emissions.

The Company also discloses Scope 2 emissions using the location-based approach, in accordance with IFRS S2.

¹ With the aim of aligning its climate strategy with scientific principles, Vale adhered to the recommendations of the SBTi Criteria and Recommendations (TWG-INF-002), Version 4.1 of April 2020. Vale’s targets were calculated using the Science Based Target Setting Tool – Version 1.1. Scope 1 and 2 targets were set using the Absolute Contraction Approach, aligned with a “well below 2°C” global warming scenario. For Scope 1, in accordance with GHG Protocol guidelines, biogenic emissions were not included; and for Scope 2, the market-based accounting method was adopted.

All financial data is presented in millions of United States dollar, unless otherwise stated

Target: 33% reduction in absolute Scope 1 and 2 (market-based) GHG emissions

Milestones or interim targets	The following public commitments are important milestones toward achieving the target: 1. Consume 100% renewable electricity in Brazil by 2025 (commitment achieved in 2023), reaching zero Scope 2 (market-based) emissions in Brazil; 2. Obtain 100% renewable electricity globally by 2030; 3. Improve the global energy efficiency indicator by 5% by 2030, compared with 2017
Methodology for setting the target	The tool used to calculate the percentage reduction needed for the scenario of keeping global warming “well below 2°C,” compared to pre-industrial levels, was the “Science-Based Target-Setting Tool – Version 1.1” and the method used by Vale was the “Absolute Contraction Approach,” given that the mining sector does not have a dedicated method. This target does not cover biogenic emissions
Type of target (absolute or intensity)	Absolute quantitative target
Target review frequency	If a significant change of 5% or more is identified in the GHG inventory, adjustments will be made on an annual basis, in accordance with the GHG Protocol’s materiality recommendations
Metrics used to monitor progress	Percentage reduction in market-based absolute Scope 1 and 2 emissions calculated in the current year compared to absolute Scope 1 and 2 emissions in 2017 ¹
Progress achieved	25.3% reduction in 2025 and 26.6% in 2024, both relative to the 2017 base year

Target: 15% reduction in net Scope 3 GHG emissions

Metric	Percentage (%) reduction in net GHG emissions (15% target) – an absolute reduction ² of 63.7 MtCO ₂ e or 12.0% – by 2035 relative to the 2018 base year
Objective	Mitigation of Scope 3 GHG emissions
Coverage	Vale’s value chain and assets under Vale’s operational control, including indirect GHG emissions, covering both upstream and downstream stages
Scope	Scope 3
Period	2018 – 2035
Base year	2018
Milestones or interim targets	Vale is aligned with the International Maritime Organization’s ambitions for international maritime transportation in categories 4 and 9 of Scope 3 1. Reduction in carbon intensity: The target is to reduce the carbon intensity of international maritime transportation by at least 40% by 2030, compared to 2008 levels; 2. Adoption of low-carbon technologies and fuels: By 2030, at least 5% of the energy consumed by international maritime transportation must come from zero- or near-zero-emission technologies, fuels, and/or energy sources, aiming for an ambition of 10%
Methodology for setting the target	The Scope 3 target was set using the “Science-Based Target-Setting Tool” (TWG-INF-002), Version 4.2 of April 2021, based on the “Absolute Contraction Approach” method, made available by the Science Based Targets initiative (SBTi), in line with the scenario of limiting global warming to 2°C compared to pre-industrial levels. This target does not cover biogenic emissions
Type of target (absolute or intensity)	Absolute quantitative target
Target review frequency	Vale’s Scope 3 target, set in 2020, will be reviewed in 2025 and then every five years, due to uncertainties related to low-carbon technologies and climate policies
Metrics used to monitor progress	Percentage reduction in net Scope 3 emissions in the current year compared to net Scope 3 emissions in 2018
Progress achieved	8.2% reduction in 2025 and 13.2% in 2024, both relative to the 2018 base year

¹ Vale’s 2025 GHG emissions boundary under the operational control approach has been applied to historical years, including the target base year. There were no new divestments in 2025 that would have affected GHG emissions.

² The absolute reduction relative to the 2018 base year considers emissions that have been reduced, rather than volumes that may be offset.

All financial data is presented in millions of United States dollar, unless otherwise stated

Target: Reach net-zero Scope 1 and 2 (market-based) emissions

Metric	Measurement of net Scope 1 and 2 (market-based) emissions up to 2050.
Objective	Mitigation of Scope 1 and 2 (market-based) GHG emissions, aligned with science-based initiatives. It represents an estimated absolute reduction ¹ of 9.5 MtCO ₂ e, considering the SBTi recommendation
Coverage	Vale and assets under Vale's operational control
Scope	Scopes 1 and 2 (market-based)
Period	2017 – 2050
Base year	2017
Milestones or interim targets	33% reduction in absolute Scope 1 and 2 emissions by 2030, compared to the 2017 base year.
Methodology for setting the target	Vale established its long term target to contribute to achieving net-zero global emissions in line with requirements C.1 and C.1.1 of the IPCC's Special Report: Global Warming of 1.5°C. The target was aligned with the ambition of the 2015 Paris Agreement to limit global warming to "well below 2°C" and preferably to 1.5°C above pre-industrial levels. This target does not cover biogenic emissions.
Type of target (absolute or intensity)	Absolute quantitative target.
Metrics used to monitor progress	Percentage reduction in net Scope 1 and 2 (market-based) emissions in the current year compared to absolute Scope 1 and 2 (market-based) emissions in 2017.
Target review frequency	In line with Vale's Climate Change Policy review, which takes place every five years.
Progress achieved	25.3% reduction in 2025 and 26.6% in 2024, relative to the 2017 base year. The Company did not use any offset mechanisms to compensate for GHG emissions. Therefore, the reduction presented corresponds to the same percentage of absolute emissions.

¹ This absolute reduction in Scope 1 and 2 (market based) emissions, relative to the 2017 base year, is estimated based on SBTi recommendations to neutralize up to 10% of residual emissions. Vale understands that this percentage depends on the evolution of regulated markets and will be reviewed periodically.

Approach to reviewing each sustainability-related target and monitoring progress

The process for reviewing and monitoring GHG emissions targets and the related methodology is conducted by the Executive Committee during the quarterly meetings of the Low Carbon Forum. These meetings address performance in the prior year and future outlooks for Scope 1, Scope 2 (market based), and Scope 3 emissions, as well as updates to the decarbonization roadmap. Results are periodically reported to the Board of Directors and the Sustainability Committee through an ESG indicators dashboard, which supports ongoing monitoring and fosters discussions on performance, market trends, alignment of Vale's projects with its decarbonization target, stakeholder expectations, and technological advances, as defined in section [6 – Corporate Governance](#).

The Scope 3 target, established in 2020, is subject to review every five years, considering uncertainties associated with low carbon technologies and climate policies. Any changes are communicated by the Company together with the respective justifications, whether resulting from regulatory changes, technological developments, mergers and acquisitions, or strategic realignments. Such updates are disclosed in annual reports and other official communication channels.

In 2025, Vale assessed and confirmed its Scope 3 target, while implementing adjustments to the accounting methodologies for this scope, in line with the guidelines of the GHG Protocol and the recommendations of the ICMM. The Company made methodological adjustments to the calculation of Scope 3 emissions with the aim of reducing uncertainty levels. As a result, previously reported figures were restated back to the baseline year established in 2018. There were no divestments during the period.

Performance against climate change-related targets

Progress toward the climate targets is monitored by the Sustainability Vice Presidency using a set of data, such as the emission sources of each plant, types of equipment, calculation methods and performance in each reporting period, among other information required for the proper management of Vale's GHG emissions, including monitoring of implemented emissions reduction projects.

The Company has been advancing toward its targets, achieving a 25.3% reduction in Scope 1 and Scope 2 (market-based) emissions in 2025 and a 26.6% reduction in 2024, compared to the 2017 base year, primarily due to lower sales volumes and changes in the production mix, as well as the implementation of Scope 1 and Scope 2 (market-based) emissions reduction projects, particularly the increased share of biodiesel in the consumption of trucks and locomotives, in addition to the use of electricity generated from renewable energy sources, supported by certificates and declarations.

Nevertheless, absolute emissions remain strongly linked to production levels, which have risen in recent years. Trend analysis suggests that as production continues to recover, operational emissions may increase in the short term. However, in the medium and long term, a drop in emissions is expected, in line with decarbonization efforts and the implementation of low-carbon initiatives.

Vale's operational GHG emissions profile reflects the evolution of its energy supplies and guides the path toward net-zero emissions. Pelletizing and metallurgical processes continue to be the most carbon-intensive activities, with emissions from coal and coke (21.9%) and natural gas (16.1%) playing a major role. The use of diesel also contributes significantly, particularly in railway and mining operations, including the use of large trucks. Electricity, on the other hand, which accounts for a smaller share of emissions, has shown a reduced impact over time, driven by the growing adoption of certified renewable sources in various areas of the business.

All financial data is presented in millions of United States dollar, unless otherwise stated

Regarding Scope 3 emissions, they fell by 8.2% in 2025 and 11.2% in 2024, compared to the 2018¹. The increase in emissions in 2025 was primarily driven by higher production and sales volumes by the Company, captured under Category 10 (Processing of Sold Products). In addition, emissions were influenced by the resumption of production activities, higher production volumes, and the increase in net revenue of Vale's investee companies, covered under Category 15 (Investments).

Initiatives associated with Scope 3 reductions are in the research and development phase, and the Company expects to capture their results once they have been implemented on a large scale. In addition, as with Scopes 1 and 2 (market-based), Scope 3 emissions will tend to grow as production recovers and sales increase, amplifying the Company's decarbonization challenge in the medium term. To achieve the Scope 3 target, Vale's strategy focuses on three main areas of action: offering a portfolio of high-quality products and innovative technologies to provide solutions that can lead to lower emissions across its value chain; seeking partnerships and engagement with the value chain; and limited use of high-integrity carbon credits, adhering to principles such as additionality, permanence, transparency and contribution to sustainable development.

Use of experts

Bureau Veritas Certification Brasil ("Bureau Veritas") was commissioned by the Company to conduct an independent analysis of its GHG emission reduction targets. The verification scope included the following targets:

- 33% reduction in absolute Scope 1 and 2 (market-based) emissions by 2030, compared to the 2017 base year, in line with the Paris Agreement. This target was defined using the Science Based Targets initiative (SBTi) calculation tool and is therefore compatible with a global temperature increase of less than 2°C (the "well below 2°C" scenario) and is considered a science-based target;

- 15% reduction in net Scope 3 emissions by 2035, compared to the 2018 base year. The reduction volume was defined using the SBTi calculation tool, based on the Absolute Contraction Approach method, and it is therefore also considered a science-based target.

The technical evaluation sought to provide a third-party understanding of how Vale defined its targets. It concluded that the values obtained using the SBTi calculation tool are consistent with the targets presented by the Company.

Regarding the target of reaching net-zero Scope 1 and 2 (market-based) emissions by 2050, Vale established its long term goal to contribute to the achievement of net-zero global emissions. This goal aligns with IPCC requirements, which do not provide specific calculation methodologies for defining GHG emission reduction and removal percentages for 2050. As a result, the calculation of this target cannot be verified by a third-party.

Carbon credits to offset Scope 3 GHG emissions

One of the pillars for meeting the Company's decarbonization targets lies in the careful and moderate use of high-integrity carbon credits. To ensure the real impact of this lever, we have adopted principles such as additionality, permanence, transparency and alignment with the UN Sustainable Development Goals. Vale's policy sets a clear limit: by 2035, carbon credits will not represent more than 20% of the reduction target for Scope 3 emissions (equivalent to around 16 MtCO₂e per year) in relation to the 2018 base year.

Vale's strategy is underpinned by supporting nature-based solutions, through long term investments ranging from early-stage projects to well-established initiatives capable of generating credits certified by global standards. The Company prioritizes initiatives that not only sequester or avoid emissions, but also generate systemic co-benefits, such as biodiversity conservation, social inclusion and

the strengthening of local communities. This integrated approach aims to allow our commitment to transcend climate mitigation, becoming a catalyst for resilient ecosystems and fairer societies. In this way, we combine reducing our carbon footprint with legitimately building a sustainable future, balancing corporate responsibility and positive socio-environmental impact.

Agreements and partnerships to develop carbon credits

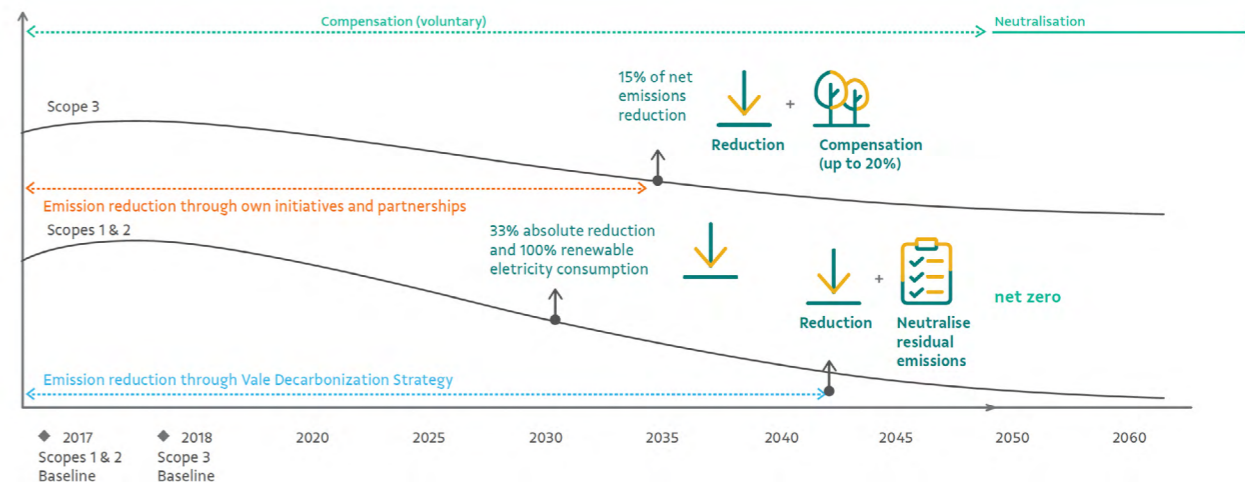
- **Agreement between Vale and Algar Group:** To support the voluntary carbon credit market, Vale and Algar signed an agreement for the purchase of forest carbon credits until 2030, equivalent to protecting approximately 85,000 hectares of forest. To date, 313,813² credits have been issued, 224,988 are in the verification phase and 190,347 are in the monitoring

phase. In this forest protection project, each carbon credit unit corresponds to one metric ton of carbon dioxide equivalent that was not emitted into the atmosphere.

