

Responsible Investment

Mining Responsibly: Lessons from Brazil

December 2025

Following a visit to the site of the 2019 Brumadinho tailings dam disaster in Minas Gerais by Northcape Head of Responsible Investment, David Whittaker, we highlight lessons from Brazil's two tragic mining dam disasters. Emerging economies and the global energy transition need mining investment and investors have a role to play in ensuring that this capital delivers sustainable benefits for communities and shareholders alike.

- Mining plays a crucial role in the global economy, driving the transition to clean energy and supporting infrastructure and technology growth. In emerging economies, mining promotes development and improves living standards, but, as Brazil's experience shows, this growth can be linked with significant environmental, social, and governance (ESG) risks.
- The catastrophic dam failure at a Vale and BHP joint venture in 2015, followed by another massive accident at a Vale mine in 2019, highlight the dangers of prioritising production over safety and reveal flaws within corporate culture. The disasters show it's crucial to have effective oversight and careful management of high-risk activities, as well as active investor recognition of these risks.
- Globally, these disasters have shaped investor expectations and led to changes in corporate behaviour and regulations. Brazil's lessons demonstrate that responsible mining requires transparency, accountability, and a robust risk culture.
- For emerging markets, the incidents remind us that while sectors like mining can drive national progress, gaps in governance and regulation can greatly increase the human, environmental, and reputational costs of failure. Investors have the power to promote a more responsible and resilient corporate sector in Brazil and beyond.
- By supporting higher ESG standards, innovation, and long-term value creation, investors can help ensure the mining industry contributes to a more sustainable and equitable future, while delivering the shareholder returns that are needed to support investment.

Visit to Brumadinho, Minas Gerais, Brazil

At the invitation of Vale, Northcape recently visited the site of the 2019 Brumadinho dam disaster in the central Brazilian state of Minas Gerais, not far from the site of the 2015 Mariana dam disaster. Following the site visit, at the annual PRI conference in São Paulo, delegates were addressed by Dr Vagner Diniz, who lost his daughter, son, and his son's pregnant fiancé in 2019 when the tailings dam collapsed. They were holidaying at a tourist lodge on the banks of the river at the time and were swept away with hundreds of Vale employees and many others in villages below.

Seeing first-hand the physical scars on the landscape and hearing from management and victims underscored both the scale of the damage and the slow progress in remediation. During the site tour, Vale emphasised lessons learned and cultural transformation within its organisation. Conversations with workers, managers, and a board director indicated a genuine commitment to leave the 'old Vale' behind. Vale's openness and humility on the tour is commendable. However, exchanges with Brazilian individuals during our travels indicated lingering public scepticism concerning the extent and speed of remediation efforts at the mine sites.

Mariana (2015): Disaster That Should Have Changed Everything

Some anger stems from the sense that the Brumadinho tragedy could have been avoided. Just four years earlier under similar circumstances the Fundão tailings dam collapsed at the Germano mine complex near Mariana, just 120 kilometres away. The collapse killed nineteen, devastated towns, and contaminated more than 600 kilometres of the Doce River. About 700 people lost their homes, seven bridges were destroyed, and more than 2,000 hectares of riverside vegetation and farmland were impacted by the millions of tonnes of tailings deposited along riverbanks. The mine at Mariana is owned by Samarco, a 50/50 joint venture between two of the world's largest mining companies: Vale and BHP. Investigations concluded the dam was poorly designed, constructed, and managed. Not long after the disaster, Vale's CEO made the fateful promise, "Mariana nunc mais" (Mariana never again).

Brumadinho (2019): Avoidable Tragedy

When Vale's Brumadinho dam collapsed in 2019 it killed 273, wiped out mine site buildings and villages, and contaminated the water supply of the region. Vale admits it had not learned the lessons from Mariana and that management incentives were misaligned with risks. Criminal cases against executives and auditors remain unresolved. The cost of Brumadinho to Vale so far is at least US\$8 billion in restitution, substantial operational disruption, and lasting reputational damage. However, as was noted by Mr Diniz at the PRI conference, this is insignificant compared to the impact on human lives.



Brumadinho dam site (blue circle, left) with damage to valley below. Six years after the accident, the equipment is searching the valley floor for remains of the last two missing persons. Vale says the search is almost complete. The scars to the valley are still visible for many kilometres downstream. Source: Northcape Capital.

