



# Building the Vale of the Future

Investor Relations & Sustainability

December 11, 2023





# Disclaimer

“This presentation may include statements that present Vale's expectations about future events or results, including without limitation: (i) our perspective for reduction of emergency level of dams on slide 9; (ii) our perspectives for deliveries in our Upstream Dam Decharacterization Program on slide 9; (iii) our perspectives for deliveries in our GISTM commitment on slide 10; (iv) our perspectives for the Brumadinho Integral Reparation Agreement completion and deliveries on slides 19 and 21; and (v) our perspectives for deliveries in our ESG commitments on slide 26.

These risks and uncertainties include factors relating to our ability to perform our production plans and to obtain applicable environmental licenses. It include risks and uncertainties relating to the following: (a) the countries where we operate, especially Brazil, Canada and Indonesia; (b) the global economy; (c) the capital markets; (d) the mining and metals prices and their dependence on global industrial production, which is cyclical by nature; (e) global competition in the markets in which Vale operates; and (f) the estimation of mineral resources and reserves, the exploration of mineral reserves and resources and the development of mining facilities, our ability to obtain or renew licenses, the depletion and exhaustion of mines and mineral reserves and resources. To obtain further information on factors that may lead to results different from those forecast by Vale, please consult the reports Vale files with the U.S. Securities and Exchange Commission (SEC), the Brazilian Comissão de Valores Mobiliários (CVM) and in particular the factors discussed under “Forward-Looking Statements” and “Risk Factors” in Vale’s annual report on Form 20-F.

# 1. Opening remarks

# Vale of the future: executing our strategy



## Promote sustainable mining

- Benchmark in safety and dam management
- Regional social and economic development
- Shared value and trust
- People-driven culture
- Nature positive

Updates since 2022



## Foster low carbon solutions

- Iron ore solutions
- Energy transition metals
- Customer centricity
- Technology innovation
- Circular mining



## Stay disciplined

- Reliable operations and consistent delivery
- Attractive cash return to shareholders
- Strong balance sheet
- Cost, capex and capital allocation efficiency

# Key levers

to unlock value through 2026



Iron Ore Operational **Stability**

Iron Ore **Growth** and **Quality**

Energy Transition Metals **Transformation**

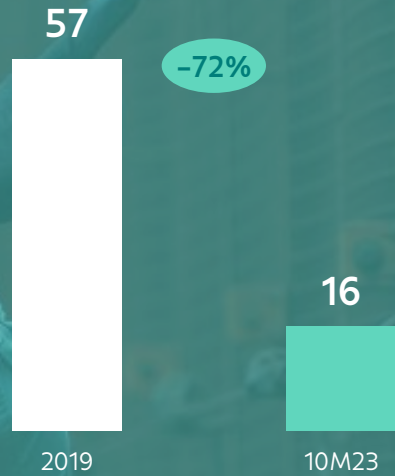
**ESG** Leadership



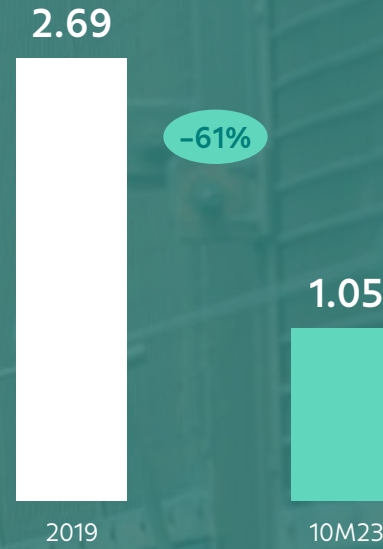
## 2. Safety Journey

# Enhancing safety

High-potential recordable injuries (N2)<sup>1</sup> (unit)