- **Partnership with Casa dos Ventos:** Vale and renewable energy company Casa dos Ventos have developed a carbon project called Folha Larga Sul de Energia Renovável. This project involves the implementation and operation of wind farms in the state of Bahia, which will reduce GHG emissions by avoiding the generation of electricity from fossil fuel sources. The project has the potential to generate 3,327,530 carbon credits for avoided emissions by 2030.

Both projects are registered under the Verified Carbon Standard (VCS).

Carbon credits fit into our strategy



¹ The base year is linked to the year in which the target was established.

² The difference in the number of Verified Carbon Units ("VCUs") compared with 2024 (866,485 credits) is due to the methodological update implemented by VERRA for REDD+ Projects, which required the adjustment of the Project.

All financial data is presented in millions of United States dollar, unless otherwise stated

11.2 Dam related metrics and targets

Metrics used to evaluate and monitor the risk of dam failure

Vale has developed a robust management model grounded in leading international practices: the Vale Tailings and Dams Management System ("TDMS"). The TDMS sets out guidelines for the safe management of Vale's tailings dams and Tailings Storage Facilities ("TSFs"), is aligned with the Global Industry Standard on Tailings Management ("GISTM"), and adopts the most advanced international guidance as references. Built on the pillars of People Management, Routine, Performance, and Risk, the TDMS defines roles and responsibilities and establishes standards and requirements that reflect Vale's Values, Ambitions, and Principles for the safe management of dams and TSFs.

All structures subject to the National Dam Safety Policy (PNSB) undergo semiannual independent external audits, which result in the issuance of a Stability Condition Declaration (DCE), assessing the dams' physical and hydraulic safety conditions. These audits are performed by independent external firms and comply with Brazilian legal requirements and the commitments established with

Brazilian authorities, such as the Public Prosecutor's Office (Ministério Público).

All of the Company's EARs are in compliance with the 77 requirements of the GISTM. To maintain this alignment, Vale relies on the GISTM Compliance Maintenance Program, a set of processes integrated into the Company's governance framework that ensures rigorous monitoring of management practices and controls, enabling the identification of any potential deviations from the standard's requirements throughout the EARs' life cycle.

In this regard, Vale also adopts, in compliance with current legislation, the role of the Engineer of Record, responsible for periodically conducting technical reviews of the design, construction, and operational performance of the structures, at a minimum frequency of every three years. In addition, the Company has an Independent Council ("ITRB") to assess the performance of these structures.

Vale maintains a portal that discloses information related to Tailings Storage Facilities (TSFs), with the objective of supporting transparency and accountability. For more information, refer to the [ESG Portal – Dams](#).

In [Annex II](#), the Tailings Storage Facility (TSF) inventory table is presented.

Approach for developing Emergency Preparedness and Response Plans for tailings storage facilities

The emergency Action Plans for Mining Dams ("PAEBM"/"PAE") are technical documents filed with the municipal governments and Civil Defense authorities at both the municipal and state levels, which define immediate response actions in emergency situations. Their purpose is to establish measures aimed at minimizing risks to employees, communities, and potential impacts on the environment and cultural heritage.

Each plan is prepared, developed, implemented and managed in accordance with legal requirements and the emergency guidelines established by protection and civil defense agencies.

The PAEBM is in place for all of Vale's mining dams in Brazil to which the applicable legislation applies. The plan complies with the requirements of state and national dam safety policies and remains applicable as long as the structure is classified as a dam and presents Associated Potential Damage, regardless of the stage of its life cycle.

In 2025, a Conformance and Operability Assessment ("ACO") was carried out by an external auditor,

resulting in the issuance of a positive Conformance and Operability Declaration ("DCO") for the Mining Dam Emergency Action Plan ("PAEBM") for High Associated Potential Damage ("DPA") structures, as required by legislation demonstrating Vale's alignment with the highest safety standards.

Community engagement is a core element of the PAEBM. Vale carries out awareness initiatives, semi-annual internal training and annual emergency drills to ensure that residents, employees, contractors and Civil Defense representatives are prepared to respond appropriately in the event of an emergency.

Below are the main results for 2025:

- 32,148 people participated in PAEBM related activities;
- 63,797 buildings were visited to mobilize residents to take part in prevention initiatives;
- 23 municipalities were impacted within the Self Rescue Zone ("ZAS");
- 175 activities in schools, involving approximately 7,830 participants among students and teachers; and
- 51 community visits to dams, totaling 403 events.

For external consultations of the PAEBMs, visit: [ESG Portal – PAEBM](#).



Photo: Jeferson Capela

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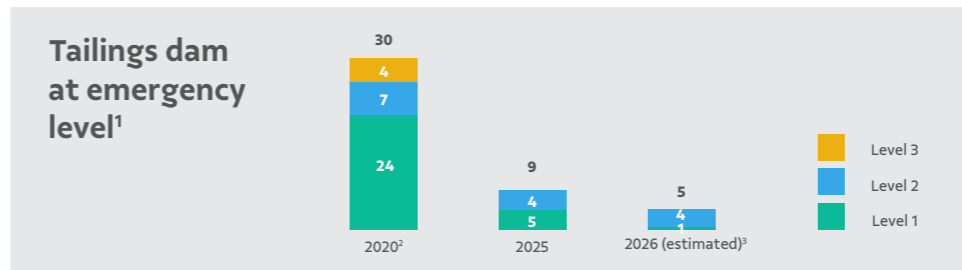
Commitments established to mitigate the risk of tailings dam failure

Vale seeks to prioritize the continuous improvement of its safety procedures and risk management processes, reinforcing its commitment to society while maintaining transparency and ongoing dialogue regarding its dams.

In this context, in 2019, Vale committed to decharacterizing all upstream-raised tailings dams in Brazil by 2035. Subsequently,

in 2020, Vale publicly committed to implementing of the GISTM across all its tailings storage facilities by 2025, and the prioritization of actions to improve the understanding of the structures safety condition and to take evidence-based action to reduce Emergency Level 3 by 2025.

The tables below present the commitments established:



¹ Dams include geotechnical facilities dedicated to mining processes.

² Considering the highest number of structures at emergency level, in 2020.

³ Projected estimate for the period from January 1 to December 31, 2026.

Commitments: Implementation of the GISTM across all TSFs

The metric used to establish the commitment and monitor progress towards it	Implement the GISTM for Tailings Storage Facilities (TSFs)
Objective	Ensure compliance with global safety and sustainability standards, mitigating environmental and social risks, strengthening governance, and preserving corporate reputation among stakeholders
Period	2020–2025
Year Base	2020
Milestones and interim targets	Vale had an interim target to implement the GISTM at the two remaining Tailings Storage Facilities (TSFs) by August 2025
Methodology for defining the commitment	Vale established its target with the aim of ensuring compliance with global safety and sustainability standards by implementing all requirements set out in the GISTM
Frequency review	N/A
Progress achieved	In August 2025, all 50 Tailings Storage Facilities (TSFs) had the GISTM implemented. As a result, the Company achieved the established target, consolidating a significant milestone in safe dam management and strengthening socio-environmental governance

Commitments: No tailings dam in Emergency Level 3 as of 2025

The metric used to establish the commitment and monitor progress towards it	No dams classified at Emergency Level 3
Objective	Ensure the integrity of tailings structures, eliminating critical safety risks, protecting lives and the environment, and ensuring compliance with regulatory and governance standards.
Period	2020–2025
Year Base	2020
Milestones and interim targets	The Company had one dam under an emergency level classification in 2025
Methodology for defining the commitment	Vale established a target to eliminate Emergency Level 3 status for all dams, with the aim of ensuring the integrity of tailings structures, in alignment with regulatory standards—such as National Mining Agency (ANM) Resolution No. 95/2022—and internal governance standards, such as the Tailings and Dams Management System (TDMS)
Frequency review	N/A
Progress achieved	In August 2025, after the completion of geotechnical studies, Vale reduced the emergency level of the Forquilha III dam, at the Fábrica Mine, from Level 3 to 2. As a result, the Company no longer has any structure at the highest emergency level, and the target set for the period was achieved, demonstrating the effectiveness of the monitoring, control, and risk mitigation measures implemented across the tailings disposal structures

All financial data is presented in millions of United States dollar, unless otherwise stated

Commitments: Dams decharacterization

The metric used to establish the commitment and monitor progress towards it	Number of structures with decharacterization works completed out of the 30 planned under the Upstream Dam Decharacterization Programme in Brazil
Objective	Decharacterize all dams built using the upstream construction method in Brazil by 2035
Period	2019–2035
Year base	2019
Milestones and interim targets	The Upstream Dam Decharacterization Programme aims to complete the decharacterization works for three additional structures by 2027, bringing the total to approximately 73% (22 out of 30).
Methodology for defining the commitment	Engineering projects and construction schedules
Performance against each target	The decharacterization commitment is reassessed if there are any changes in legislation, delays in obtaining permits and/or a technical need to modify the project design. Should this occur, the Company is committed to reviewing the commitment and aligning it with the new requirements.
Progress achieved	Throughout 2025, the decharacterization works for the Campo Grande ¹ dam, in Mariana (MG), and the Grupo dam, in Ouro Preto (MG), were completed. As a result, as of December 31, 2025, a total of 19 structures had been completed (approximately 63%) out of the 30 planned by 2035. By comparison, in 2024, this figure stood at 57%, demonstrating progress in Vale's upstream dam decharacterization process ² .

¹ The remaining structure will continue to be monitored for a minimum period of two years, as required under applicable federal legislation.

² All documentation and technical evidence of the decharacterization are submitted for final validation by the competent authorities.

Approach for reviewing each commitment and monitoring its progress

The review of the tailings dam decharacterization commitment is carried out whenever there are changes in legislation, new guidance from regulatory authorities, delays in obtaining permits, and/or technical needs to modify the project. Should such changes occur, the Company is committed to reassessing and updating the commitment undertaken, in order to ensure its alignment with the new regulatory requirements.

Progress monitoring is conducted based on operational, environmental and strategic indicators, which include, among others, tracking the physical and financial progress of the Decharacterization Program. These indicators are reported regularly to the relevant executive committees, enabling an assessment of the effectiveness of the actions implemented and the timely adjustment of targets and initiatives, as necessary. This governance dynamic aims to enable commitments to be monitored in an integrated manner with the Company's strategy and decision-making, strengthening business resilience and the safety of operations in the short, medium and long term.

It is important to note that, in addition to the commitment assumed by Vale since the B1 Dam failure in Brumadinho, the decharacterization of upstream geotechnical structures and

upstream Dams became a legal requirement in 2019. Pursuant to Law No. 23,291, progress in the decharacterization process is monitored by the National Mining Agency (ANM) through quarterly meetings and on-site inspections. Due to the technical infeasibility of meeting the original three-year deadline established in the legislation, Vale requested an extension and established a revised schedule, with completion of the works expected by 2035.

At the state level, Law No. 23,291/2019 does not provide for the possibility of extending the deadline for the execution of decharacterization works. In light of this, in 2022 Vale entered into a Term of Commitment with the Government of the State of Minas Gerais and the State and Federal Public Prosecutors' Offices to formalize revised deadlines for the execution of decharacterization works.

Within the scope of the Decharacterization Term of Commitment, independent technical advisory firms were engaged. These firms report directly to the competent public authorities, assess the decharacterization designs for each structure and monitor the progress of the works. Such oversight includes the quarterly submission of reports on the decharacterization process—publicly available on Vale's and the Public Prosecutor's Office websites—as well as bimonthly

site inspections of the works. Formalize revised deadlines for the execution of decharacterization works.

Performance against dam related targets

Dam management is underpinned by an integrated governance framework, continuous monitoring, and technological innovation, which collectively support the fulfillment of the commitments established to mitigate the materialization of risk.

To this end, the Company has implemented three Geotechnical Monitoring Centers ("GMCs"), operating 24 hours a day, seven days a week, to ensure continuous monitoring of its dams. In addition, the Company has expanded the use of unmanned equipment in higher risk areas, developed artificial intelligence initiatives, and strengthened research, development, and innovation programs. The Company has also established strategic partnerships with universities and research centers and modernized Vale's Geotechnical Laboratory ("LGV"), further consolidating its capabilities in safety and technology. In addition, the Company maintains technical audits and team training programs, with a focus on compliance, operational enhancement, and the continued advancement of geotechnical structures management.

In 2025, Vale achieved two key commitments related to dam management: having no dams classified at Emergency Level 3 by 2025 and implementing the Global Industry Standard on Tailings Management (GISTM) across all tailings dams.

With the reduction of the emergency level at the Forquilha III dam (previously classified as Level 3), Vale demonstrates its continued commitment to risk reduction and to ensuring the safety of operations and surrounding communities. The lowering of emergency levels is the result of years of work focused on the implementation of preventive and corrective measures.

In August 2025, the GISTM was implemented across all tailings dams as planned, with the objective of preventing impacts on people and the environment and maintaining zero tolerance for human fatalities.

Also in 2025, the Company made significant progress in the Dam Decharacterization Program, reaching a total of 19 dams with decharacterization works completed, representing approximately 63% of the 30 structures included in the program. Vale also maintains its public commitment to decharacterize all upstream dams by 2035, as part of the Company's safety and sustainability program.

All financial data is presented in millions of United States dollar, unless otherwise stated

11.3 Biodiversity related metrics and targets

Metrics used to measure and monitor the risk of delays or failure to obtain environmental permits

Vale recognizes that its operations depend directly on nature and generate relevant impacts on biodiversity, water, climate, and communities. For this reason, the Company adopts an integrated environmental management approach that seeks to minimize negative impacts and generate positive outcomes for ecosystems and for people. This positioning is inspired by the goals of the Kunming Montreal Global Biodiversity Framework, particularly those aimed at reducing impacts, restoring ecosystems, and strengthening cooperation and knowledge generation.

At active sites, environmental management is structured under the Vale Management System ("VPS"), which provides for the comprehensive and robust implementation of policies and practices to enable safe and environmentally responsible operations. An essential component of this system involves health, safety, environmental and risk management processes, in compliance with ISO 14001 and ISO 45001 standards. Vale's environmental management strategy considers risks and impacts arising from the production process, seeking to minimize socio environmental impacts and to respond to stakeholder demands.

Vale also maintains an internal Biodiversity Management standard, applicable to all projects and operations, which is fully aligned with the International Finance Corporation ("IFC")¹ Performance Standard 6. This standard

incorporates the mitigation hierarchy – prevention, control, mitigation, restoration and compensation – and guides the assessment of risks and impacts from entry into new territories through the final development of projects. Specific environmental diagnostics are prepared to identify potential interactions with protected areas, natural heritage, sensitive habitats and vulnerable species. All expansions and new projects are subject to environmental impact studies in accordance with applicable local regulations.

To strengthen operational and environmental performance, the Company implements Service Level Agreements ("SLAs"), a management tool that establishes limits and KPIs, promotes problem solving among areas, and drives process optimizations that complement environmental controls.

