

2022 SUSTAINABILITY REPORT



HORIZONTE
MINERALS



BUILDING SUSTAINABLE VALUE

ABOUT THIS REPORT

The report scope, boundaries, and performance data in this Sustainability Report cover Horizonte Minerals’ development activities in Brazil and, unless otherwise indicated, do not consider the company’s exploration or non-mining subsidiaries.

Except where indicated otherwise (including with respect to certain initiatives advanced by the company in early 2023 described herein), all information and performance data in the report are current as of December 31, 2022. Unless noted otherwise, all currency amounts are stated in U.S. dollars.

This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards ‘Core’ option with additional elements that address the United Nations Global Compact (UNGC) reporting requirements, the Sustainability Accounting Standards Board (SASB) Metals and Mining Sustainability Accounting Standard and the Mining Local Procurement Reporting Mechanism (Mining LPRM). Disclosure indexes can be found at the rear of this report.

We welcome feedback on this report and our sustainability reporting in general. Please direct any feedback on the report to info@horizonteminerals.com.

CONTENTS

COMPANY PROFILE	4	PROTECTING THE ENVIRONMENT	56
Message from the CEO	8	Integrated management system	58
OUR COMMITMENT	10	Water stewardship	64
Message from the head of sustainability	12	Responsible energy and emissions management	72
UN Global Compact progress and goals	14	Responsible resource use	76
SUSTAINABLE GOVERNANCE	18	Biodiversity	78
Message from the chair of the sustainability committee	20	Sustainable mine closure	85
Materiality assessment	24	VALUE	86
OUR PEOPLE	28	Local value retention through local procurement	88
Our workforce	30	EITI	90
Providing local employment opportunities and decent work	30	ESTMA	90
Advancing diversity and gender equality	33	Financial controls and flow of funds	91
SAFETY, HEALTH AND WELLBEING	36	Tax	92
Health and safety management	38	Validation and assurance	94
SOCIAL EXCELLENCE	46	INDEXES	96
Building positive community relationships	48	GRI index	98
Respecting human rights	49	Mining metals supplement	104
Resettlement	52	SASB index	105
		NOTES	107
		Glossary	107

For more information visit
www.horizonteminerals.com

-  @HorizontePLC
-  Horizonte Minerals
-  Horizonte Minerals Plc

Front cover image: stream bed and spring revegetation at Araguaia

 Icon indicates interactive links throughout the report

Araguaia’s seedling nursery is dedicated to cultivating a diverse range of native and endemic plant species. We will use these plants not only in mine-site revegetation but also to achieve our ambitious goal of a net positive impact to biodiversity. What this means, in practice, is that we will undertake afforestation of large areas of land that were historically cleared for cattle grazing, and we will return these, over many years, to forest habitat. We will also restore and protect areas of existing forest and savanna (canga) outside of our mining areas, to create vegetation corridors and enhance biodiversity protection and knowledge.



COMPANY PROFILE

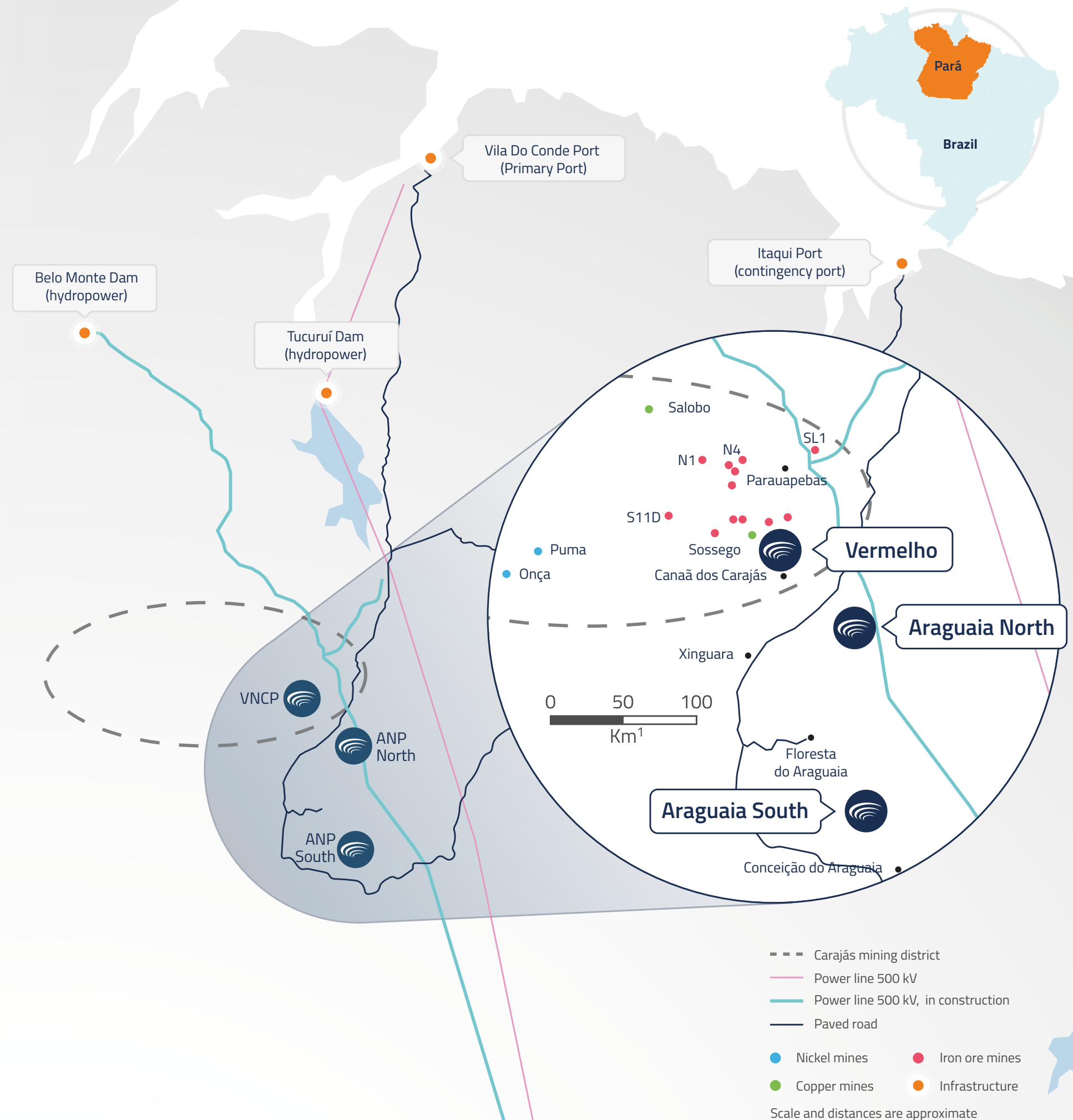
Horizonte Minerals is a leading nickel company that is developing two, tier one projects in the Pará State, Brazil. The Araguaia nickel project and the Vermelho nickel-cobalt project are both high-grade, lower quartile, long mine life projects. This portfolio provides Horizonte with a scalable production profile of over 60,000 tonnes of annual nickel production, positioning the company to be a significant global producer. As a critical component in both stainless steel and in electric vehicle battery technology, nickel is a key enabler of the clean energy transition. As a member of this sustainability driven supply chain, *Horizonte is committed to the ethical, safe and responsible production of low carbon nickel products.*