Lingering Risks and Vale's Response

In its response, Vale sought to change its culture. It introduced governance reforms, independent audits and safety-linked bonuses. Operational measures included backup dam installations, sophisticated monitoring systems, community education and training, and reducing reliance on wet tailings. Since 2015, the proportion of Vale production using wet tailings declined from 60% to 11%. Yet full decommissioning of its dams won't happen until 2030. The pace of reparation and compensation payments has frustrated victims, and this continues to hold back the recovery of Vale's social license.

Implications for BHP Shareholders

In 2024, Samarco and its owners, BHP and Vale, agreed a US\$32 billion settlement with Brazilian authorities for the Mariana disaster. Remediation has included approximately US\$13 billion paid by the joint venture since 2015 in reparations and compensation. More than 610,000 people have been compensated, and further reparations will

be paid over the next 20 years. But despite the settlement, in a major class action, a UK court recently found BHP liable. While the 2024 settlement is likely to moderate any penalty, and BHP intends to appeal, it shows financial and reputational risks can last decades. BHP's strong balance sheet and diversified portfolio continue to provide financial resilience and funding for legal costs, reparations, and compensation for the disaster.

Takeaways for Emerging Markets

These experiences offer lessons for investors in emerging market assets, especially those with complex risks like mining. Companies must look beyond minimum legal requirements to align with the rising expectations of the public and investors. The Mariana and Brumadinho disasters show that weak corporate culture, poor risk management, and flawed governance can cause immense social, financial, and reputational harm over extended periods. Regulations in emerging markets are catching up with public expectations for greater accountability. Brazil's judicial system imposed substantial financial penalties on the firms responsible for the dam catastrophes. In Northcape's view, companies that already are comfortable operating above minimum legal standards tend to adapt better to tightening regulations and increasing public expectations, helping maintain social licence and attract long-term capital.



Left image: The monitoring centre for major tailings dams in Brazil. There are three of these centres. Right image: Dry stacking tailings – Vale is now Brazil's largest supplier of sand which comes from tailings. Vale has reduced wet tailings to just 11% of production (from 60%) and aims to cease the use of dams altogether by 2030. Source: Northcape Capital.

Northcape Approach

BHP remains an important holding for investors despite its extremely difficult experience in Brazil. The company is known as a global leader in mining and mineral processing at its operated sites and we view its business strategy as an enabler of economic development and the energy transition as attractive. Like its Brazilian partner, BHP has significantly improved governance, safety, stakeholder engagement, and risk management since Mariana. At Northcape, we see corporate engagement as preferable to the withdrawal of capital. We continue to engage with the company to promote remediation, governance, environmental and social performance, and transparency.

BHP's response to the Mariana disaster to date has largely met investor expectations, including: (1) through Samarco, remediation of affected people and places, (2) strengthened governance, accountability, and risk oversight of all BHP non-operated joint-ventures, (3) implementation of the Global Industry Standard on Tailings Management (GISTM), and (4) enhanced operational safety and management incentives. We encourage BHP to complete Mariana remediation as agreed in the settlement, ensure robust governance of non-operated assets, and prioritise conformance with tailings dam standards.

Responsible Investor Insights

- Mining plays a crucial role in sustainable development, supporting the economic growth that alleviates poverty, and raises living standards in developing countries. However, failures in ESG practices can result in severe human and financial consequences for companies and communities.
- For mining companies to secure long-term access to capital and social license, it's essential they meet the evolving expectations of investors, regulators, and stakeholders. In emerging markets, this means going beyond legal minimums in addressing risks and responsibilities.
- Following major incidents, mining firms must prioritise remediation for affected individuals and communities. In addition, they should conduct thorough reviews of their corporate culture and implement governance changes that safeguard people and uphold their licence to operate.
- Investors have an important role to play in holding boards accountable and encouraging a strong focus on governance and risk management. By doing so, they help ensure that mining can contribute to global development goals and deliver sustainable, long-term returns to shareholders.



Left image: At the PRI conference, attendees were addressed by Dr Vagner Diniz (far left on the panel), who lost his family. Ahead of their visit to Brumadinho, the family had been living in Sydney. The pictures on the screen, and right image, show the newly commissioned memorial at Brumadinho. Source: Northcape Capital.

More Information

For more information on our responsible investment process, see Northcape's [Responsible Investment Policy](#) and the annual [ESG and Investment Stewardship Report](#) on our website.



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