The governance of the environmental management system includes self assessments, Integrated VPS Assessments, and annual internal and external audits in accordance with ISO 14001. These mechanisms verify compliance with the sustainability policy and identify opportunities for improvement, and ensure the effectiveness of implemented practices.

Vale has proven and probable mineral reserves estimated using methodologies that integrate technical, economic, socio-environmental variables, and are reported in accordance with international guidelines, including Subpart 1300 of Regulation SK-1300 issued by the Securities and Exchange Commission ("SEC"), the United States securities regulator.

The table below presents the percentage of proven and probable² mineral reserves³ located in or near areas with protected conservation status or habitats of threatened species.

For the year ended December 2025						
Metal	Proven mineral reserves in or near protected areas			Probable mineral reserves in or near protected areas		
	Tonnage (Mt)	Grade (%)	Metal (%)	Tonnage (Mt)	Grade (%)	Metal (%)
Iron	5,730.2 ¹	51.3	98.1	7,410.2 ^{2,3}	54.6	95.8
Copper ⁴	431.4	0.6	100	718.6	0.7	100
Nickel	0	-	-	0	-	-

¹ Proven iron mineral reserves include 72.3 million wet metric tonnes of product stockpiles.

² Probable iron mineral reserves include 47.7 million wet metric tonnes of product stockpiles.

³ Probable iron mineral reserves include 96.6 million wet metric tonnes from the Gelado tailings dam.

⁴ Probable copper mineral reserves include 299.4 million dry metric tonnes of product stockpiles.

For the year ended December 2024						
Metal	Proven mineral reserves in or near protected areas			Probable mineral reserves in or near protected areas		
	Tonnage (Mt)	Grade (%)	Metal (%)	Tonnage (Mt)	Grade (%)	Metal (%)
Iron	3,638.2 ¹	55.7	97.2	8,093.5 ^{2,3}	53.1	96.0
Copper ⁴	277.9	0.7	100	845.4	0.6	100
Nickel	0	-	-	0	-	-

¹ Proven iron mineral reserves include 80.0 million wet metric tonnes of product stockpiles.

² Probable iron mineral reserves include 46.5 million wet metric tonnes of product stockpiles.

³ Probable iron mineral reserves include 98.9 million wet metric tonnes from the Gelado tailings dam.

⁴ Probable copper mineral reserves include 295.4 million dry metric tonnes of product stockpiles

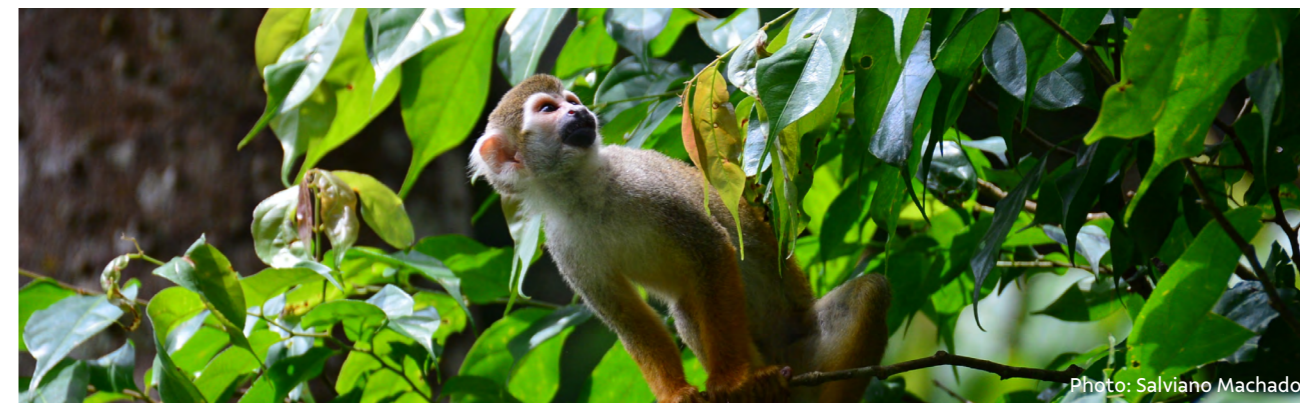


Photo: Salviano Machado

¹ The Company also maintains other documents aligned with various IFC Performance Standards, which apply to other topics.

² For the purposes of identifying and assessing socio environmental and biodiversity risks associated with proven and probable mineral reserves, the Company considers areas located within a radius of up to 10 km around those reserves, adopting a conservative approach to the analysis of potential risks and impacts.

³ The values presented here refer to 100% of the shareholding and therefore do not necessarily reflect our actual stake.

All financial data is presented in millions of United States dollar, unless otherwise stated

Assumptions used in the measurement of protected areas and mineral reserves

The areas presented in the biodiversity tables of the [2025 ESG Databook](#), expressed in hectares or square kilometers, represent operational areas or areas affected by the Company's activities. These metrics are intended to monitor land-use change across operations and also cover the interface with categories of areas of high biodiversity value, such as wilderness areas, biodiversity hotspots, protected areas, and adjacent areas.

Proven and probable mineral reserves comprise only material that is technically, legally and economically viable. While certain facilities, infrastructure or areas of operational influence may be located within or in proximity to protected areas, these are not considered definitive in the estimation of mineral reserves. Officially protected areas under strict protection categories, as well as certain environmentally sensitive regions, are treated as constraints in reserve estimation, in accordance with Vale's methodology, which adheres to technical criteria and is aligned with the requirements of SEC SK-1300. Consequently, only those portions of land where mining activities are permitted are included in the estimation of mineral reserves.

Commitments established to mitigate the risk of delays or failure to obtain environmental permits

Vale does not have a specific commitment associated with the risk of delays in, or failure to obtain, licenses. Its long term sustainability commitments contribute to improved socio-environmental performance and to strengthening the Company's reputation. These commitments may indirectly support obtaining environmental licenses by preventing and mitigating potential impacts, thereby reducing the perception socio-environmental risk associated with projects and operations.

Vale has a No Net Loss commitment, within the long-term objective of preventing and neutralizing significant impacts in new projects and expansions located in areas of high biodiversity value. Under this commitment, net loss refers to the negative balance between biodiversity losses and gains, considering attributes such as the area and condition of ecosystems and species, after the application of all mitigation measures.

This commitment is supported by the implementation of the Mitigation Hierarchy (avoid, mitigate, restore and offset), with offsets directed at unavoidable residual impacts. The commitment aims to support biodiversity impact management by monitoring and managing potential impacts that may influence environmental licensing processes and, therefore, this risk. This commitment is monitored annually by the CSUS as part of the Governance framework.

Biodiversity impact management is guided both by the Sustainability Policy and by the Corporate Biodiversity Standard, which establishes guidelines and processes applicable to all projects and operations throughout their lifecycle for biodiversity management, also based on the mitigation hierarchy.

Vale seeks to avoid and mitigate impacts, reducing exposure to biodiversity related risks, and develops specific studies and assessments, biodiversity risk analyses, and Biodiversity Action and/or Management Plans for projects and operations located in sensitive areas.

Monitoring of biodiversity impacts and risks is integrated into the Company's corporate governance and risk map, being periodically evaluated and improved, including through the adoption of methodologies aligned with the recommendations of the Taskforce on Nature related Financial Disclosures (TNFD). Thus, even in the absence of a formal target linked to licensing risk, Vale incorporates the monitoring and management of this risk into its strategy, seeking to reduce impacts, strengthen controls and increase predictability in environmental and regulatory processes.

Approach for reviewing each commitment and monitoring its progress

Vale reviews and monitors its biodiversity related commitments that may influence environmental licensing processes through an integrated governance system. These commitments are cascaded into normative standards, technical guidelines and action plans applicable to projects and operations throughout their entire lifecycle, in accordance with the Vale Management System (VPS) and underpinned by the impact mitigation hierarchy.

Progress on these commitments is monitored through:

- Tracking the implementation of biodiversity management plans and action plans;
- Integrating biodiversity-related risks into the corporate risk map;
- Using environmental metrics and indicators to track results, disclosed in institutional reports; and
- Continuous enhancement of assessment methodologies, including alignment with the recommendations of TNFD.

Performance against targets related to environmental permitting

Vale's performance is assessed based on the effectiveness of implementing and continuously enhancing these commitments to manage the risk of delays in, or failure to obtain, environmental licenses. In this context, performance reflects the maturity of processes, the integration of biodiversity management into corporate governance and Vale's Integrated Risk Map, as well as the ongoing monitoring of environmental impacts and risks, including with the support of methodologies aligned with the recommendations of the TNFD.

Accordingly, even in the absence of a formal target associated with environmental licensing, Vale continuously tracks and improves the factors under its management that may influence this risk, focusing on strengthening controls, reducing impacts and increasing the predictability of environmental and regulatory processes.

All financial data is presented in millions of United States dollar, unless otherwise stated

11.4 Metrics and targets related to community relations and safety, human rights and Indigenous Peoples' rights

Metrics used to measure and monitor the risk of conflicts with communities and adverse impacts on human rights

Vale's risk management framework addresses social impact and human rights topics, which are handled by the Executive Risk Committees for Operational Risks, Compliance and Institutional Relations, and Sustainability and Communication, as well as at the Executive Committee level. In addition, the Board of Directors, supported by its Sustainability Committee, also monitors social risks and impacts.

These forums monitor social matters through indicators and technical information to support decision-making, strengthening governance in risk identification and impact management. One of the data sources is the Company's Listening and Response Mechanism, which maintains multiple listening channels, in addition to the Whistleblowing Channel.

The Company is aligned with the UN Guiding Principles on Business and Human Rights ("UNGPs") the guidelines of the International Council on Mining and Metals ("ICMM"), and the IFC Performance Standards, particularly Performance Standards 4 (Community Health, Safety, and Security), 5 (Land Acquisition and Involuntary Resettlement), and 8 (Cultural Heritage)—through a structured approach to identifying, preventing, mitigating, and remediating social and environmental risks and impacts, as well as strengthening trust based relationships.

This compliance is reflected in the preventive management of risks to community health and safety, including emergency preparedness and response and the responsible conduct of security teams; in the adoption of principles and processes aiming to avoid, minimize, and mitigate impacts associated with land acquisition and, where unavoidable, physical or economic displacement, with a focus on livelihood restoration; and in the respect for, protection, and proper

management of tangible and intangible cultural heritage potentially affected by operations, aim to ensure its consideration in feasibility assessments, planning, and throughout the life cycle of projects.

The approach is based on ongoing engagement with stakeholders and takes as a non-negotiable condition respect for human rights and full compliance with legal requirements, guiding every process, employee, and contractor to act in order to prevent any form of violation. The community engagement strategy is carried out through a structured process that encompasses:

- Identification and characterization of communities and stakeholders;
- Structured management of community grievances/demonstrations;
- Implementation of Relationship Plans developed in dialogue with communities;
- Management of potential conflicts and critical issues.

With regard to operational impacts associated with risks of community conflict and human rights related impacts, the Company monitors non technical delays resulting from shutdowns. In 2025, 10 shutdowns were recorded, compared to 13 in 2024. The total duration of these events amounted to 81 days, compared to 7 days in the prior year. Such occurrences are monitored as part of operational risk management and are considered in management, planning, and community engagement processes, with the aim of mitigating recurrence and reducing impacts on operational continuity.

Additionally, to strengthen engagement and the implementation of good practices related to respect for human rights, Indigenous rights and operations in conflict-affected areas, Vale conducts Independent Human Rights Due Diligence process ("HRDD") across operations and critical projects on cycles of three to five years, in order to identify and manage human rights risks and impacts. The approach is guided by the UN Guiding Principles on Business and Human Rights, the UN Global Compact Principles, the Universal Declaration of Human Rights, ICMM guidelines, IFC standards, and the Global Human Rights Policy. The is carried out through document review, field inspections and interviews with employees, contractors, vulnerable groups and local communities.

Vale adheres to its internal guidelines and applicable local legislation, as well as to international references, including Convention No. 169 of the International Labour Organization ("ILO"), a United Nations agency, which establishes the process of Free, Prior and Informed Consultation ("FPIC") as a fundamental guideline for engagement with Indigenous Peoples and traditional communities. These principles guide stakeholder relationships and underpin engagement and decision-making processes. Vale Base Metals implements due diligence processes to assess and manage the risks described in Annex II of the Organization for Economic Co-operation and Development ("OECD") Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. These processes are supported by the Vale Base Metals Responsible Sourcing Policy.

In Brazil, the main challenges involve working conditions of employees, especially those contractor companies; infrastructure and management of operational services; asset security; moral and sexual harassment; discrimination; and diversity and inclusion. After receiving the DDDH reports, each operation and projects prepares action plans with support from the Human Rights department. Vale's Code of Conduct is grounded in local labor legislation, the eight Fundamental Conventions of the ILO and OECD. The Company is a signatory to the Voluntary Principles on Security and Human Rights.

The table below presents the percentage of proven and probable^{1,2} mineral reserves located in or near Indigenous lands. It is worth noting that Vale does not have Proved and Probable reserves in Indigenous Lands.

For the year ended December 2025						
Proven mineral reserves in or near Indigenous People's (territories)			Probable mineral reserves in or near Indigenous People's (territories)			
Metal	Tonnage (Mt)	Grade (%)	Metal (%)	Tonnage (Mt)	Grade (%)	Metal (%)
Iron	0	-	-	0	-	-
Cooper	0	-	-	0	-	-
Nickel ¹	29.6	1.6	59.1	18.2	1.5	40.6

¹ Estimated consolidated nickel Mineral Reserves include 5.0 million dry metric tonnes

For the year ended December 2024						
Proven mineral reserves in or near Indigenous People's (territories)			Probable mineral reserves in or near Indigenous People's (territories)			
Metal	Toonage (Mt)	Grade (%)	Metal (%)	Toonage (Mt)	Grade (%)	Metal (%)
Iron	0	-	-	0	-	-
Cooper	0	-	-	0	-	-
Nickel ¹	30.8	1.7	60.9	17.0	1.4	38.7

¹ Estimated consolidated nickel Mineral Reserves include 4.6 million dry metric tonnes

¹ For the purposes of identifying and assessing socio-environmental and biodiversity risks associated with proven and probable mineral reserves, the Company considers areas located within a radius of up to 10 km around those mineral reserves, adopting a conservative approach to the analysis of potential risks and impacts.

² The values presented here refer to 100% of the shareholding and therefore do not necessarily reflect our actual stake.

All financial data is presented in millions of United States dollar, unless otherwise stated

Commitments established to mitigate the risk of conflicts with communities and human rights

The management of this risk is also guided by corporate commitments that steer Vale's actions in the territories, engagement with communities, and the integration of human rights considerations across the value chain. An example is the Voluntary Indigenous Rights Agenda (Social Ambition for Indigenous Peoples), which provides for supporting Indigenous communities neighboring the Company's operations in Brazil in the development and implementation of their plans to pursue the rights set out in the United Nations Declaration on the Rights of Indigenous Peoples ("UNDRIP").