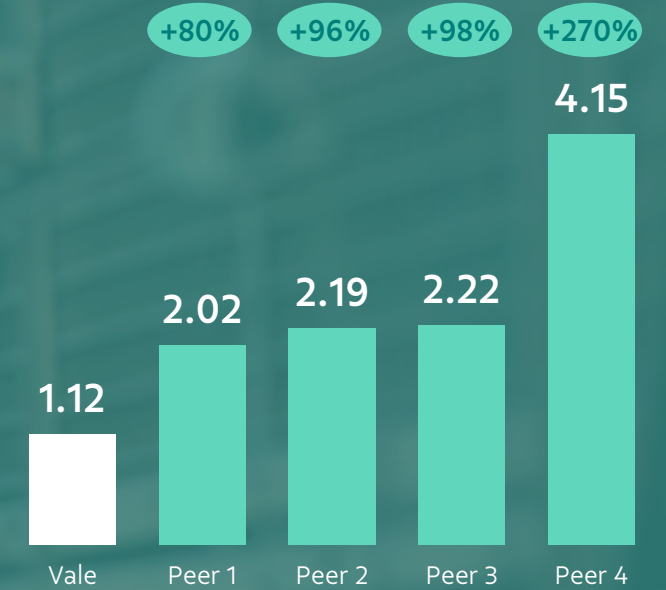


Total recordable injury frequency rate (TRIFR)<sup>2</sup>



TRIFR<sup>2</sup> comparison against major peers (2022)

Source: International Council on Mining and Metals - ICMM







Click here to  
watch a video

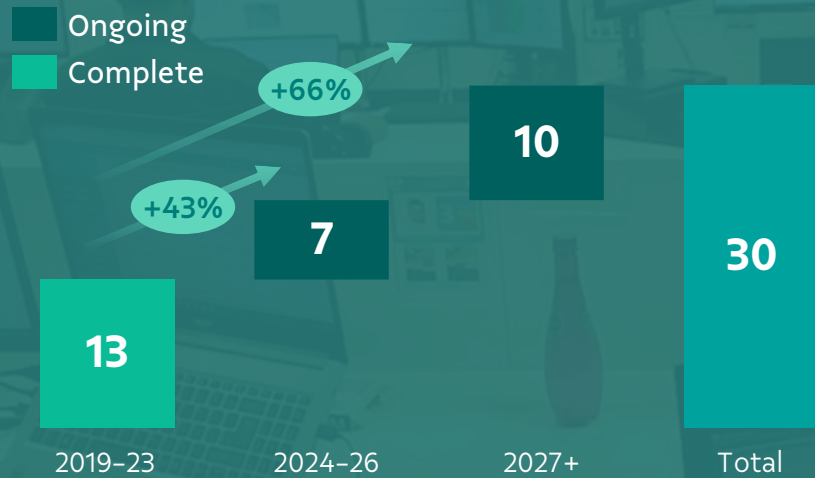




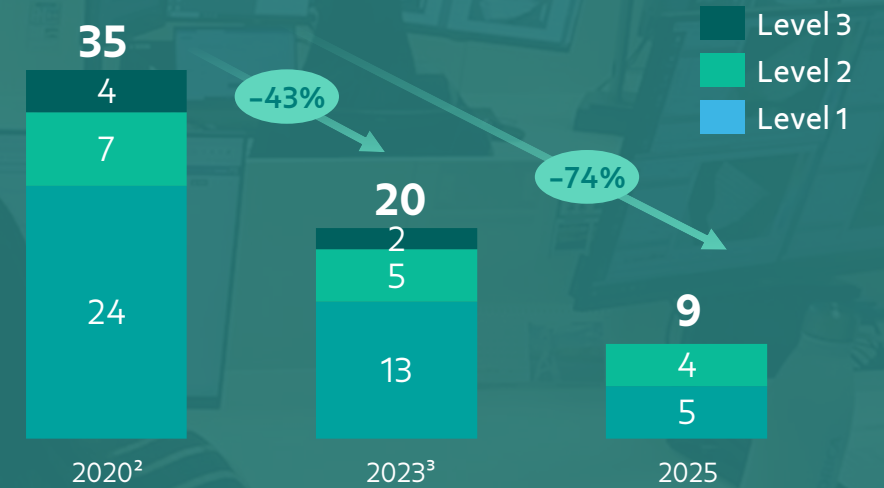
# Progressing on dam safety

Since 2019

## Upstream dam decharacterization program



## Dams at emergency level<sup>1</sup>



**No dams at level 3**

Geotechnical Monitoring Center  
(Nova Lima, Minas Gerais, Brazil)

<sup>1</sup> Dams include geotechnical facilities dedicated to mining processes. <sup>2</sup> Considering the highest number of structures at emergency level, in 2020. <sup>3</sup> As of November 30, 2023.