NICKEL: A VITAL ELEMENT

- Nickel is critical to the energy transition and is an important contributor to the circular economy.
- 57% of all mined nickel is still in use today.
- 68% of all nickel from consumer products is recycled and a further 15% is re-used in carbon steel.
- Nickel gives stainless steel its strength and resistance to corrosion.
- Two-thirds of all nickel mined is used to produce stainless steel and use in battery applications is predicted to increase substantially.
- Nickel is a critical component of renewable energy technologies including wind turbines as well as batteries for electric vehicles. It is also a key component of medical equipment, electronics, food and marine processing and many other items we use today.

For more information:



RESPONSIBLY SOURCED NICKEL

Horizonte’s mission is the ethical, safe and responsible production of low carbon nickel products. In pursuing this we are committed to demonstrating that our product is produced in accordance with international standards, so that customers and downstream users of our products have the assurance of responsibly sourced nickel.

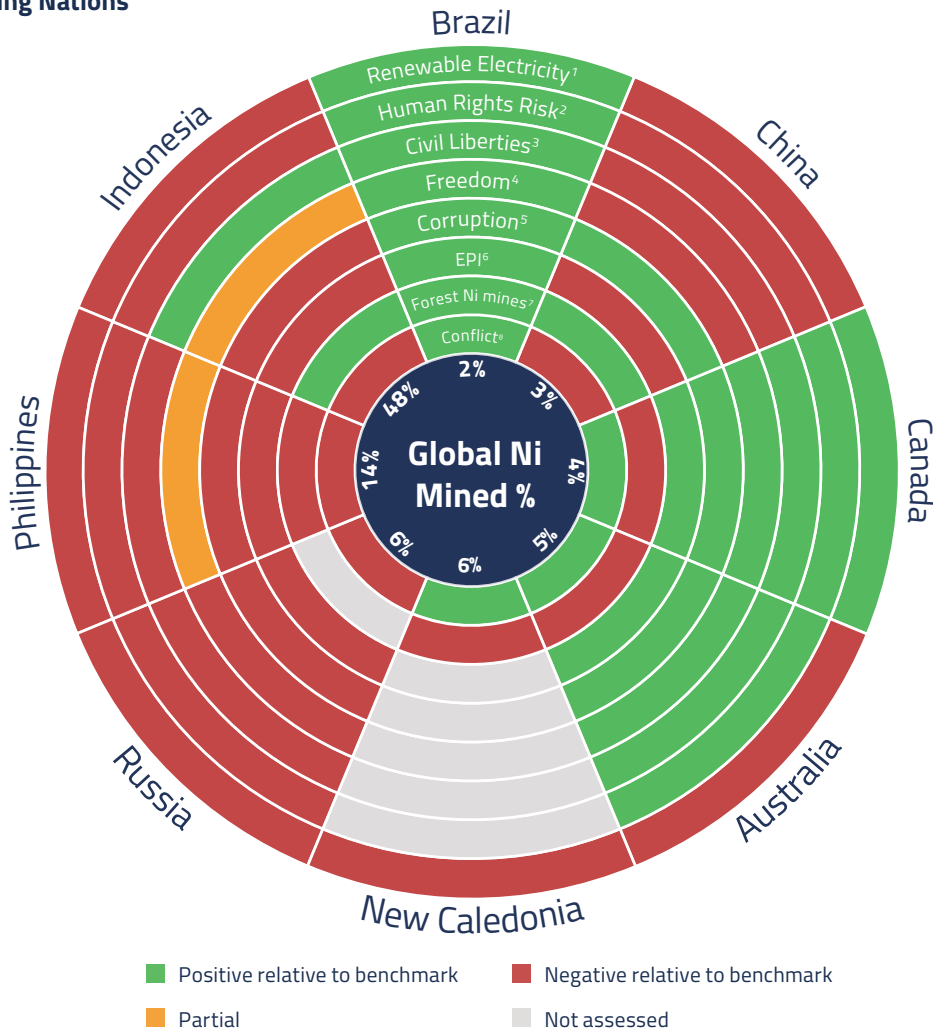
As a company we are aware that stakeholders are often sceptical of claims relating to responsible sourcing and in a large part this is the result of a lack of transparency. In recognition of this, Horizonte applies a wide variety of performance and disclosure standards, and our activities are independently audited, providing assurance that the statements made in relation to our products are genuine.