Vale also has two commitments directly related to the management of this risk, defined based on their potential impact on communities and people. The first refers to community safety, which is a central pillar of the corporate commitment to put life first, prioritizing safety, respect and integrity in all interactions with local stakeholders. The commitment established was to reduce incidents involving community members

by 40% by 2027, considering Iron Ore Solutions. The second relates to the Community Relationship Plans ("PRCs"), which are founded on social mobilization and participation in defining and prioritizing the actions to be implemented in the territory, and to the prioritization of communities, a means of better shaping the engagement strategy by capturing the elements and characteristics that differentiate communities, considering an analysis of risk, impact, and relationship dimensions. Based on this, the commitment was established to cover 100% of the 147 priority communities in Brazil through structured relationship plans¹.

These commitments guide the definition of priorities, resource allocation, and the monitoring of the Company's performance in managing the risks of conflicts with communities and human rights impacts, serving as a reference for assessing the effectiveness of the actions implemented, even though they are not formalized as specific quantitative targets.

Commitments: 40% reduction in accidents involving community members

The metric used to establish the commitment and monitor progress towards it	Number of accidents involving community members compared to the number of such accidents in the year base
Objective	Vale recognizes that, in certain circumstances, its activities may pose physical risks to the communities with which it engages. Accordingly, driven by its cultural transformation process and its commitment to "life first," the Company continues to reassess how its operations impact society. One of the key pillars of this transformation is Community Safety, understood as the management of risks and impacts associated with threats to individuals' physical integrity, which are intensified by the Company's presence in the areas where it operates.
Period	2022 – 2027
Year Base	2022
Milestones and interim targets	N/A
Methodology for defining the commitment	Events considered within this process include safety incidents with social impact that may result in injury to non-employees and occur within areas under Vale's responsibility or in external areas when taking place in the course of production activities or activities supporting production.
Frequency of review	N/A
Progress achieved	In 2025, the Iron Ore Solutions segment recorded 106 accidents involving community members, of which, regrettably, 12 resulted in fatalities. Nevertheless, the rate of fatal or life-altering incidents decreased by 33% compared to the previous year and by 25% relative to the 2022 baseline, contributing to progress toward the Company's established commitment.

¹For further details on the Relationship Plan, please refer to [Vale's ESG portal](#).

Commitments: Achieve 100% coverage of priority communities with Relationship Plans by 2026

The metric used to set the target and to monitor progress towards reaching the commitment	Number of priority communities with Relationship Plans in Brazil compared to the total number of priority communities
Objective	PRCs contribute to the monitoring and management of Vale’s relationships with communities. In addition, they serve as key inputs for the Company’s decision-making regarding the management of risks and impacts arising from its activities, enabling more effective allocation of efforts and resources, as they incorporate community needs and allow for the identification of gaps in the Company’s performance within the territories where it operates.
Period	2026
Year Base	N/A
Milestones and interim targets	N/A
Methodology for defining the commitment	To better define its community engagement strategy and the implementation of Community Relationship Plans (PCRs) in Brazil, Vale adopts a prioritization methodology aimed at capturing the elements and characteristics that differentiate communities, through a framework that considers the analysis of exposure to risk, impact, and the nature of the relationship.
Frequency of review	N/A
Progress achieved	In 2025, 100% of priority communities (147) in Brazil were covered by Relationship Plans, achieving the Company’s commitment one year ahead of schedule.

Approach for reviewing each target and monitoring its progress

The monitoring and review of these commitments are conducted through a multidimensional assessment, which takes into account, in particular, the outcomes of the Company’s Listening and Response Mechanism, the ongoing monitoring of events (incidents) involving communities, progress in the implementation of human rights due diligence action plans, the territorial approach adopted, and the identification of emerging risks.

The review of commitments associated with the Voluntary Indigenous Rights Agenda is based on continuous engagement, qualified listening, and assessment processes, and is carried out in alignment with the principles of the United Nations Declaration on the Rights of Indigenous Peoples (“UNDRIP”).

Performance against the targets related to conflicts with communities and human rights impacts

In the agenda, performance in relation to the commitments associated with the Indigenous Voluntary Agenda was measured based on the delivery of structuring instruments to ensure the autonomy of Indigenous peoples. Examples include the completion and disclosure of the Kayapó People Consultation Protocol in the state of Pará, as well as the engagement of other Indigenous communities in the development of instruments such as Consultation

Protocols, Territorial and Environmental Management Plans, and Life Plans. Notable among these are the Ka’apor (Maranhão), Guajajara (Maranhão), and Tupiniquim (Espírito Santo) Peoples.

With respect to the commitment to cover priority communities through Community Relationship Plans, the Company achieved 100% coverage of priority communities in Brazil one year ahead of schedule, totaling 147 communities with active PRCs. This result reflects advances in structuring territorial engagement and in the continuous monitoring of social risks and impacts, contributing to conflict prevention and to the integrated management of community-conflict risk.

The Community Safety process encompasses the management of risks and impacts associated with threats to the physical integrity of community members, with the nature of such events being substantially related to traffic collisions on public roads involving vehicles operated by suppliers providing services to Vale. In this context, the Company is committed to achieving a 40% reduction in accidents involving community members between 2022 and 2027, within the Iron Ore Solutions segment, defined as fatalities or life-altering injuries¹. In 2025, the Iron Ore Solutions segment recorded 106 accidents involving community members, of which, regrettably, 12 resulted in fatalities. Nevertheless, the rate of fatalities or life-altering injuries decreased by 33% compared to the previous year and by 25% relative to the 2022 baseline, contributing to progress toward the Company’s established commitment.

¹ Events resulting from suicide are not accounted for.

All financial data is presented in millions of United States dollar, unless otherwise stated

In addition to traffic-related incidents, other cases include accidents resulting from unauthorized access to the Company's operational areas. It is important to note that these are not occupational accidents, and there is no intention to assign fault or responsibility for such events. In this regard, Vale works collaboratively with communities, public authorities, suppliers, and other companies operating in the regions to promote a risk prevention culture and reduce the frequency of accidents within communities.

Transversally, performance against these commitments is supported by structured human-rights management processes, including the conduct of independent Human Rights Due Diligence (HRDD), which critical operations and projects are submitted, as well as the ongoing use of Listening and Response Mechanism and the Whistleblower Channel. Vale's enhanced human rights risk management within its supply chain—including the implementation of risk mitigation measures for 80% of high-risk suppliers, spanning supplier onboarding, independent Human Rights Due Diligence (DDDH) and supplier training—evidences the Company's commitment to fostering a supply chain that is more attuned to critical human rights matters, thereby helping to prevent adverse impacts. These instruments enable the assessment of the effectiveness of actions implemented, the identification of emerging risks, and guidance for adjustments to the Company's approach.



Photo: Leo Lopes

11.5 Metrics and targets related to mineral waste

Metrics used to monitor the opportunity for reusing waste rock and tailings

Vale adopts an integrated approach to the management of waste rock and tailings, guided by the Mining and Metallurgical Waste Management Policy, which sets specific guidelines aiming to ensure the safe disposal of these materials throughout the operations' lifecycle, including producing assets, idled units and closure areas. This Policy applies to Vale and its wholly owned subsidiaries and must be replicated by its direct and indirect subsidiaries in Brazil and in other countries, always in compliance with their constitutional documents and applicable legislation. In addition, the Policy incorporates, on a voluntary basis, the adoption of international practices—such as the ICMM Mining Principles and the IFC Environmental, Health and Safety Guidelines for Mining—establishing guidelines that complement the minimum requirements of applicable local jurisdictions for waste management.

The policy establishes that the generation of such waste must be minimized by optimizing mining and beneficiation processes, prioritizing technologies that increase mineral separation efficiency and reduce the volume of material directed to stockpiles and tailings dams. This approach reflects the implementation of management practices that reduce socio environmental risks associated with the generation, handling and storage of large volumes of tailings.

The Policy aims to provide transparency in Vale's management of mining and metallurgical waste, covering mining waste (waste rock and tailings). Given the scale of generation, regulatory requirements, and different disposition pathways, Vale establishes overarching guidelines for a differentiated management approach to these wastes, closely linked to mineral processing (beneficiation) and metallurgical technologies. The Policy encourages the transition to a circular economy by promoting material reuse, technological development, and the reduction of environmental and social risks.

Vale's actions are guided by the following commitments:

- Foster the transition of mining and metallurgical waste to a circular economy based on innovation, investing in technologies that increase ore processing efficiency and enable the recovery and reuse of tailings, waste rock, and slag.
- To prioritize, where geological and technical conditions allow, the adoption of dry processing (natural moisture) in iron ore production.
- To carry out monthly analyses of data on the generation, disposal, and reuse of mining and metallurgical waste, ensuring appropriate reporting both internally and externally.

Below, we present the table with the total mass of waste rock and tailings produced in 2024 and 2025, in million metric tonnes:

	Year ended December 31, 2025	Year ended December 31, 2024
Target ¹		
Tailings	64.1	54.8
Waste rock	251.2	207.7

¹ The disclosed metrics pertain to the production process of the Iron Ore Solutions segment and are associated with the opportunity in question.

All financial data is presented in millions of United States dollar, unless otherwise stated

Ambition established to monitor the opportunity for reusing tailings and waste rock to generate value, with a focus on the circular economy and reducing environmental impacts

Vale’s ambition regarding the reuse of tailings and waste rock is aligned with the gradual and structured integration of circular economy principles into the production process, with clear monitoring mechanisms, focusing on the circular economy and reducing impacts arising from the disposal of mineral waste. This ambition reflects the Company’s direction to increase the use of materials that have already been extracted and beneficiated, thereby reducing the need for new disposal areas and promoting greater efficiency in the use of natural resources.

In alignment with this ambition, the Company has defined a long term direction with a time horizon to 2030, supported by publicly disclosed information that enables tracking the Scale-up of reuse initiatives in terms of operational scale and volumes involved. Progress against this strategic direction is monitored through operational and environmental indicators, including, among others, the absolute volumes of tailings and waste rock reused and their relative share of total production. These indicators enable a consistent assessment of performance over time.

In this context, the Company has established the following ambition, based on public commitments and disclosed information:

Performance against the ambition related to mineral waste management

Vale establishes as its ambition the maximization of natural resource use, seeking to prevent waste generation and to reuse mineral origin materials—both ferrous and non ferrous—such as waste rock and tailings. In this regard, the Company has made consistent progress in circular mining as part of its sustainability strategy. In 2025, the Company continued the Circular Mining Program, with 22 initiatives focused on reusing waste rock and tailings, transforming these materials into new sources of value.

Notable examples include reprocessing operations at the Gelado and Vargem Grande dams and the reuse of the Capanema waste rock pile, which contributed to 26Mt of iron ore produced from circular sources in the year. This volume represents a material advance versus the prior year, reflecting the Scale-up of circular mining initiatives and the growing maturity of the reuse pathways implemented. Additionally, as part of this ambition, the Company seeks to achieve approximately 100 million tonnes (Mt) of iron ore through the reusing of tailings at Capanema by 2033.

These initiatives extend the useful life of material disposal structures (such as piles and dams), in line with the adoption of technologies such as natural moisture, tailings filtration and dry stacking. Circular mining thus acts as a mitigation for geotechnical risks, strengthens operational resilience, reduces environmental impacts associated with mineral waste disposal, and captures long-term opportunities, contributing to value chain optimization and sustainable value creation in alignment with the Company’s strategic objectives.

Ambition: Achieve 10% of Vale’s iron ore production from circular sources by 2030.

Metrics to establish and monitor progress toward the ambition	Total mass of production from circular pathways for waste rock and tailings originating from existing stockpiles, tailings dams, low grade run of mine (ROM), and from processes implemented to reduce iron in tailings (stabilization phase)
Objective	Circular mining aims to maximize the use of natural resources by preventing waste generation and reusing mineral-origin materials—both ferrous and non-ferrous—such as waste rock and tailings
Period	2024–2030
Base year	2024
Milestones or interim targets	N/A.
Methodology for setting the ambition	Assessment of the potential production from circular sources, including financial-feasibility analysis and evaluation of current installed capacity
Frequency of ambition review	3 years
Progress achieved	In 2025, Vale recovered over 26 million tonnes (Mt) of iron ore through the reuse of waste rock and tailings, representing 8% of total iron ore production. By comparison, in 2024 this share was 4%, demonstrating the advancement of circular mining within the Company

All financial data is presented in millions of United States dollar, unless otherwise stated

11.6 Metrics and targets related to health and safety

Metrics used to measure and monitor Health and Safety risks

Vale considers Health and Safety a fundamental value underpinning the execution of its operations, informing decisions, processes and behaviors to protect life and enable safe operations. This approach is directly related to risks associated with mobile equipment, vehicles, industrial equipment and critical infrastructure, which may lead to serious or fatal accidents in the event of deficiencies in asset integrity, operational discipline and/or the effectiveness of critical control barriers.

Within the Safe Operations framework, technical guidance on health, safety and operational risk management is set out in the Vale Production System (VPS), which provides a shared reference for defining, applying and tracking the metrics used to monitor Health and Safety risks. This approach enhances the technical consistency of the indicators and reinforces operational discipline throughout the Company's activities.

The metrics adopted are aligned with the prevention strategy and comprise indicators related to the occurrence and severity of events, including the total incident rate, the work-related fatality rate and the near-miss frequency rate. These metrics support the monitoring of risk materialization associated with the hazards described in Risk 8 and the evaluation of the effectiveness of prevention and control measures.

Metric	Year ended December 31, 2025		Year ended December 31, 2024	
	Own employees	Third parties	Own employees	Third parties
Iron Ore Solutions				
Total recordable injury frequency rate ¹	0.19	0.38	0.15	0.20
Fatality rate ¹	0	0.0039	0.0018	0.0014
Near-miss frequency rate (NMFR) ¹²	18.22	5.53	-	-
Number of fatalities	0	3	1	2
Base Metals				
Total recordable injury frequency rate ¹²	0.42	0.35	0.43	0.35
Fatality rate ¹	0	0	0	0.0050
Near-miss frequency rate (NMFR) ¹	12.26	1.10	-	-
Number of fatalities	0	0	0	1

¹ The indices were calculated based on 200,000 hours worked, and all direct and third-party employees were included in the reporting of this indicator.

² The Company started monitoring this metric in 2025.

In the context of prevention, training employees to recognize hazards, act safely, and respond appropriately to adverse situations contributes to reducing the risk of serious or fatal accidents. Vale offers a wide range of training and capacity-building programs, with basic induction training mandatory for all employees and role-specific training tailored to each employee according to their function. In 2025, the average number of training hours on health, safety, and emergency management topics for own employees was 18.7 hours.

Commitments established to mitigate Health and Safety risks

The management of Health and Safety risks is guided by corporate commitments that reflect Vale's prioritization of protecting life and ensuring safe operations as core elements of its activities. These commitments are directly linked to mitigating the risks of serious or fatal accidents arising from the operation of critical assets and go beyond compliance with regulatory requirements.