# Milestone achieved for safer tailings management

Vale successfully delivered the first round of the GISTM<sup>1</sup> implementation within the deadline<sup>3</sup>

To learn about Vale's tailings facilities, please visit [www.vale.com/esg](http://www.vale.com/esg)

Sul Superior dam, Gongo Soco mine  
Barão de Cocais (Minas Gerais, Brazil).

All tailings facilities not in a state of safe closure in conformance with GISTM<sup>3</sup>

Aug/25

**All prioritized tailings facilities<sup>2</sup> with GISTM implemented<sup>3</sup>**

Aug/23

Starting of External Verification

Dec/22

Gap assessment by third-party

GISTM baseline disclosed for all tailings facilities<sup>2</sup>

Jan/22

Nov/21

Internal self-assessment

Jan/21

Aug/20

<sup>1</sup>Global Industry Standard for Tailings Management. <sup>2</sup>Prioritized facilities are those with the consequence classification as "Extreme" and "Very high" according to the GISTM consequence classification table. Including all tailings facilities within the GISTM Conformance Protocols criteria. Conformance is determined by evaluating whether Vale can demonstrate the implementation of all applicable Requirements in a manner that aligns with the Standard and is not in conflict with the law, using Conformance Protocols to support the integration of the Standard into the assurance and validation processes. The outcome for each requirement can fall into one of three categories: "Meets," "Partially Meets," or "Does not Meet." In some cases, a requirement may not be applicable depending on the circumstances of a tailings facility.



# Understanding the level 3 emergency upstream dams (2 structures)

## 2019 scenario:

- **Immediate response** to the B1 dam failure
- Dams with same **technical characteristics of B1**
- Change in the technical criteria to address liquefaction risks. **Adoption of minimum parameters.**
- **No change or degradation** in the dam conservation status.
- Adoption of **remote monitoring** and remote inspections



## 2023 scenario:

- **Back-up dams** downstream to reduce potential consequences
- Measures to **improve stability** and safety conditions.
- 3 years of **heavy rains** recorded, and **good performance** measured
- Conclusion of the B1 **technical investigation** by different world's top experts
- In-depth studies to **improve knowledge** on the them
- **1 dam reduced from Level 3 to Level 1** as a result of technical works

Level 3 → No longer with access of people → Total Evacuation of all people downstream

## Level 3 dams' status



- Advanced stage of Engineering
- Backup dam downstream in place
- Downstream communities evacuated



- Started tailings removal
- Backup dam downstream in place
- Downstream communities evacuated



# New way to operate to reduce tailings and the use of dams

- ✓ 4 filtration plants in operation
- ↑ \$ US\$ 2.5 bi invested
- ↻ Dry tailings used as co-products



- ↻ Sand as raw material for civil construction
- ✓ Agera:
  - Created to develop our Sustainable Sand business
  - ~900kt already used in civil construction and road paving

Circular mining approach

# Substantial progress in dam safety and tailings management



**Robust** tailings and dam **management**



**24/7** geotechnical **monitoring** centres



Accelerated transition to **filtered tailings**



**GISTM:**  
in conformance  
with the standard<sup>1</sup>



**Goal:**  
No dam at level 3  
by 2025<sup>2</sup>

Dique 2 after completion of decharacterization works  
(Itabira, Minas Gerais, Brazil)



## 3. Mariana Reparation

# Important deliveries in Mariana's reparation

**~R\$ 34 billion**  
disbursed in 42  
compensation programs

## \$ Compensation

**+434,000**  
people indemnified

**+R\$ 16 billion**  
paid in compensation

## 📍 Resettlement

**+81%** of housing solutions  
delivered (552 out of 675)

## 💧 Water

### Permanent infrastructure:

- **10** sewage treatment stations
- **17** water treatment systems
- **18** water distribution networks