Standard	Requirement			Assurance	
	Regulatory	Lender	Voluntary	Independent	Self
Performance					
International Finance Corporation Performance Standards		✓		✓	
World Bank EHS Guidelines		✓		✓	
Equator Principles 4		✓		✓	
OECD Guidelines for Multinational Enterprises		✓		✓	
UNHRC Guiding Principles on Business and Human Rights		✓		✓	
Voluntary Principles on Security and Human Rights		✓		✓	
Disclosure					
United Nations Global Compact			✓		✓
Global Reporting Initiative			✓		✓
International Financial Reporting Standards	✓			✓	
Extractive Sector Transparency Measures Act	✓			✓	
Sustainability Accounting Standards Board			✓		✓
Extractive Industries Transparency Initiative			✓		✓
Mining Local Procurement Reporting Mechanism			✓		✓
Taskforce for Climate Related Financial Disclosures			✓		✓
Conflict Free assessment			✓		✓

Benchmarking of Global Nickel Producing Nations

Benchmarks:

- Renewable Electricity**
Our World in Data: >75% renewable sourced electricity
- Human Rights Risk**
Global Risk Profile, Human Rights Risk Index: <40% human rights risk
- Civil Liberties**
Our World in Data, V-Dem Institute: >0.6 civil liberties index
- Freedom**
Freedom House, Global Freedom Score: Green classified as Free, Orange as Partly Free
- Corruption**
Transparency International, Corruption Perception Index: 100 least corrupt
- EPI**
Yale and Columbia, Environmental Performance Index: 90 best ranked countries
- Forest Ni mines**
World Bank 2019, Forest-Smart Mining: Hosting ≤10% global forest nickel mines
- Conflict**
Conflict affected and high-risk areas (ref. OECD) as per current (2021) Heidelberg Conflict Barometer: war or ≥10 conflicts



In the knowledge that not all nickel is responsibly sourced, we have undertaken benchmarking to help stakeholders to understand the ‘credentials’ and provenance of our future products. Our benchmarking uses data as described below.

Renewable Electricity

Nickel mining and production is energy intensive, making renewable electricity fundamental to producing low carbon nickel. The majority of nickel producers obtain electricity from the grid supply in their respective jurisdictions. Data sourced from Our World in Data for the year 2021 was used to highlight countries for which more than 75% of grid power is sourced from renewable sources (green) and in our benchmarking this has been related to the top eight nickel producing countries in 2022. Less than 10% of global nickel produced in 2021 was produced with over 75% renewable power.

Araguaia’s nickel will be produced with electricity that is guaranteed under a 10-year contract to be a minimum of 81% renewable, in a country that over the last 37 years has achieved an average of 89% low carbon electricity.

Human rights

In countries with a higher risk of human rights violations, there is increased risk of child labour, modern slavery, loss of freedom of expression, increased risk of corruption, and other abuses that breach international covenants, create poverty and pose business risk.

Human rights risk

Global Risk Profile (GRP) produce an annual assessment of human rights risk globally covering 187 countries and territories. The illustrated benchmarking standard is for less than 40% human rights risk (green) on the GRP assessment scale. Just over 10% of global nickel (2021), was produced in countries with a lower human rights risk than Brazil (i.e. Canada, Australia and Finland).

Civil liberties

The V-Dem civil liberties index measures the extent to which people are free from government torture, political killings, and forced labour, whether they have property rights, and enjoy the freedoms of movement, religion, expression, and association. The illustrated benchmarking standard highlights a score of greater than 0.6 on the index (green). Around 25% of global nickel is produced in jurisdictions with sub-standard levels of civil liberties.

Freedom

Freedom House produce an annual Freedom in the World Report, rating 210 countries and territories on: government accountability to their people; the rule of law; and freedom of expression, association, and belief, as well as respect for the rights of women, minority communities, and historically marginalized groups. The illustrated benchmark highlights countries rated as ‘Free’ (green), ‘Partly Free’ (orange) and ‘Not Free’ (red). On this basis, almost 80% of global nickel is produced from countries in which the people are not considered free.

Horizonte’s nickel will be produced in one of the few nickel producing nation states that can demonstrate:

- a good human rights track record.
- a high level of civil liberties.
- an environment (independently assessed) as one in which universally declared individual freedoms are maintained.

This is significant, as currently the vast majority of global nickel is not produced under such conditions. Additionally, Horizonte has adopted the International Finance Corporation Performance Standards, as well as other international human rights standards; has published our own Human Rights Policy to create a mandate for such governance; and are independently audited against these human rights standards, providing ongoing assurance for stakeholders.