In this context, Vale has committed to eliminating fatalities and fostering an increasingly safe working environment, recognizing the role of behavior, leadership and operational discipline in preventing high-severity events. This direction underpins initiatives aimed at strengthening a prevention culture and safe decision-making across the organization and the value chain.

As part of this approach, the Company has established specific commitments focused on reducing severe events, mitigating exposure to health risk factors and strengthening process safety. Key commitments include:

- Achieving zero fatalities;
- Reducing the occurrence of events classified as N1 and N2 compared with the prior year's year-end result;
- Reducing exposures to the principal health risk agents by 50%, compared with 2019, by 2025; and
- Eliminating all risk scenarios classified as Very High for Health, Safety, Environment and Communities.

These commitments guide priority-setting, resource allocation and the assessment of the effectiveness of actions implemented to mitigate Health and Safety risks associated with the Company's operations.



Photo: José Palma

Commitment: Zero fatalities

Metrics to establish and monitor progress Number of fatalities occurring in workplaces under Vale’s operational control

Objective Eliminate the risk of fatalities in operations, ensuring the protection of life and the physical integrity of individuals, through the continuous strengthening of operational controls and the management of critical risks, in alignment with internal standards and occupational health and safety regulatory requirements.

Period N/A

Base year 2019

Interim targets or milestones N/A

Methodology for target setting N/A

Frequency of commitment review N/A

Progress achieved In 2025, Vale recorded three fatalities in its operations.

Commitment: Reduce the number of events classified as N1 and N2 compared with the prior year-end result

Metrics to establish and monitor progress Year-to-date number of fatality events in workplaces under Vale’s operational control (N1) and lost-time incidents, restrictions with the potential for fatalities, or actual life-altering events (N2), compared with the prior year.

Objective Reduce the occurrence of higher-severity safety events (N1 and N2), mitigating the materialization of operational risks and preventing escalation into high-severity events, with a focus on strengthening preventive controls, continuously improving health and safety performance, and safeguarding the physical integrity of people, in alignment with internal standards and through the ongoing reinforcement of critical operational controls.

Period N/A

Base year 2019

Interim targets or milestones N/A

Methodology for target setting N/A

Frequency of commitment review N/A

Progress achieved In 2025, N1+N2 events (14) showed a 22% reduction compared to 2024 (18), increasing to 66% when compared to 2019 (41).

Commitment: Reduce by 50% the number of exposures to harmful health agents in the workplace by 2025.

Metrics to establish and monitor progress	Number of exposures in 2025 compared to the baseline.
Objective	Prioritise scenarios involving the principal health risks present in processes that may cause injuries and chronic diseases; In operations, programs focused on risk management are in place, acting in the identification and monitoring of work environments, with the aim of eliminating or, where elimination is not possible, controlling environmental risk agents present. Working to eliminate risks by replacing materials and chemicals with safer alternatives, as well as by defining and implementing collective measures to minimize them. Vale have global Occupational Hygiene guidelines aimed at establishing minimum requirements for the management of environmental risks.
Period	2019 – 2025
Base year	2019
Interim targets or milestones	N/A
Methodology for target setting	The target was achieved in 2023. In 2025, exposures totalled 8.5 thousand, corresponding to a 63% reduction compared with the baseline.
Frequency of commitment review	N/A
Progress achieved	A total 8.5 thousand exposures were recorded, corresponding to a 63% reduction compared with the baseline.

Commitment: Eliminate all risk scenarios classified as Very High for Health, Safety, Environment and Communities

Metrics to establish and monitor progress	Progress in eliminating risk scenarios classified as Very High is monitored by tracking the total number of such risks existing in operations, as well as adherence to action plans for addressing risks at this priority level. In this context, treatment includes the reduction, substitution, and elimination of very high-risk scenarios. It is important to note that risk management is dynamic, impacted not only by risk reduction, but also by the monitoring of protective barriers and the identification of risks arising from new operations and processes implemented in operational areas. In this regard, the maturity achieved in the management and treatment of Very High risks is highlighted, with diligence in establishing and monitoring strategies for the treatment and contingency of these risks
Objective	Very High risks are those with the greatest potential to cause harm to Health, Safety, the Environment, and Communities. Reducing these risks, therefore, means reducing the likelihood of adverse events with significant consequences arising from the Company's activities.
Period	N/A
Base year	2023
Interim targets or milestones	N/A
Methodology for target setting	Very high-priority operational risks are subject to mandatory reduction within the Company, in accordance with the current governance framework. Accordingly, we are committed to the timely treatment of these scenarios, aiming at their reduction/elimination.
Commitment review frequency	N/A
Progress achieved	In 2025, the Company reduced the number of process safety risk scenarios classified as "Very High" by 37.5% compared with 2024 and by 94% compared with 2023.

Monitoring of progress and target review

Progress against Health and Safety metrics and targets is monitored regularly through operational, risk and strategic indicators, which are tracked by the operational areas, governance bodies and the responsible executives.

The results are regularly reported to the relevant executive committees and to the Board of Directors, enabling an assessment of the effectiveness of the actions implemented and the timely adjustment of initiatives and priorities, when necessary. This model aims to ensure that Health and Safety risk management is embedded in corporate strategy and decision-making.

All financial data is presented in millions of United States dollar, unless otherwise stated

11.7 Activity Metrics

Below is the volume produced in 2025 and 2024, in thousand metric tons of marketable product, by business segment:

Metric	Year ended December 31, 2025	Year ended December 31, 2024
Iron Ore Solutions		
Iron ore	336,075	327,675
Iron ore pellets	31,356	36,891
Vale Base Metals		
Copper	382.3	348.2
Nickel	177.2	159.9
By-products	219	160

Below is the total number of employees in 2025 and 2024, segregated between direct employees and third-party employees:

	Quantity	(%)	Quantity	(%)
	Year ended December 31, 2025		Year ended December 31, 2024	
Own employees ¹	65,805	37.2	64,610	37.1
Third-party employees ²	110,906	62.8	109,506	62.9
Total	176,711	100.0	174,116	100.0

¹Includes all fixed term employees, trainees, and employees hired through our affirmative action program for Persons with Disabilities.

²The classification of contracted workers considers the total number of third party individuals who access Vale's sites.

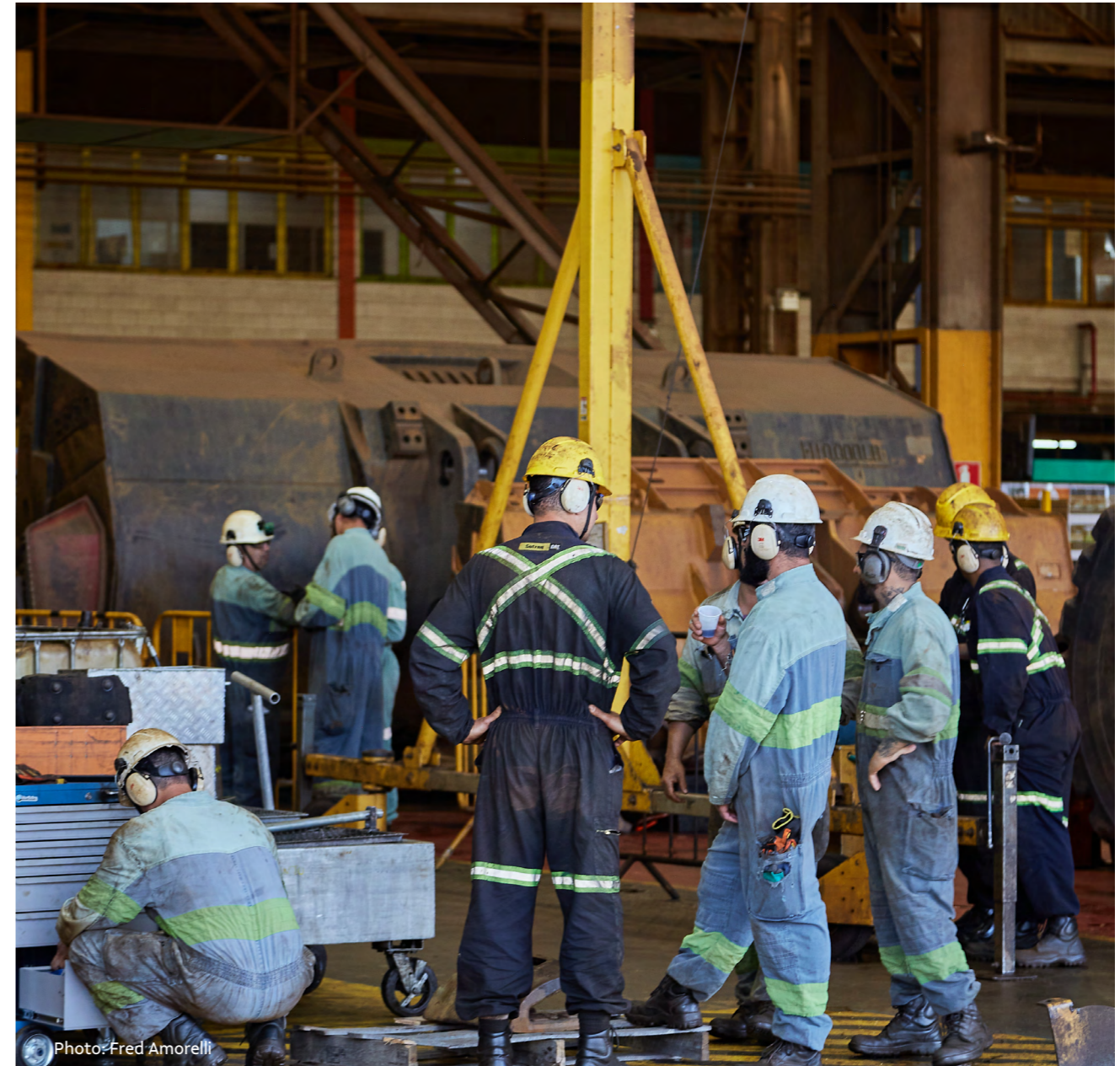


Photo: Fred Amorelli

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Photo: Washington Alves

Legal Notices

This document presents sustainability related risks and opportunities relevant to Vale and to the primary users of general purpose financial reports, in accordance with CVM Resolutions No. 193, 217, and 218. Vale has sought to ensure the accuracy and completeness of the information contained herein; however, this document is subject to limitations, uncertainties, and other continuously evolving factors inherent to complex matters.

This report was prepared based on current information, estimates, and judgments, using models, methodologies, and standards that are subject to certain assumptions and limitations. Such limitations include, among others, data availability and accuracy, the lack of standardization and historical data series, as well as future contingencies, dependencies, risks, and uncertainties associated with, among other factors, legislative, judicial, tax, technological, and regulatory developments at both global and regional levels, including matters related to climate change and sustainability disclosures. As a result, these parameters may require adjustments beyond Vale's control and may change over time.

Throughout the text, current expectations and estimates made by the Company—many of which are subject to external factors—may be identified through the use of forward-looking terms such as “believe”, “may”, “expect”, “should”, “plan”, “intend”, “estimate”, “aims”, “seeks”, “target”, “ambition”, “objective” and “potential”, among others. Factors that may influence such outcomes include: (i) changes in public policies or regulations; (ii) economic and market fluctuations; (iii) technological advances and industry innovations; (iv) weather conditions and natural events; (v) geopolitical and social factors that may affect operations; (vi) industry trends, including pricing directions and expected supply and demand levels; (vii) the implementation of

the Company's financing strategy and investment plans; (viii) Vale's ability to implement new technologies to mitigate operational risks or achieve its targets and commitments; and (ix) other unforeseen risks and uncertainties. Potential investors should be aware that forward-looking statements do not constitute guarantees of future performance and that Vale's actual performance may differ materially from that expressed or implied herein.

Given the nature of these variables, there can be no assurance that the plans, initiatives, targets, commitments, or ambitions described in this report will be achieved, in whole or in part, or that future results will be consistent with the expectations expressed herein, particularly, but not limited to, with respect to third parties and the value chain. Vale reserves the right, at its discretion, to revise, adjust, or reassess its strategy, objectives, and operational approaches in response to changes in internal or external conditions, without any obligation to provide prior notice or update this document.

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Neither Vale nor its officers, directors, management, committee members, or representatives assume any responsibility for misinterpretations of this report or for any decisions, actions, or losses arising from its use. The preparation of this document reflects the Company's perspective at a specific point in time and does not imply, under any circumstances, the assumption of obligations by Vale or its management and committee members, whose actions are limited to their statutory duties and the applicable legislation.

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ANNEX I – Climate-related information base

Assumptions used in the calculation of GHG emissions

Scope 1

Scope 1 assumptions

Assumptions The Scope 1 emission factors vary according to the type of energy source, the equipment used, the location, and the gas considered. Accordingly, this section presents the main Scope 1 emission factors by category, based on the assumptions described below, which cover the majority of the Company's emissions.

Locations Brazil, Canada, Japan, Oman, and the United Kingdom.

Category

- Combustion (mobile or stationary): The emission factors considered are those for diesel and biodiesel, which together account for more than 80% of emissions at our mining complexes.
- Industrial processes: The emission factors selected correspond to anthracite and natural gas, the primary energy sources used in the Company's pelletizing process.
- Fugitive emissions: The emission factors considered are those of the two main gases reported in 2025: R 134a and R 410a.
- Land use: The recording of this indicator is conducted in partnership with the Vale Technological Institute (ITV), applying the stock change approach to quantify emissions and removals among the carbon reservoirs of each location. The emission factor considers the carbon content of each biome assessed and the stage of vegetation, which may vary across states and countries. The table presents the average emissions per hectare cleared in Brazil in 2025.

Judgments Default emission factors are used, as indicated in the table, in cases where no local or regional references are available.

Emission category	Emission-generating activity	Data source	Calculation method
Stationary combustion	Burning of fuel used in stationary equipment, as well as the use of explosives in mines	Invoices and internal systems for managing the supply/ consumption of fuels and explosives in mines	Based on emission factors, which are updated annually, consumption (expressed in mass, volume or energy) is converted into greenhouse gas emissions.
Mobile combustion	Burning of fuel used in mobile equipment, such as in truck and locomotive fleets	Invoices and internal systems for managing the supply/ consumption of fuels	
Industrial process	Physical or chemical processes related to the production of pellets, briquettes, nickel and ferronickel	Invoices and internal systems for managing and analyzing inputs applied to industrial processes	Emissions from industrial processes are accounted for using mass balances of fuels, non-fuel inputs and post-processing products, weighted by their respective carbon content and converted into CO ₂ emissions.
Fugitive emissions	Unintentional releases of substances such as sulfur hexafluoride (SF ₆) and hydrofluorocarbons (HFCs)	Management and analysis of inputs	Based on emission factors, which are updated annually, consumption (expressed in mass, volume or energy) is converted into greenhouse gas emissions.
Land use	Clearance of native vegetation by the Company	Topography, GPS aided site surveys, remote sensing, among others.	Based on stocks, using reference values for land use and cover, forest type and age of secondary forest.