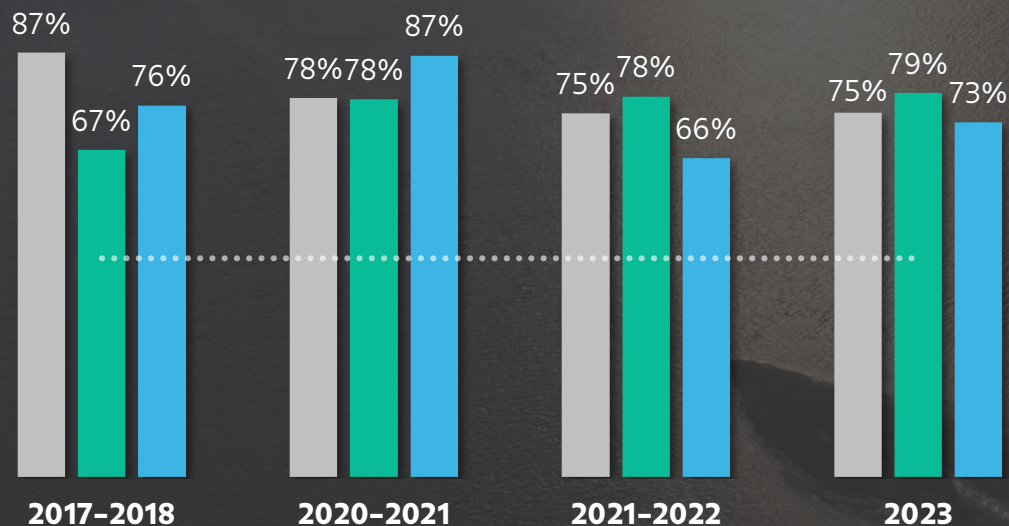
Bento Rodrigues resettlement,  
Mariana, Minas Gerais, Brazil)



# Substantial progress on Doce River recovery

## Water Quality<sup>1</sup> – Doce River:

■ Parque Estadual do Rio Doce ■ Baixo Guandu (ES)  
■ Governador Valadares (MG) ---- Minimum level required



1.5 million data points per year

80 monitoring points

22 automatic monitoring stations

690 km of water monitoring

145 monitoring parameters

Doce River, Minas Gerais, Brazil

<sup>1</sup> It refers to the Framework Compliance Index (ICE) which compares compares the results of the water quality parameters achieved in the monitoring with the reference values of the legislation. The data refers to the rainy season. For more information on the Doce River Recovery, please access: <https://monitoramentorio doce.org/ice-elementos-potencialmente-toxicos/>.

## 4. Brumadinho Reparation





# An expedited Brumadinho reparation

## Individual compensations

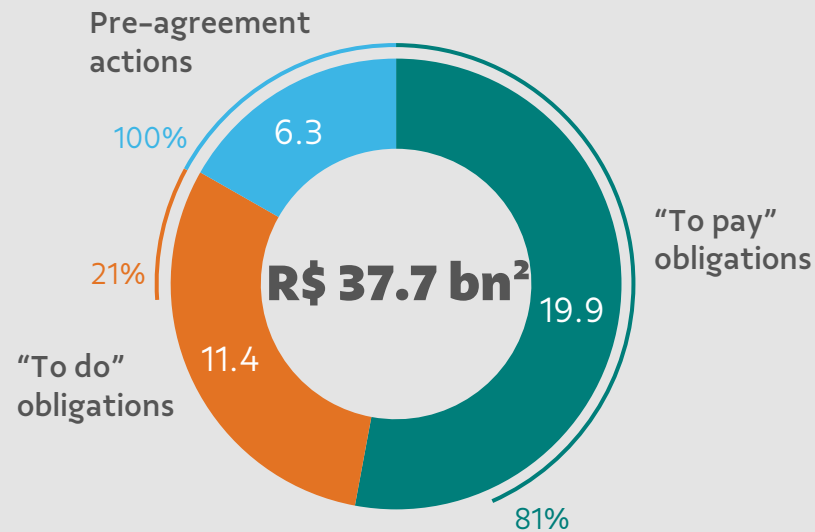
 **+ 14,000**  
people compensated

 **+ R\$ 3.4 billion**  
in compensations



## Integral Reparation Agreement

(R\$ billion)



<sup>1</sup> Progress considering disbursements until October 31, 2023. <sup>2</sup> As per Integral Reparation Agreement settled in February 2021.