Corruption

Transparency International’s Corruption Perception Index 2022 ranks and scores 180 countries, using information from 13 different corruption surveys and assessments including the World Bank and World Economic Forum, amongst others. The index provides a score out of 100 and a world ranking. Brazil has had a consistent score in recent years and remains amongst the 100 least corrupt nations globally. Over 70% of global nickel is produced from countries with a score of less than 35/100, with zero representing the most corrupt and 100 the best possible score.

Whilst Horizonte’s nickel will be produced in one of these ‘less-corrupt’ nations, Brazil still scores slightly lower than the global average on the Index. Horizonte, as an AIM and TSX listed company, applies stringent controls for anti-corruption, mandated under our Business Conduct and Ethics Policy, that are validated by independent financial audit, as well as independent environment and social audit.

Mining in forest areas

Whilst mining disturbs less than 1% of the global land mass, protection of habitat is important to the protection of biodiversity. In 2019, the World Bank published Forest-Smart Mining reporting that over half of the global nickel production was from forested areas with 60% of nickel mines in such locations. The study found that Canada (19%), the Philippines (15%), Australia (14%), and New Caledonia (13%) host the greatest proportion of forest nickel mines, accounting for 43% of nickel production.

Whilst Brazil was found to host 10% of the global forest nickel mines, Horizonte’s Araguaia nickel will be produced primarily (>70%) from areas that are modified habitat – pasture and farm. At Araguaia, we expect that 24% of our project will be in native Cerrado vegetation, but consistent with our commitment to the IFC Performance Standards and the Equator Principles, we are exploring a variety of methods to avoid or mitigate impact. We have additionally made a commitment to net positive impact on biodiversity of the *canga* (metallophile savannah) habitats that we expect to impact.

Environmental Protection Index (EPI)

Using 40 environmental indicators the EPI assesses national performance against established environmental policy targets for climate change, environmental health, and ecosystem vitality. Amongst global nickel producers, Brazil is one of the only middle-income countries rated in the top half of the ranking. In its analysis, EPI reflect on the strong positive correlation between GDP and EPI performance, making Brazil’s performance even more significant. Despite a GDP lower than the global mean it outperforms other wealthier producers as well as its economic peer group.

For Horizonte, with projects in locations with low human development index (HDI) scores (compared to country and state means, and other important nickel-producing nations), we have an opportunity to stimulate economic development as well as capacity for environmental protection and empowerment.

Conflict and High-Risk Areas (CAHRAs)

In providing stakeholders with transparency on resource provenance, it is important to demonstrate that the nickel we produce does not cause, support, or benefit unlawful armed conflict, or contribute to serious human rights abuses or breaches of international humanitarian law. Using the OECD definition for Conflict Affected and High Risk Areas the Heidelberg Conflict Barometer is a widely used assessment method. The illustrated benchmark highlights countries under war or with ten or more conflicts as those being of greater risk (red).

Horizonte’s more detailed assessment relating to conflict-free nickel is available as a stand-alone report.

MESSAGE FROM THE CEO



We are building a business that is designed to create value for many years to come, making a lasting contribution to socio-economic development

It gives me great pleasure to introduce our Sustainability Report for 2022. We have made major strides with the Araguaia project this year, with engineering, procurement and construction all on-schedule. Just as importantly, we have achieved this while operating safely, meeting our environmental obligations, and launching important initiatives in support of local employment and engagement. In the same year at Vermelho, our second tier-1, long-life asset, we commenced detailed feasibility studies, and submitted Vermelho’s environmental and socioeconomic impact assessment to the regulator – a major milestone!

This progress reflects how we are striving to be a sustainability leader, by adhering to our values and demonstrating our commitment to responsible operations and environmental stewardship.

The long-mine life at Araguaia represents a real driver for economic diversification and regional stimulus. I am proud of the support we have gained in our host communities. As a company that will be a significant employer, we are dedicated to diversity, inclusion and opportunities for local people, and I also encourage women to apply for opportunities with the company. Diverse perspectives and backgrounds make teams stronger and more resilient.



Jeremy Martin
Chief Executive Officer

Highlights in 2022

Great Place to Work	Local Partners	Governance	Achieving Growth Goals	Operational Excellence
Zero fatalities and zero lost time injuries	Strategic partnerships established with SENAI and FIEPA	Inauguration of Board Sustainability Committee	Supplier Code of Conduct developed	10-year energy supply secured
100% COVID-19 workforce vaccination	Local community employment program started	Board review of governance architecture	ANP Critical Habitat Assessment to complement Biodiversity Action Plan	Energy supply provides 70-100% renewables to Araguaia
Zero human rights complaints	Stewardship initiatives to minimize impact and protect biodiversity			
Inclusion and Diversity policy prepared				

I am pleased with the important partnerships that we are establishing with SENAI and FIEPA, to bring around 400 accredited apprenticeships and traineeships in industry relevant skillsets to our local communities. This two-year project has been funded with over two million Brazilian Reais, as part of our Local Content Initiative. With new skills, local community members and existing local supply chains will have enhanced opportunities to participate in direct and indirect mine workforces, to supply goods and services to the company, and to help create vibrant regional communities.