¹ Documents that record the quantities of inputs, fuels, or electricity sold.

All financial data is presented in millions of United States dollar, unless otherwise stated

Reference basis for emission factors

Category	Energy / Gas type	Country	Description	Unit of measure	2025	2024	Reference 2025
Combustion (Mobile or Stationary)	Diesel	Brazil	Carbon emission factor – Diesel – Brazil	t/TJ	20.20	20.20	Value of "Gas/Diesel Oil".2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 1: Introduction. Table 1.3 Default values of carbon content.
		Canada	Carbon emission factor – Diesel – Canada	t/TJ	19.06	19.06	Adopted Gas/Diesel Oil: 19.06 t C/TJ GCV. NIR 2025. National Inventory Report 1990 –2023: Greenhouse Gas Sources and Sinks In Canada. Part 2 – Table A4–2 Reference Approach Energy Contents and Emission Factors for Canada (p.250).
		Japan	Carbon emission factor – Diesel – Japan	t/TJ	18.80	18.80	Adopted Gas oil or diesel oil (crude oil origin): 18.8 t C/TJ GCV. National Greenhouse Gas Inventory Report of Japan 2025. Table 3–11 Carbon emission factors for fuel combustion in gross calorific value (unit: t–C/TJ) – valor 2023 (p.3–18, 82). Pag 3–18, 82
		Oman	Carbon emission factor – Diesel – Oman	t/TJ	20.20	20.20	2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 1: Introduction. Table 1.3 Default values of carbon content.
		United Kingdom	Carbon emission factor – Diesel – United Kingdom	t/TJ	20.06	20.06	The carbon emission factor (C) was calculated using a mass balance approach based on the CO ₂ emission factor. For diesel fuel (100% mineral diesel), an emission factor of 0.26475 kg CO ₂ /kWh (net calorific value) was adopted, as referenced in the “Fuels” worksheet, row 77. The source is DEFRA (2025), Conversion Factors 2025 – Full Set (for Advanced Users), Gov.uk, Version 1.1. It was necessary to convert units from kWh to TJ for consistency with energy reporting requirements.
	Biodiesel – B100	Brazil	Carbon emission factor – B100 – Brazil	t/TJ	19.30	19.30	Value of "Biodiesels". 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 1: Introduction. Table 1.3 Default values of carbon content.
		Canada	Carbon emission factor – B100 – Canada	t/TJ	18.75	18.77	Adopted Liquid Biomass: 18.75 t C/TJ GCV. NIR 2025. National Inventory Report 1990 –2023: Greenhouse Gas Sources and Sinks In Canada. Part 2 – Table A4–2 Reference Approach Energy Contents and Emission Factors for Canada (pág. 250).

All financial data is presented in millions of United States dollar, unless otherwise stated

Category	Energy / Gas type	Country	Description	Unit of measure	2025	2024	Reference 2025
Combustion (Mobile or Stationary)	Biodiesel – B100	Default	Carbon emission factor – B100 – Default	t C / TJ	19.3	19.3	Value of "Biodiesels" 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 1: Introduction. Table 1.3 Default values of carbon content.
		United Kingdom	Carbon emission factor – B100 – United Kingdom	t C / TJ	19.68	19.68	Biodiesel= 72.16 kg CO ₂ / GJ. Sheet: "Outside of Scopes". Célular D35.DEFRA 2025: Conversion factors 2025– Full set (for advanced users) – Gov.uk.
	Diesel	Default	Emission factor for CH ₄ – Diesel – Boiler – Default	kg CH ₄ / TJ	0.2	0.2	Value of "Gas/Diesel Oil Boilers".2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.7 Industrial source emission factors.
			Emission factor for N ₂ O – Diesel – Boiler – Default	kg N ₂ O / TJ	0.4	0.4	Value of "Gas/Diesel Oil Boilers".2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.7 Industrial source emission factors
			Emission factor for CH ₄ – Diesel –Furnace – Default	kg CH ₄ / TJ	3	3	Value of "Gas/Diesel Oil" – Default Emission Factor.2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction.
			Emission factor for N ₂ O – Diesel – Furnace – Default	kg N ₂ O / TJ	0.6	0.6	Value of "Gas/Diesel Oil" – Default Emission Factor.2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction.
			Emission factor for CH ₄ – Diesel – Railways – Default	kg CH ₄ / TJ	4.15	4,5	Railways – Diesel. IPCC 2006, Volume 2, Chapter 3, Table 3.4.1 Default emission factors for the most common fuels used for rail transport (valor default)
Emission factor for N ₂ O – Diesel – Railways – Default	kg N ₂ O / TJ	28.6	28.6	Railways – Diesel. IPCC 2006, Volume 2, Chapter 3, Table 3.4.1 Default emission factors for the most common fuels used for rail transport (valor default)			

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Category	Energy / Gas type	Country	Description	Unit of measure	2025	2024	Reference 2025
Combustion (Mobile or Stationary)	Diesel	Default	Emission factor for CH4 – Diesel – Stationary Motor – Default	kg/TJ	3.0	3.0	Value of "Gas/Diesel Oil" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction
			Emission factor for N2O – Diesel – Stationary Motor – Default	kg/TJ	0.6	0.6	Value of "Gas/Diesel Oil" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction
			Emission factor for CH4 – Diesel – Mobile Motor – Default	kg/TJ	4.15	4.15	Railways – Diesel. IPCC 2006, Volume 2, Chapter 3, Table 3.4.1 Default emission factors for the most common fuels used for rail transport (valor default)
			Emission factor for N2O – Diesel – Mobile Motor – Default	kg/TJ	28.6	28.6	Railways – Diesel. IPCC 2006, Volume 2, Chapter 3, Table 3.4.1 Default emission factors for the most common fuels used for rail transport (valor default)
	Biodiesel – B100	Default	Emission factor for CH4 – B100 – Boiler – Default	kg/TJ	3.0	3.0	Value of "Biodiesels" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction
			Emission factor for N2O – B100 – Boiler – Default	kg/TJ	0.6	0.6	Value of "Biodiesels" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction
			Emission factor for CH4 – B100 – Furnace – Default	kg/TJ	3.0	3.0	Value of "Biodiesels" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction
			Emission factor for N2O – B100 – Furnace – Default	kg/TJ	0.6	0.6	Value of "Biodiesels" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction

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Category	Energy / Gas type	Country	Description	Unit of measure	2025	2024	Reference 2025
Combustion (Mobile or Stationary)	Biodiesel - B100	Default	Emission factor for CH ₄ - B100 - Railways - Default	kg CH ₄ / TJ	4.15	4.15	Railways - Diesel. IPCC 2006, Volume 2, Chapter 3, Table 3.4.1 Default emission factors for the most common fuels used for rail transport (valor default)
			Emission factor for N ₂ O - B100 - Railways - Default	kg N ₂ O / TJ	28.6	28.6	Railways - Diesel. IPCC 2006, Volume 2, Chapter 3, Table 3.4.1 Default emission factors for the most common fuels used for rail transport (valor default)
			Emission factor for CH ₄ - B100 - Stationary Motor - Default	kg CH ₄ / TJ	3	3	Value of "Biodiesels" - Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction
			Emission factor for N ₂ O - B100 - Stationary Motor - Default	kg N ₂ O / TJ	0.6	0.6	Value of "Biodiesels" - Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction
			Emission factor for CH ₄ - B100 - Mobile Motor - Default	kg CH ₄ / TJ	4.15	4.15	Off-road source - Industry - Diesel. IPCC 2006, Volume 2, Chapter 3, Table 3.3.1 Default emission factors for off-road mobile sources and machinery (valor default)
			Emission factor for N ₂ O - B100 - Mobile Motor - Default	kg N ₂ O / TJ	28.6	28.6	Off-road source - Industry - Diesel. IPCC 2006, Volume 2, Chapter 3, Table 3.3.1 DEFAULT EMISSION FACTORS FOR OFF-ROAD MOBILE SOURCES AND MACHINERY (valor default)
Industrial Processes	Anthracite	Default	Carbon Emission Factor - Anthracite - Default	t C / TJ	26.8	26.8	Value of "Anthracite" 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 2: Energy > Chapter 1: Introduction Table 1.3. Default values of carbon content
	Natural Gas	Default	Carbon Emission Factor - Natural Gas - Default	t C / TJ	15.33	15.33	Value of "Natural Gas" 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 2: Energy > Chapter 1: Introduction Table 1.3. Default values of carbon content

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Category	Energy / Gas type	Country	Description	Unit of measure	2025	2024	Reference 2025	
Industrial Processes	Natural Gas	Canada	Carbon Emission Factor – Natural Gas – Canada	t/TJ	13.79	13.79	Adopted Natural Gas: 13.79 t C/TJ GCV. NIR 2024. National Inventory Report 1990 –2022: Greenhouse Gas Sources and Sinks In Canada. Part 2 – Table A4–2 Reference Approach Energy Conversion and Emission Factors for Canada.	
		Japan	Carbon Emission Factor – Natural Gas – Japan	t/TJ	13.9	13.9	Adopted Indigenous natural gas: 13.9 t C/TJ GCV. National Greenhouse Gas Inventory Report of Japan 2024. Table 3-11 Carbon emission factors for fuel combustion in gross calorific value (Unit: t-C/TJ) – valor 2021. Pag 3-17	
		Oman	Carbon Emission Factor – Natural Gas – Oman	t/TJ	15.3	15.3	Value of "Natural Gas" 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 2: Energy > Chapter 1: Introduction Table 1.3. Default values of carbon content	
		United Kingdom	Carbon Emission Factor – Natural Gas – United Kingdom	t/TJ	15.32	15.32	C emission factor calculated by mass balance from CO2 FE: Adopted Natural gas = 0.20223 kgCO2/ kwh (Net CV) Sheet: "Fuels" DEFRA 2023: Conversion factors 2023 – Full set (for advanced users) – Gov.uk Expiry: 10/06/2024 Version: 1,1 It was necessary to convert kwh to TJ.	
	Anthracite	Default		Emission factor for CH ₄ – Anthracite – Boiler – Default	kg/TJ	10.00	10.00	Value of "Anthracite" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction.
				Emission factor for N ₂ O – Anthracite – Boiler – Default	kg/TJ	1.5	1.5	Value of "Anthracite" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction.
				Emission factor for CH ₄ – Anthracite – Furnace – Default	kg/TJ	10.00	10.00	Value of "Anthracite" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction.

All financial data is presented in millions of United States dollar, unless otherwise stated

Category	Energy / Gas type	Country	Description	Unit of measure	2025	2024	Reference 2025
Industrial Processes	Anthracite	Default	Emission factor for N ₂ O – Anthracite – Furnace – Default	kg N ₂ O / TJ	1.5	1.5	Value of "Anthracite" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction.
			Emission factor for CH ₄ – Anthracite – Stationary Motor – Default	kg CH ₄ / TJ	10	10	Value of "Anthracite" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction.
			Emission factor for N ₂ O – Anthracite – Stationary Motor – Default	kg N ₂ O / TJ	1.5	1.5	Value of "Anthracite" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction.
	Natural Gas	Default	Emission factor for CH ₄ – Natural gas – Boiler – Default	kg CH ₄ / TJ	1	1	Value of "Natural Gas / Boilers" 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.7 Industrial source emission factors
			Emission factor for N ₂ O – Natural gas – Boiler – Default	kg N ₂ O / TJ	1	1	Value of "Natural Gas / Boilers" 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.7 Industrial source emission factors
			Emission factor for CH ₄ – Natural gas – Furnace – Default	kg CH ₄ / TJ	1	1	Valor de "Natural Gas" – Default Emission Factor. 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction.
			Emission factor for N ₂ O – Natural gas – Furnace – Default	kg N ₂ O / TJ	0.1	0.1	Value of "Natural Gas" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction
			Emission factor for CH ₄ – Natural gas – Stationary Motor – Default	kg CH ₄ / TJ	1	1	Value of "Natural Gas" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction
			Emission factor for N ₂ O – Natural gas – Stationary Motor – Default	kg N ₂ O / TJ	0.1	0.1	Value of "Natural Gas" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction
			Emission factor for N ₂ O – Natural gas – Stationary Motor – Default	kg N ₂ O / TJ	0.1	0.1	Value of "Natural Gas" – Default Emission Factor 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.3 Default emission factors for stationary combustion in manufacturing industries and construction

All financial data is presented in millions of United States dollar, unless otherwise stated

Category	Energy / Gas type	Country	Description	Unit of measure	2025	2024	Reference 2025
Industrial Processes	Natural Gas	Default	Emission factor for CH ₄ – Natural gas – Mobile Motor – Default	kg/TJ	92	92	Natural Gas. IPCC 2006 Guidelines for National Greenhouse Gas Inventories – volume 2: energy – chapter 3: table 3.2.2 road transport N ₂ O and CH ₄ default emission factors and uncertainty RANGES
			Emission factor for N ₂ O – Natural gas – Mobile Motor – Default	kg/TJ	3	3	Valor de "Natural Gas". IPCC 2006 Guidelines for National Greenhouse Gas Inventories – Volume 2: Energy – Chapter 3: Table 3.2.2 Road transport N ₂ O and CH ₄ default emission factors and uncertainty ranges.
			Emission factor for CH ₄ – Natural gas – Turbine – Default	kg/TJ	4	4	Value of "Natural Gas / Gas-Fired Gas Turbines >3MW" 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.7 Industrial source emission factors
			Emission factor for N ₂ O – Natural gas – Turbine – Default	kg/TJ	1	1	Value of "Natural Gas / Gas-Fired Gas Turbines >3MW" 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 2: Energy > Chapter 2: Stationary Combustion. Table 2.7 Industrial source emission factors
Fugitive Emissions	R-134a	Default	HFC	kg/kg	1,530	1,300	GWP for 100-yr (IPCC, 2013) IPCC Fifth Assessment Report: Climate Change 2013: The Physical Science Basis (AR5) Table 8 A.1: Lifetimes, Radiative Efficiencies and Metric Values (Página 747) link: < https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_all_final.pdf >
	R-410a	Default	Blend	kg/kg	1,923.5	2,087.5	GWP for 100-yr PBGHG Tool (v2021.0.1) Tab: Emission Factors > Section 5: Global Warming Potential (GWP) > Table 21. Global warming potential (GWP) of greenhouse gases controlled by the Kyoto Protocol.
Land Use	Land Use Emissions	Brazil	Average emissions per hectare suppressed in 2024	t / ha	365.4	149.4	Information provided by Instituto Tecnológico Vale (ITV)