# Significant improvement in water quality, comparable to or surpassing pre-collapse levels during the dry season

Concentration of manganese in the Paraopeba River's water compared to conditions prior to collapse:

Under worse conditions  Same or better conditions



Data are corroborated through means of monitoring carried out by the Minas Gerais Water Management Institute (Igam)



# *We are restoring biodiversity through fauna and flora rescue, area recovery, species monitoring, and animal care*



Planting of forests



Reuse of fertile soils



Protection of waterways



Production of forest seedlings



Tree planting on slopes



Research & Development

From 658 hectares that will be recovered until 2029, **175 hectares (26.6%)** are already in the process of environmental recovery (around 100,000 seedlings of native forest species of the Brumadinho region have been planted).

# *We have implemented projects to transform experiences, foster economic development and improve quality of life*



**Valorizar Program,**  
with a total of 58 award-winning social organizations to support income generation



**Cultivar Project,**  
with 877 inputs and seeds donated to 25 producers to support agricultural production



**Professional training,**  
with 144 residents of local communities trained



**Collectors of Recyclable Materials Program,**  
currently trains 199 participants



# Promoting comprehensive reparation in affected communities involves actively engaging and working together with the community

- The Family Reference Program provided more than **111,000 psychosocial services** and **+3,500 people served**
- Creation of the **Community Center**: Integrative Practices for the family members victims, co-managed by AVABRUM<sup>1</sup>
- **Mental health compensation** extended, after active listening the families

- **Health Cycle Program**: donation of **+5,750 pieces of equipment** delivered and **+3,200 professionals trained**
- Comprehensive Assistance Program for Affected People: activities in **financial education, productive recovery, assisted purchasing and psychosocial support, with +5,300 people served** and 80% of services completed
- Temporary housing and hotels: **social support to +730 families**

# *And today, what do we still need to do?*

- **Find** the three remaining “gems” (victims)
- **Finalize** pending compensation
- **Comply with all the commitments made and agreements signed**, contributing to improving the quality of life in the affected municipalities
- **Continue to recover** the Paraopeba River
- **Carry out** the complete management and disposal of the tailings
- **Restore confidence** among all stakeholders
- **... And dialogue, dialogue, dialogue!**





## 5. Closing remarks

# Going beyond reparation, our ESG commitments to the needs of society



## Climate Change

Reduce absolute GHG emissions, from Scopes 1 and 2, in 33% by 2030; Achieve zero net emissions in Scopes 1 and 2 by 2050; Reduce Scope 3 emissions by 15% by 2035.



## Energy

Consumption of 100% renewable electricity in Brazil by 2025 and globally by 2030



## Forests

Recover and protect +500,000 ha by 2030 beyond the company's borders.



## Atmospheric emissions

Reduce PM and SOx emissions by 16% and Nitrogen Oxide emissions by 10%.



## Dams

No tailings dams in critical safety condition (emergency level 3) by 2025; Implementation of GISTM in operations by 2025; Decharacterize all upstream dams in Brazil by 2035.



## Water

Reduce uptake fresh water by 10% until 2030. The goal was reached and for 2023 a new commitment will be launched



## Diversity & Inclusion

26% representation of women by 2025 and 40% of leadership positions in Brazil occupied by black employees by 2026.



## Health and Safety

Zero the number of recordable high potential injuries (N2) by 2025.



## Resilient Communities

Support 500,000 people out of extreme poverty;



## Indigenous Peoples

Support indigenous communities neighboring Vale's operations in their plans in pursuit of the rights aligned to UNDRIP<sup>1</sup>



## Social Performance

To appear in the TOP 3 in the social requirements of the main external evaluations; (MSCI, Dow Jones and Sustainalytics);



## ESG Gaps

Close key ESG gaps against best practices by 2030



# Vale further enhanced its Human Rights management and practices



# A clear pathway towards an even greater Vale



## Delivering on our priorities

- *Progressing in Brumadinho and Mariana reparation*
- *Enhancing our tailings & dam management*
- *Rebuilding trust with society*



## In Iron Ore Solutions

- *Resuming and stabilizing operations*
- *Developing iron solutions for low carbon steel industry*



## In Energy Transition Metals

- *Growing in transition metals for EV industry*