In addition to local capacity training, as we ramp up to production at Araguaia, we will see other new opportunities for socio-economic development. We will offer training to local suppliers on how they can participate in our supply chain, supporting local involvement in providing the goods and services we need. Other programs will see us extend our support to government public health programming, partner in human rights initiatives and promote environmental awareness.

With a mine life estimated to be over 30 years, and a commitment by Horizonte and our partners to living by our values, Araguaia should be a major catalyst for socio-economic development in this region. I look forward to advancing these initiatives in 2023 and to progressing the Vermelho feasibility study as the quality of this asset suggests similar potential for meaningful stimulus and development.

Jeremy Martin
Chief Executive Officer

OUR COMMITMENT

We are committed to acting responsibly in all of our activities, creating genuine and lasting value



Independent social auditor from Arcadis and Flávia Veronese during audit

MESSAGE FROM THE HEAD OF SUSTAINABILITY



Our vision to be a globally significant, sustainable nickel producer, means that sustainability plays a critical part in our business strategy

Embedding sustainability in how we operate means tackling the major environmental, social and governance challenges that are currently facing companies like ours in the mining and metals sector – including decarbonization and the continuing need to minimize our own environmental footprint.

In our developments, we recognize the importance of the natural environment to the people of Brazil and the global community. As countries around the world move towards lower-carbon economies, we face the challenge of managing precious natural resources, including nickel and other metals, which have a vital role to play in the transformation of our economies to low and zero carbon.

In parallel, we need to restore and enhance biodiversity and protect shared natural capital such as water. Our biodiversity action plan is designed to deliver a net positive impact on biodiversity. We will do this by working to avoid impacts wherever possible and, in partnership with our neighbors and other land managers, by protecting and enhancing areas of conservation. Our vision is to establish a series of ecological corridors and to create new habitats for enhanced biodiversity.

We also face myriad social challenges, needing to work collaboratively with local communities and protecting their cultures, ways of life and enhancing their livelihoods by supporting the development of skills and capability.

And, of course, we need to meet all these challenges while remaining profitable and capable of driving the investment and shared benefit we seek.

This report, which is the fourth annual standalone sustainability report we have issued, is accompanied by a wider set of disclosures on our sustainability performance against international standards. These various disclosures provide insight into how we are making the transition from developer to producer and provide a demonstration of our commitment to honesty and transparency.

Philipa Varris
Head of Sustainability



Philipa Varris
Head of Sustainability



Cave at Vermelho

UN GLOBAL COMPACT PROGRESS AND GOALS

The United Nations Global Compact (UNGC) is the world's largest corporate responsibility initiative, with more than 15,000 private sector signatories in over 160 countries worldwide.¹ It consists of principles in the four areas of labour, human rights, environment, and anti-corruption.

UN Global Compact 2023 goals

Goal	Sustainable Development Goal (SDG)	
Human Rights		
Group Inclusion and Diversity Policy and program initiated	8	Decent work and economic growth
Grievance mechanism continuous improvement	10	Reduced Inequalities
Develop and implement a Supplier Code of Conduct	8	Decent work and economic growth
Employees (Labour)		
Zero fatal injuries	8	Decent work and economic growth
Zero recordable injuries	8	Decent work and economic growth
Group Health, Safety and Wellbeing Strategy and Policy	8	Decent work and economic growth
Employee pulse survey program to monitor culture evolution through transition to operations	8	Decent work and economic growth
Environment		
Zero reportable environmental incidents	9	Industry, Innovation and Infrastructure
Update ANP BAP for operations	15	Life on Land
Update ANP Ecosystems Services Assessment	15	Life on Land
Conduct climate scenario modelling	13	Climate action
Invasive Species Management Plan developed for ANP	15	Life on Land
Anti-corruption		
Develop and secure Board endorsement of refreshed governance framework	8	Decent work and economic growth
Continue ANP supplier development program implementation	11	Sustainable cities and communities
Zero legitimate human rights complaints	8	Decent work and economic growth
Continued improvement in disclosures	17	Partnership for the goals
Develop standalone anti-corruption policy	8 16	Decent work and economic growth Peace, Justice and strong institutions

UN Global Compact 2022 Progress against goals

The table summarises progress against our 2022 UNGC goals. More detailed information can be found in our ESG Data Disclosure workbook.