Scope 2

Emission category	Emission-generating activity	Data source	Calculation method	Emission Factor References
Purchased electricity	Generation of electricity purchased and consumed by the Company	Invoices and internal systems for measuring and managing electricity consumption	Based on the emission factors of the power grids where Vale operates, Scope 2 (location-based) emissions are calculated for the consumption invoiced and managed by the Company.	MCTI – Ministério da Ciência, Tecnologia e Inovação do Brasil IEA – International Energy Agency DEFRA – Department for Environment, Food & Rural Affairs

All financial data is presented in millions of United States dollar, unless otherwise stated

Scope 3

Emission category	Emission-generating activity	Data source	Calculation method
1 – Purchased goods and services	Upstream emissions (cradle to gate) arising from the extraction, production and transportation of goods and services purchased by the Company in the reporting year, when not otherwise included in categories 2 to 8	Internal procurement management systems	<i>Average-data</i>
2 – Capital goods	Emissions derived from the extraction, production and transportation of capital goods (machinery, real estate, plant, property and equipment) purchased or acquired	Internal procurement management systems	<i>Average-data</i>
3 – Fuel- and energy-related activities not included in Scopes 1 and 2	Emissions related to the extraction, production and transportation of fuels and energy purchased and consumed by the Company. The energy purchased for processes (Scope 2) includes transmission and distribution losses in the system, which are also quantified in this category.	Invoices and internal systems for managing consumption of fuels and electricity	<i>Average-data</i>
4 – Upstream transportation and distribution	Emissions related to the transportation and distribution of Vale's inputs, products and waste, when carried out by a tier 1 supplier (both inbound, meaning transportation from suppliers to Vale, and outbound, meaning transportation from Vale to the client or final destination). This category also includes emissions from the transportation of materials between the Company's sites.	Internal systems for managing fuel consumption as well as transportation and distribution distances traveled	<i>Fuel-based and Distance-based</i>
6 – Business travel	Emissions derived from business travel, covering both domestic and international flights made by employees, as well as other services related to business travel, such as hotel accommodations and car rental.	Systems for managing business travel	<i>Distance-based</i>
7 – Employee commuting	Emissions from transportation of employees between their homes and worksites during the reporting year (in vehicles not owned or operated by Vale).	Internal systems for managing fuel consumption for employee commuting	<i>Fuel-based</i>
9 – Downstream transportation and distribution	Emissions arising from the transportation and distribution of products sold by the reporting company in the reporting year, between Vale's operations and the end consumer (if not paid for by the reporting company), including retail and storage (in vehicles and facilities not owned or controlled by the reporting company).	Internal systems for managing fuel consumption as well as transportation and distribution distances traveled	<i>Fuel-based and Distance-based</i>
10 – Processing of sold products	Emissions from the industrial processing of products sold by the reporting organization. This category includes emissions generated up to the end of the chain (final consumer).	Systems for managing sold products	<i>Average-data</i>
15 – Investments	Emissions associated with the operation of the Company's investments in the reporting year, including equity and debt investments and project finance, and not yet incorporated into the Scope 1 and/or Scope 2 emissions inventory.	Internal investment management systems, GHG inventories, and financial and production data disclosed by Vale's investees	<i>Investment-specific</i>

All financial data is presented in millions of United States dollar, unless otherwise stated

Reference Basis for Emission Factors

Key Emission Factors Used in Calculating Scope 3, Category 10, Related to the Processing of Sold Iron Ore. Emissions from the processing of sold iron ore represent approximately 93.7% of Vale's total Scope 3 emissions.

Main Emissions Factors – Scope 3 (Category 10: Processing of Sold Products)	2025	2024	Unit of measure	Reference
CO ₂ emission factor for Direct Reduced Iron – DRI production	0.7	0.7	t CO ₂ / t DRI	IPCC 2019 Refinement: Guidelines for National GHG Inventories. Volume 3, Chapter 4: Metal Industry Emissions. TABLE 4.1B (NEW) TIER 1 DEFAULT CO ₂ EMISSION FACTORS FOR IRON AND STEEL PRODUCTION
CO ₂ emission factor for Hot Metal Production in Blast Furnace – BF	1.43	1.43	t CO ₂ / t HM	IPCC 2019 Refinement: Guidelines for National GHG Inventories. Volume 3, Chapter 4: Metal Industry Emissions. TABLE 4.1B (NEW) TIER 1 DEFAULT CO ₂ EMISSION FACTORS FOR IRON AND STEEL PRODUCTION
CO ₂ emission factor for Sinter production	0.21	0.21	t CO ₂ / t sinter	IPCC 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories – Volume 3 – Industrial Processes and Product Use, Chapter 4: Metal Industry Emissions. TABLE 4.1A (NEW) TIER 1 DEFAULT CO ₂ EMISSION FACTORS FOR SINTER AND PELLET PRODUCTION
CO ₂ emission factor for Steel Production in Blast Oxygen Furnace – BOF	0.174	0.174	t CO ₂ / t liquid steel	Maximum value: 0,174 t CO ₂ / t liquid steel (Joint Research Center 2013), Table 7.3, p. 369 (22.6–174 kg CO ₂ /t liquid steel), without considering blast furnace emissions. IPCC 2019 Refinement: Guidelines for National GHG Inventories. Volume 3, Chapter 4: Metal Industry Emissions. TABLE 4.1b (New) TIER 1 DEFAULT CO ₂ EMISSION FACTORS FOR IRON & STEEL PRODUCTION
CO ₂ emission factor for Steel Production in Electric Arc Furnace – EAF	0.126	0.126	t CO ₂ / t liquid steel	Value of "Electric Arc Furnace (EAF) (tonne CO ₂ per tonne of steel produced)": average 0,126 t CO ₂ / t liquid steel. (average 0,072 – 0,18 t CO ₂ / t steel produced). Note: 1) The emission factor for EAF steelmaking does not include emissions from iron production. 2) (EU IPPC BREF 2013), Chapter 8, Table 8.1 p.429 (0,072– 0,180 t CO ₂ /t of steel produced) IPCC 2019 Refinement: Guidelines for National GHG Inventories. Volume 3, Chapter 4: Metal Industry Emissions. TABLE 4.1b (New) TIER 1 DEFAULT CO ₂ EMISSION FACTORS FOR IRON & STEEL PRODUCTION
CO ₂ emission factor for Steel Production via BF / BOF route	1.58	1.58	t CO ₂ / t liquid steel	IPCC 2019 Refinement: Guidelines for National GHG Inventories. Volume 3, Chapter 4: Metal Industry Emissions. TABLE 4.1B (NEW) TIER 1 DEFAULT CO ₂ EMISSION FACTORS FOR IRON AND STEEL PRODUCTION

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ANNEX II – Sustainability related information base

Inventory of Tailings Storage Facilities

(a) Name of the installation	(b) Country	(c) Ownership status	(d) Operational status	(e) Construction method	(f) Maximum permitted storage capacity (m ³)	(g) Current quantity of tailings stored (m ³)	(h) Consequence classification	(i) Date of most recent independent technical review	(j) Material findings from the independent technical review	(k) Mitigation measures	(l) Site specific Emergency Preparedness and Response Plan (EPRP)
5 - Mutuca	Brazil	Operated by Vale	Active	Downstream	10,811,178.9	9,771,474.4	Extreme	6/04/2024	No	No	Yes
Área IX ¹	Brazil	Operated by Vale	Under decharacterization	Upstream	1,749,290.0	1,350,000.0	Very High	4/19/2024	No	No	Yes
Azul	Brazil	Operated by Vale	Under decharacterization	Downstream	24,260,734.0	19,469,460.0	High	10/18/2024	No	No	Yes
B3/B4	Brazil	Operated by Vale	Decharacterized	Upstream	-	-	-	N/A	N/A	N/A	N/A
Barragem 7	Brazil	Operated by Vale	Active	Single stage	34,000,000.0	10,517,454.0	Extreme	10/23/2024	No	No	Yes
Campo Grande	Brazil	Operated by Vale	Under decharacterization	Upstream	20,589,983.5	19,910,840.2	Extreme	5/07/2025	No	No	Yes
Diogo	Brazil	Operated by Vale	Active	Downstream	15,590,154.0	8,331,645.5	Extreme	4/15/2024	No	No	Yes
Dique de Pedra	Brazil	Operated by Vale	Inactive	Single stage	500,000.0	498,670.0	High	7/25/2024	No	No	Yes
Doutor	Brazil	Operated by Vale	Under decharacterization	Upstream	29,377,356.9	29,377,356.9	Extreme	3/28/2025	No	No	Yes

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(a) Name of the installation	(b) Country	(c) Ownership status	(d) Operational status	(e) Construction method	(f) Maximum permitted storage capacity (t)	(g) Current quantity of tailings stored (t)	(h) Consequence classification	(i) Date of most recent independent technical review	(j) Material findings from the independent technical review	(k) Mitigation measures	(l) Site specific Emergency Preparedness and Response Plan (EPRP)
ED Monjolo	Brazil	Operated by Vale	Under decharacterization	Upstream	19,000,000.0	19,000,000.0	Extreme	9/19/2025	No	No	Yes
ED Vale das Cobras	Brazil	Operated by Vale	Under decharacterization	Upstream	22,981,598.8	22,981,598.8	Extreme	9/19/2025	No	No	Yes
Forquilha I	Brazil	Operated by Vale	Under decharacterization	Upstream	12,763,176.5	12,763,176.5	Extreme	4/25/2023	No	No	Yes
Forquilha II	Brazil	Operated by Vale	Under decharacterization	Upstream	22,778,397.9	22,778,397.9	Extreme	4/25/2023	No	No	Yes
Forquilha III	Brazil	Operated by Vale	Under decharacterization	Upstream	19,476,113.0	19,476,113.0	Very High	11/14/2024	No	No	Yes
Forquilha IV	Brazil	Operated by Vale	Inactive	Center line leveling	8,023,368.0	4,112,295.1	Very High	10/06/2023	No	No	Yes
Forquilha V	Brazil	Operated by Vale	Inactive	Single stage	2,880,000.0	2,370,000.0	Very High	6/13/2024	No	No	Yes
Galego	Brazil	Operated by Vale	Inactive	Downstream	2,281,620.7	1,933,360.0	Extreme	7/26/2024	No	No	Yes
Gelado	Brazil	Operated by Vale	Active	Downstream	161,432,233.0	144,472,543.0	Extreme	11/26/2025	No	No	Yes
Grupo ²	Brazil	Operated by Vale	Decharacterized	Upstream	-	-	Very High	N/A	N/A	N/A	N/A
Itabiruçu	Brazil	Operated by Vale	Active	Downstream	199,230,143.8	194,542,439.5	Extreme	6/10/2024	No	No	Yes

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(a) Name of the installation	(b) Country	(c) Ownership status	(d) Operational status	(e) Construction method	(f) Maximum permitted storage capacity (t)	(g) Current quantity of tailings stored (t)	(h) Consequence classification	(i) Date of most recent independent technical review	(j) Material findings from the independent technical review	(k) Mitigation measures	(l) Site specific Emergency Preparedness and Response Plan (EPRP)
Kalunga	Brazil	Operated by Vale	Active	Downstream	3,060,260.0	2,628,620.0	High	10/23/2024	No	No	Yes
Maravilhas I	Brazil	Operated by Vale	Active	Downstream	2,229,418.0	2,023,578.0	High	9/02/2024	No	No	Yes
Maravilhas II	Brazil	Operated by Vale	Inactive	Downstream	103,751,000.0	86,556,111.0	Extreme	9/19/2025	No	No	Yes
Maravilhas III	Brazil	Operated by Vale	Active	Single stage	29,760,000.0	19,486,675.0	Extreme	12/20/2023	No	No	Yes
Norte/Laranjeiras	Brazil	Operated by Vale	Inactive	Single stage	39,032,006.6	33,181,203.6	Extreme	11/26/2025	No	No	Yes
Peneirinha	Brazil	Operated by Vale	Under decharacterization	Center line	1,201,430.0	1,038,010.0	Significant	11/24/2023	No	No	Yes
Rio do Peixe (Barragem)	Brazil	Operated by Vale	Active	Single stage	16,132,351.7	14,144,168.4	Extreme	9/24/2024	No	No	Yes
5 - MAC	Brazil	Operated by Vale	Inactive	Downstream	14,905,738.4	13,929,308.2	Extreme	4/09/2026	No	No	Yes
Sistema Conceição³	Brazil	Operated by Vale	Active	Upstream	48,147,955.0	45,585,392.0	Extreme	4/09/2025	No	No	Yes
Sistema Pontal	Brazil	Operated by Vale	Under decharacterization	Upstream	227,139,145.0	227,139,145.0	Extreme	10/02/2023	No	No	Yes
Sul (Córrego do Canal)	Brazil	Operated by Vale	Active	Downstream	76,873,080.8	56,511,950.0	Extreme	4/09/2025	No	No	Yes

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(a) Name of the installation	(b) Country	(c) Ownership status	(d) Operational status	(e) Construction method	(f) Maximum permitted storage capacity (t)	(g) Current quantity of tailings stored (t)	(h) Consequence classification	(i) Date of most recent independent technical review	(j) Material findings from the independent technical review	(k) Mitigation measures	(l) Site specific Emergency Preparedness and Response Plan (EPRP)
Sul Superior	Brazil	Operated by Vale	Under decharacterization	Upstream	6,313,073.0	4,488,907.2	High	10/04/2023	No	No	Yes
Timbopeba	Brazil	Operated by Vale	Active	Single stage	26,389,767.6	24,828,630.4	Extreme	5/26/2023	No	No	Yes
Torto	Brazil	Operated by Vale	Active	Single stage	16,900,000.0	8,444,775.4	Extreme	N/A ⁴	No	No	Yes
Vargem Grande	Brazil	Operated by Vale	Under decharacterization	Upstream	4,547,748.6	3,553,170.0	Extreme	11/26/2025	No	No	Yes
VI	Brazil	Operated by Vale	Under decharacterization	Single stage	664,580.3	362,409.7	Extreme	2/13/2025	No	No	Yes
Xingu	Brazil	Operated by Vale	Under decharacterization	Upstream	7,615,355.10	7,588,993.87	Extreme	9/22/2025	No	No	Yes
Copper Cliff Central Tailings Area - A-Area ⁵	Canada	Operated by Vale	Inactive	Upstream	800,000.0	800,000.0	Extreme	sep/2025	No	No	Yes
Copper Cliff Central Tailings Area - M-Area ⁵	Canada	Operated by Vale	Inactive	Upstream	1,700,000.0	1,700,000.0	Extreme	sep/2025	No	No	Yes
Copper Cliff Central Tailings Area - P-Area ⁵	Canada	Operated by Vale	Inactive	Upstream	3,700,000.0	3,700,000.0	Extreme	sep/2025	No	No	Yes
Copper Cliff Central Tailings Area - R-Area	Canada	Operated by Vale	Active	Upstream	550,000,000.0	255,000,000.0	Extreme	sep/2025	No	No	Yes

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(a) Name of the installation	(b) Country	(c) Ownership status	(d) Operational status	(e) Construction method	(f) Maximum permitted storage capacity (t)	(g) Current quantity of tailings stored (t)	(h) Consequence classification	(i) Date of most recent independent technical review	(j) Material findings from the independent technical review	(k) Mitigation measures	(l) Site specific Emergency Preparedness and Response Plan (EPRP)
Headwater Pond	Canada	Operated by Vale	Active	Downstream	19,900,000.0	19,900,000.0	High	aug/2025	No	No	Yes
Residue Storage Area	Canada	Operated by Vale	Active	Downstream	9,820,000.0	5,910,000.0	Extreme	aug/2025	No	No	Yes
Thompson TSF	Canada	Operated by Vale	Active	Downstream	65,700,000.0	45,000,000.0	Very High	jul/2025	No	No	Yes
Upper Ponds Area ⁵	Canada	Operated by Vale	Inactive	Upstream	600,000.0	600,000.0	Extreme	sep/2025	No	No	Yes
Frood-Stobie Emergency Tailings Area ⁶	Canada	Operated by Vale	Inactive	Others	2,500,000.0	2,200,000.0	High	may/2025	No	No	Yes
Shebandowan ⁷	Canada	Operated by Vale	Closed	Downstream	7,000,000.0	4,000,000.0	Very High	may/2025	No	No	Yes
Levack ⁵	Canada	Operated by Vale	Inactive	Downstream	5,400,000.0	5,000,000.0	Significativa	may/2025	No	No	Yes
Barragem do Mirim	Brazil	Operated by Vale	Active	Downstream	353.300.000.0	139.300.000.0	Extreme	oct/2025	No	No	Yes
Barragem Sossego	Brazil	Operated by Vale	Active	Downstream	163,000,000.0	155,194,598.6	Very High	oct/2025	No	No	Yes

Note:

¹ Decommissioning works have been completed, pending approval from regulatory authorities.