2022 Goal	Progress
Update Governance framework	Achieved. The Board reviews the company governance architecture on an ongoing basis and in April endorsed enhancements including inaugurating a Board Sustainability Committee.
Develop Policy on Security aligned with Voluntary Principles of Security and Human Rights	Achieved. The Policy on Security was endorsed by the Board and subsequently approved by the CEO in December 2022.
Develop an Inclusion and Diversity Policy and program	Achieved. A preliminary draft of the Inclusion and Diversity Policy was presented to the Board and is under review. Associated programming is in plan for 2023.
Zero legitimate human rights complaints against Horizonte	Achieved. Our grievance mechanisms identified behaviours with the potential to impinge on individual rights that resulted in interventions and remedy, as applicable.
Advance local procurement and disclose against LPRM	Achieved. The 2021 Sustainability Report, published in May 2022, incorporated company disclosures in line with the Mining Local Procurement Reporting Mechanism.
Strengthen supply chain systems and policies	Achieved. Detailed supplier documentation has been developed for Araguaia construction including contractor manuals and an independent due diligence assessment process. These will be complemented by a Supplier Code of Conduct, under development.
Zero fatalities and serious potential injuries	Achieved.
Adhere to COVID-19 protocols and procedures	Achieved. In 2022, more than 2,400 workforce members were covered by the company's pandemic management plan.
Develop health and safety strategy and policy	Partial. Horizonte engaged dss+ (formerly DuPont Sustainable Solutions) to help develop leading operational risk management solutions. The Horizonte Safety and Health Policy development is yet to advance.
Continue to implement safety program, including HAZOPS	Achieved. Golden Rules and critical risk controls were embedded in 2022. Hazard and operability (HAZOP) studies continued in 2022 and we deployed an intelligent 3D design methodology to incorporate construction and operational safety into process plant design.
Enhance female representation in workforce	We undertook strategic programs to develop female talent for Araguaia's operational phase – establishing targets for women's involvement in local employment initiatives.
Zero reportable environmental incidents	One reportable environmental incident occurred in 2022. While not reportable to the regulator, as actual impact was minimal and contained, we took a conservative stance in reporting this as a serious potential incident.
100% compliance with air quality, noise and vibration and water regulation	Not achieved. With the start of construction in 2022 and phased implementation of controls, temporary air quality impact was experienced at some roadside residences near the roads accessing the Araguaia site.
Zero significant spills	Achieved.
Develop umbrella Environment Policy	Partial. Detailed Environmental Control Plans were successfully implemented in 2022. The Horizonte Environmental Policy development is yet to advance.
Advance net carbon neutral strategy and studies	Partial. Conceptual studies of carbon reduction plans for Araguaia were reviewed and validated. In 2023, plans include climate scenario modelling, updates to physical and transition risk assessments, TCFD disclosure preparation and progression of carbon reduction initiatives to PFS/FS level.
Develop anti-corruption policy	Partial. A review in 2022 identified governance enhancement opportunities to coincide with company development milestones. The stand-alone Anti-corruption Policy and an internal controls regime is in plan for 2023.
Enhance disclosures, including the Extractive Industries Transparency Initiative.	Achieved. The 2021 Sustainability Report incorporated disclosures in line with EITI.
Develop conflict of interest systems	Achieved. All new members of the workforce undertook conflict of interest training and disclosure. These processes will be strengthened in 2023.
Enhance sustainability disclosures	Achieved. The 2021 Sustainability Report incorporated disclosures in line with the UN Global Compact, the Global Reporting Initiative, and Sustainability Accounting Standards Board standards.

1. <https://www.unglobalcompact.org/participation> (at 16 February 2023).

SUSTAINABLE DEVELOPMENT GOALS

We continue to work to embed consideration of the UN Sustainable Development Goals – the SDGs – into everything we do, alongside our existing commitment to the UN Global Compact.

The UN SDGs are a set of 17 interconnected set of goals, representing a call to action for all countries – developed and developing – in a global partnership.

They recognize that ending poverty and tackling related challenges, must be coordinated with strategies that improve health and education, reduce inequality, and stimulate economic growth. At the same time, we must preserve our natural resources – of water, air, and land.

While it is widely understood that making progress on the SDGs requires a collaborative effort, Horizonte recognises that its own activities have the potential for positive and negative impact on the achievement of several of the goals. Our intention is to make a positive contribution to the goals that are relevant to our business, so that consideration of the SDGs becomes an integral part of the way we carry out our business.



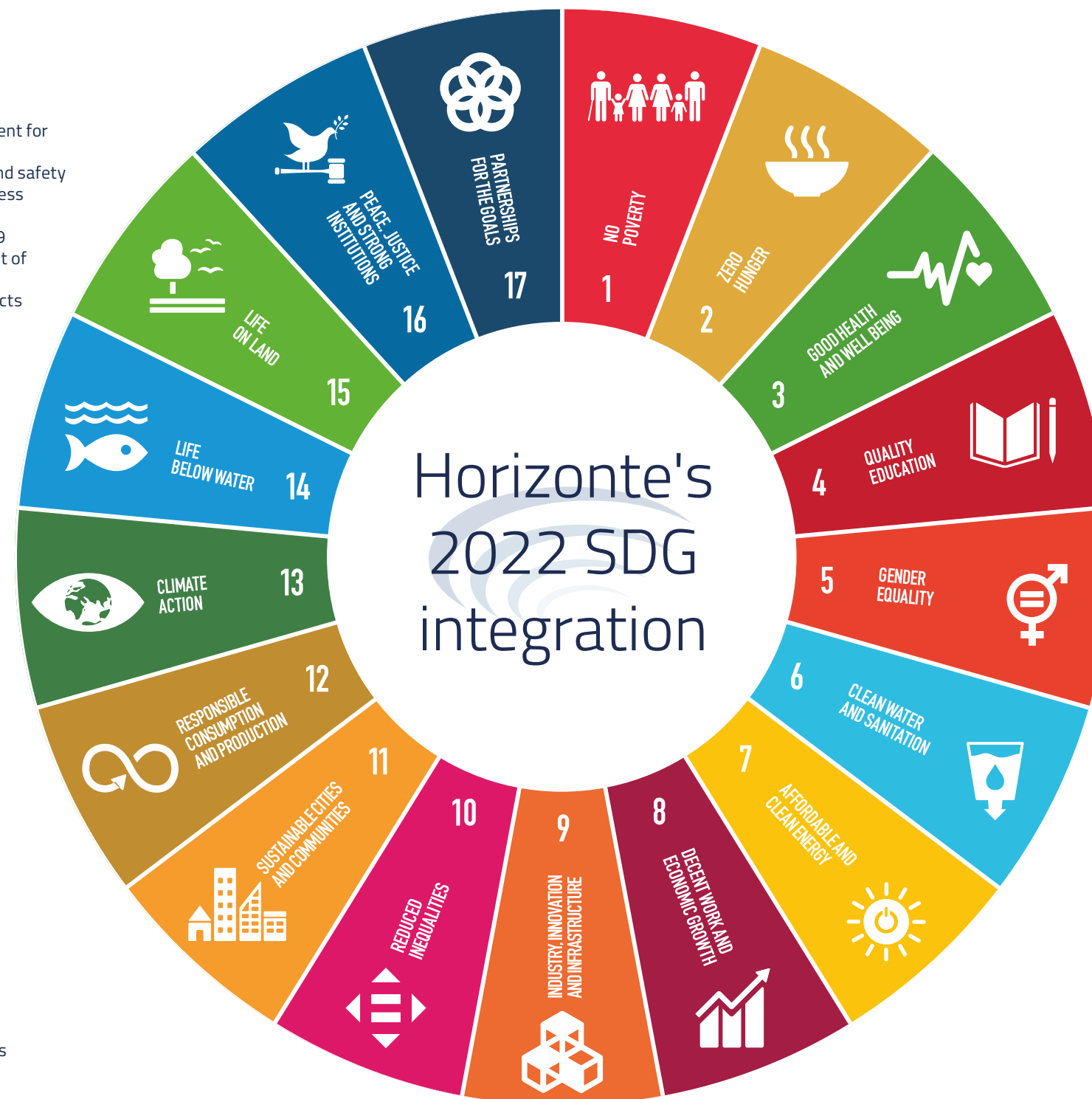
- Robust health and safety management for our workforce
- Engagement in community health and safety
- Extensive health and safety awareness raising
- Continued management of COVID-19
- Support for community management of COVID-19
- Social impact assessments for projects
- Water quality monitoring programs
- Hydrological and hydrogeological investigations



- Increasing female workforce participation
- Local capability and skill development programs
- Vulnerable persons identification processes
- Accessible grievance and whistleblowing systems



- Investment in project development
- Investment to improve local infrastructure
- Support for local procurement
- Training and capability development
- Opportunities for local employment
- Support for local community projects



- Climate change strategy and planning
- Climate change scenario and technical assessments
- Climate risk and opportunity analysis
- Implementation of integrated management system
- Environmental control plans
- Comprehensive environmental monitoring
- International standard impact assessments
- Extensive biodiversity monitoring and projects



- Robust, Board level governance of sustainability
- Transparent ESTMA and tax disclosures
- Alignment with EITI reporting
- Adherence to international reporting and disclosure standards
- Anti-corruption training for all employees
- Active stakeholder engagement

SUSTAINABILITY GOVERNANCE

Systematic and rigorous mechanisms of corporate governance are a foundation for delivering long-term value for all our stakeholders



Fabio Bello, Raimundo Pereira, Flávia Toledo and Flávia Veronese in an area of canga vegetation

MESSAGE FROM THE CHAIR OF THE SUSTAINABILITY COMMITTEE



*Companies with good governance
are more likely to have enhanced
environmental and social practices
relative to their peers*

Good governance is a fundamental aspect of leadership on sustainability. It seeks to make sure that all our action – whether ensuring healthy and safe workplaces, environmentally sound and responsible resource development, good community relations or protecting human rights – are conducted in line with our values and standards. It requires effective communication of the Board’s commitment to these matters to the Group’s employees, contractors and other stakeholders.

These requirements are reflected in the objectives of the Board Sustainability Committee, which I chair. The committee oversees how we are acting on the diverse range of sustainability challenges, ensuring that we take a rigorous, systematic and effective approach.

Successful risk management is a key component of sound governance and is a cornerstone of how we demonstrate respect and care for our stakeholders. Most importantly amongst these are the people who may be impacted – positively and negatively – by our activities. As well as the risks that our business may pose to others, there are also risks to our business. The analysis of enduring ESG trends in the mining industry provides valuable information to the Board on existing, evolving, strategic and operational risks to the business. For this reason, we review industry trends, peer group benchmarks, market analysis and business unit risk as part of our risk management activities.

The SustainAbility Institute by ERM, recently published a 2023 mining and metals sustainability trends report, highlighting a number of key drivers for our industry. I’m pleased to observe, that as a company just beginning the transition from developer to operator, Horizonte is already making important inroads to address many of these trends for our business, some of which are described in the table.

Many of these emerging trends and challenges are evident in the challenge of providing the critical metals needed to support the energy transition. As an independent director and chair of the Global Battery Alliance, I see the importance of battery technologies in delivering a lower-carbon future. Horizonte is playing its part in building the sustainable battery value chains that will help us to meet Paris Agreement targets.

One of the Board’s key functions is to make sure that our approach to risk always aligns with our company values, ethics and standards of business conduct.

Our standards are underpinned by having a comprehensive framework of corporate policies. In 2022, we completed a systematic review of our policies and subsequently endorsed a Horizonte Policy on Security and a Policy on Inclusion and Diversity, as well as supporting Management’s development of a Supplier Code of Conduct. These policies, which will be supplemented by others as we move into operations, complement those already in place.