² Decharacterization approved by the National Mining Agency. Awaiting FEAM-MG's position.

³ The internal/saddle dikes of the Pontal System (Dike 2, Dike 3, Dike 4, Dike 5, Nova Vista Saddle, Minervino), the Conceição System (1A, 1B), and System 5 – MAC (Auxiliary) are not accounted for independently, as established by Resolution No. 95/2022 and Decree No. 48,140/2021. These structures are upstream-raised and are part of the decharacterization program; seven of them have already had their works completed and are under evaluation and deregistration with regulatory authorities. The main dams of these systems (Dam 5 MAC, Pontal Dam, and Conceição Dam) are not upstream-raised structures and are not part of the decharacterization program.

⁴ The structure began operating in 2023. In accordance with legislation, technical reviews are conducted every 3, 5, or 7 years, depending on the DPA classification. The first review is scheduled for June of this year.

⁵ For these inactive sites, the permitted storage was considered to be the total tonnage of tailings deposited.

⁶ The Frood-Stobie Emergency Tailings Area was constructed downstream of the legacy structure in a single phase.

⁷ Currently, Shebandowan does not have a reliable estimate of the volume of deposited tailings (legacy facility).

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Photo: Washington Alves

Legend – Tailings Dam Consequence Classification¹

Low – No identifiable population at risk; therefore, no loss of life is expected. Environmental impacts are minimal, localized, and reversible, with an affected area of less than 10 km², and no significant loss of habitat or threatened species. Process water is of low toxicity, and tailings are not potentially acid generating. There are no material effects on human health, nor social displacement or cultural impacts. Economic losses are low, below US\$1, in areas with limited infrastructure.

Significant – Involves 1 to 10 people at risk, generally with temporary exposure, with no expected loss of life. Environmental impacts are minor and short term, with possible limited habitat degradation. There may be social or business interruptions, with a low likelihood of cultural losses or adverse health effects. Economic losses remain moderate, below US\$10, primarily associated with recreational uses, seasonal activities, or infrequently used transport routes.

High – Encompasses 11 to 100 people at risk, with the possibility of loss of life. Environmental impacts become significant, including loss or degradation of critical habitat or of rare and threatened species. Process water presents moderate toxicity, with low potential for acid rock drainage (ARD) or metal leaching. The impact area ranges from 10 to 20 km², with restoration that is difficult and long term (>5 years). Socially, it affects between 500 and 1,000 people, with service interruptions, regional cultural impacts, and potential short term adverse health effects. Economic losses are high, affecting infrastructure, public transport, and employment, with relocation or compensation costs below US\$100.

Very High – Considers 101 to 1,000 people at risk, with loss of life deemed likely. Environmental impacts are severe, involving significant loss of critical habitat or threatened species; process water is highly toxic; and there is high potential for ARD and metal leaching. The potentially affected area exceeds 20 km², and restoration or offsetting—while possible—is extremely complex and protracted (between 5 and 20 years). Social impacts are broad, with more than 1,000 people displaced or with activities interrupted for over one year, significant loss of cultural heritage, and material and lasting adverse effects on human health. Economic losses are very high, not exceeding US\$1 billion, affecting important infrastructures and services.

Extreme – Involves more than 1,000 people at risk, with loss of life very likely. Characterized by catastrophic environmental impacts, with irreversible destruction of critical habitat or rare species; process water is highly toxic; and there is extreme potential for ARD and metal leaching. The impacted area exceeds 20 km², and restoration or in kind compensation is impossible or would require more than 20 years. Socially, more than 5,000 people may be affected by prolonged displacement, with significant destruction of national heritage and severe, permanent effects on human health. Economic losses are extreme, exceeding US\$1 billion, impacting critical infrastructure such as hospitals and large industrial complexes, with very high social and resettlement costs.

¹ The Consequence Classification of Tailings Dams is based on the Global Industry Standard on Tailings Management.



Independent auditors' limited assurance report on the information contained in the Sustainability-Related Financial Information 2025 Report

To The Board of Directors and Stockholders
Vale S.A.
Rio de Janeiro - RJ

Introduction

We were engaged by Vale S.A. ("Company" or "Vale") to present our limited assurance report on the sustainability information contained in the Sustainability-Related Financial Information 2025 Report of Vale for the fiscal year ended December 31, 2025.

Our limited assurance does not extend to information from prior periods or to any other information disclosed in conjunction with the Sustainability-Related Financial Information 2025 Report, including any images, audio files, or embedded videos.

Responsibility of the Management of Vale

The management of Vale is responsible for:

- (a) Selecting or establishing appropriate criteria for the preparation and presentation of the information contained in the Sustainability-Related Financial Information 2025 Report.
- (b) Preparing the information in accordance with the Sustainability Disclosure Standards issued by the Brazilian Committee on Sustainability Pronouncements (CBPS) and with the IFRS Sustainability Disclosure Standards issued by the International Sustainability Standards Board (ISSB), both amended by Resolution no. 193/2023 issued by CVM – Comissão de Valores Mobiliários (Brazilian Securities and Exchange Commission).
- (c) Designing, implementing and maintaining internal controls over the relevant information for the preparation of the information contained in the Sustainability-Related Financial Information 2025 Report, so that it is free from material misstatement, whether due to fraud or error.

Limitations in the preparation and presentation of sustainability information and indicators

The management, in the preparation and presentation of sustainability information and indicators, followed the definitions of the Sustainability Disclosure Standards and the



Vale S.A.

IFRS Sustainability Disclosure Standards, therefore, the information presented in the Sustainability-Related Financial Information 2025 Report do not aim at ensuring compliance with social, economic, environmental, or engineering laws and regulations. The aforementioned standards, however, provide for the presentation and disclosure of any risks related to such regulations when considered significant from a financial standpoint.

The absence of a significant set of established practices to base the evaluation and measurement of sustainability information allows for different yet acceptable assessment and measurement techniques, which can affect comparability between entities and over time.

Our independence and quality management

We comply with the independence requirements and other ethical demands of the Federal Accounting Council (CFC), which are based on the principles of integrity, objectivity, competence, and professional diligence, and which also consider the confidentiality and behavior of employees.

We applied NBC PA 01 - Quality Management for Independent Auditors' Firms (Legal Entities and Individuals), and consequently projected, implemented and maintained a comprehensive quality management system, including policies and procedures related to compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Responsibility of the independent auditors

Our responsibility is to express a conclusion on the sustainability information contained in Sustainability-Related Financial Information 2025 Report based on limited assurance engagements conducted in accordance with NBC TO 3000 - "Assurance Engagements Other Than Audits or Reviews", also issued by the Federal Accounting Council (CFC), which is equivalent to the international standard ISAE 3000 - Assurance Engagements Other than Audits or Reviews of Historical Financial Information issued by the International Auditing and Assurance Standards Board (IAASB)).

These standards require that the work be planned and performed to obtain limited assurance that the sustainability information included in the Sustainability-Related Financial Information 2025 Report, taken as a whole, is free from material misstatement, whether due to fraud or error, and to issue a limited assurance report that includes our conclusion.

A limited assurance engagement performed in accordance with NBC TO 3000 (ISAE 3000) consists mainly of making inquiries of Vale management and other Vale employees which are involved in the preparation of the information and applying analytical procedures to obtain evidence that allows us to issue a limited assurance conclusion on the information taken as a whole. A limited assurance engagement also requires the performance of additional procedures when the independent auditor becomes aware of matters that lead them to believe that the information disclosed in the Sustainability-Related Financial Information 2025 Report, taken as a whole, might present significant misstatements.

As part of a limited assurance engagement in accordance with NBC TO 3000 (ISAE 3000), we exercise professional judgment



Vale S.A.

and maintain professional skepticism throughout the engagement. We also:

- (a) We determine the appropriateness in the Company's circumstances of using the Sustainability Disclosure Standards and the IFRS Sustainability Disclosure Standards as the basis for the preparation of sustainability information and indicators.
- (b) We perform risk assessment procedures, including obtaining an understanding of the internal controls relevant to the work, to identify where relevant misstatements are likely to arise, whether due to fraud or error, but not for the purpose of providing a conclusion on the effectiveness of the Company's internal controls.
- (c) We design and implement procedures that address cases where significant misstatements in sustainability information and indicators are likely to arise. The risk of not identifying a relevant misstatement resulting from fraud is greater than the one resulting from error, as fraud may involve collusion, forgery, willful omissions, or breach of internal controls.

Summary of procedures performed

The procedures selected are based on our understanding of the aspects related to the compilation, materiality and presentation of the information contained in the Sustainability-Related Financial Information 2025 Report, other circumstances of the engagement and our analysis of activities and processes associated with material information disclosed in the Sustainability-Related Financial Information 2025 Report, where significant misstatements might exist. The following procedures were adopted:

- (a) planning the work to understand the preparation process of sustainability information, taking into consideration the materiality and the volume of quantitative and qualitative information and the operational and internal control systems that were used to prepare the information contained in the Sustainability-Related Financial Information 2025 Report;
- (b) the assessment of whether the structure and presentation of sustainability information are in accordance with CBPS/ISSB;
- (c) understanding the calculation methodologies and the procedures adopted for the compilation of the indicators through inquiries with the managers responsible for the preparation of the information;
- (d) the application of analytical procedures on quantitative information and inquiries about qualitative information and its correlation with the indicators disclosed in the Sustainability-Related Financial Information 2025 Report;
- (e) the application of substantive tests to specific sustainability information and indicators; and
- (f) for cases where sustainability information correlates with financial indicators, the comparison of these indicators with the audited financial statements of the Company for the fiscal year ended December 31, 2025.

The limited assurance engagement also included the analysis of adherence to the Sustainability Disclosure Standards and the IFRS Sustainability Disclosure Standards.



Vale S.A.

Our procedures did not include assessing the design adequacy or operational effectiveness of the controls, testing the data on which the estimates are based, or separately developing our own estimate to compare with the estimate of Vale.

We believe that the evidence obtained in our job is sufficient and appropriate to support our conclusion in a limited manner.

Scope and limitations

The procedures applied in a limited assurance engagement are substantially less in scope than those applied in a reasonable assurance engagement for the purpose of issuing an opinion on the data contained in the Sustainability-Related Financial Information 2025 Report.

Consequently, we were unable to obtain reasonable assurance that we became aware of all the significant matters that might have been identified in a reasonable assurance engagement. If we had performed our engagement for the purpose of issuing an opinion, we might have identified other matters and potential misstatements that may exist in the data contained in the Sustainability-Related Financial Information 2025 Report. Therefore, we will not issue an opinion on this information.

Sustainability information is subject to more inherent limitations than financial and accounting data, given both the nature and the diversity of the methods used for determining, calculating or estimating such data. Qualitative interpretations of the relevance, materiality and accuracy of the data are subject to individual assumptions and judgments. In addition, we have not performed any procedures in relation to the information presented for prior periods, forecasts and goals. Our assurance report should be read and understood in the context of the

inherent limitations of the process of preparing sustainability information and indicators by management, including the fact that this information is not intended to assure compliance with social, economic, environmental, or engineering laws and regulations.

Conclusion

Based on the procedures performed, described herein, and the evidence we obtained, no matter has come to our attention that causes us to believe that the sustainability information contained in the Sustainability-Related Financial Information 2025 Report, does not adequately present, in all material respects, the sustainability information in accordance with the CBPS Sustainability Disclosure Standards and the IFRS Sustainability Disclosure Standards, both amended by Resolution no. 193/2023 issued by CVM – Comissão de Valores Mobiliários.

Emphasis

As described in the section “1. Basis of preparation and presentation” under the topic “Adoption of international sustainability-related disclosures standards” the Sustainability-Related Financial Information 2025 Report was prepared in accordance with the Sustainability Disclosure Standards issued by CBPS and the IFRS Sustainability Disclosure Standards, both amended by Resolution no. 193/2023 issued by CVM – Comissão de Valores Mobiliários.

As permitted by the aforementioned Resolution no. 193/2023, amended by Resolution No. 244/2026 – also described in



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Section 1, the Company issued the Sustainability-Related Financial Information 2025 Report after the date of issuance of the financial statements, which is the date on which the Sustainability Disclosure Standards issued by CBPS and the IFRS Sustainability Disclosure Standards require the issuance of the Sustainability-Related Financial Information Report. Our conclusion is not qualified with respect to this matter.

Other matters - Restriction of use and distribution

This report was prepared for the use of Vale and may be presented or distributed to third parties, provided they are familiar with the subject matter and criteria applicable to this assurance engagement, in view of the specific purpose described in the first paragraph of this report.

Any party other than Vale that obtains access to this report, or a copy of it, and relies on the information contained herein will do so at its own risk. We do not accept or assume any responsibility and disclaim any liability to any party other than Vale for our work, the assurance report or our findings.

São Paulo, June 15, 2026.

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

Mauricio Colombari
Contador CRC 1SP195838/O-3