A commitment to transparency is also a foundation of good governance. We aim to engage openly and collaboratively with local communities, in a spirit of partnership. Our efforts in 2022 to begin target setting and reporting aligned with the United Nations Global Compact was leading practice for a company that had not yet even begun construction.

As our workforce numbers increase, and the spread of our activities and engagements broaden in scale, we need to demonstrate the right behaviours in all our interactions, every day, and with every stakeholder. This is how our performance should be judged – not only by what we do, but also by how we do it. The architecture of commitments, policies and processes we have in place gives me confidence that we are taking a robust approach to the governance of sustainability and that we are living by our values.

Gillian Davidson
Director, and Chair of the Sustainability Committee

Our response to five key trends in mining

Putting decarbonization commitments into practice

Achieving Scope 1 and 2 emissions reductions will require transforming operations	<ul style="list-style-type: none">Horizonte has conducted concept level engineering studies on operational and fuel efficiencies for Araguaia.At Araguaia we have also conducted research into offsets associated with our biodiversity action plan.In 2023 we will undertake climate scenario modelling, update our physical and transitional risk assessments and start adaptation and resilience planning.
Stakeholder expectations for companies to reduce Scope 3 emissions will continue to rise	<ul style="list-style-type: none">This report includes Scope 1 and 2 energy use and emissions for Araguaia’s construction.In 2023 we will start Scope 3 data collection planning.Vermelho flow sheet redesign to MHP instead of MSP, allowing economies of scale in downstream.
Biodiversity impacts and water usage will remain important environmental priorities	<ul style="list-style-type: none">We have committed to net positive impact on biodiversity at Araguaia.Plans to re-afforest over 1,000 Ha of farm-land at Araguaia.We have a Biodiversity Action Plan for our Araguaia operation.At Vermelho we plan to adopt leading practice filtered tailings production, to enhance water recovery and reuse.

Accelerating innovation

Mining companies will accelerate the integration of smart technologies into sites	<ul style="list-style-type: none">Like other modern mining companies, Horizonte deploy leading technologies to enhance engagement, improve safety and increase efficiency, e.g. 3D smart-design in engineering risk assessment; simulators for heavy equipment training; and drone videos to show construction progress.
Data solutions will help to increase employee engagement among other benefits	

Responding to investor expectations on ESG

Investors and customers are increasing the scrutiny of E, S and G commitments	<ul style="list-style-type: none">In 2022, several key investors and sustainability experts were observers to an independent environment and social audit of our Araguaia project.Representatives of our Lender groups participated in field visits to both Araguaia and Vermelho.Horizonte contributed information and case studies to our investors for their own portfolio reporting and disclosures.
Mid-tier and junior mining companies will continue to face rising ESG expectations	<ul style="list-style-type: none">HZM is committed to leading practices in ESG as demonstrated by the adoption of the IFC Performance Standards, and 4 years of Sustainability disclosure typical of producing companies

Building value chain

Control of critical mineral supply chains will increasingly be used to advance geopolitical goals	<ul style="list-style-type: none">As part of our commitment to the production of <u>responsibly sourced nickel</u>, we benchmark against a number of key indexes that are indicators of geopolitical stability.As members of the Critical Minerals Association and the <u>Nickel Institute</u>, we monitor geopolitical trends including emergence of related regulation.
More companies will seek vertical integration and regionalization of value chains	<ul style="list-style-type: none">With two tier 1 projects in the Pará state of Brazil, Horizonte is strategically positioned to meet the demand for regionalized nickel production.
Transparency and traceability of mineral supply chains will continue to improve in response to increased stakeholder demands	<ul style="list-style-type: none">In recognition of the need for responsibly sourced nickel, we have completed benchmarking to illustrate the credentials our products will have – see our section on <u>Responsibly Sourced Nickel</u>. We are also exploring options for certification of our product.Within our own supply chain, Horizonte engages <u>Bernhoeft</u> to provide supply chain risk management reviews and services

Shifting the social paradigm

Mining companies will increasingly collaborate with local and Indigenous communities to comply with revised consultation requirements	<ul style="list-style-type: none">At Vermelho, before any discussion on needs related to project development, we worked with the community to develop a principle-based framework for engagement. An agreement, a year on, still guides how we (Horizonte and the community), work together.
Local communities will strengthen advocacy for shared benefits from mining investments	<ul style="list-style-type: none">Araguaia’s Local Development Agenda (LDA) is built on the principle of shared value and interdependence. An outcome of the LDA to date, is the FIEPA partnership to enhance tourism service provision – benefiting the community and the company
Competition for talent will intensify amid a shrinking talent pool	<ul style="list-style-type: none">Horizonte sees diversity as a mechanism to address talent challenges. With 30% female and 50% under the age of 40, our workforce exemplifies this approach. Other human resources programming focus on enhancing youth and seniors’ human capital – see our <u>Local Content case study</u>.

Source: [The Ongoing Evolution of Sustainable Business: Mining and Metals Supplement \(sustainability.com\)](#)

SUSTAINABILITY GOVERNANCE ARCHITECTURE

As the organization's highest governance body, the Board has overall responsibility for establishing the corporate governance framework of the Company, including defining the boundaries of risk tolerance and appetite within the business, to drive alignment to the company values, ethics and business conduct standards.

The Horizonte risk management system operationalises the processes of Board input and oversight into the management of risk, as well as the mechanisms by which the management determine materiality. Management are accountable to identify, assess and manage strategic risks, including cumulative, emerging and evolving risks, as well as those that are tactical in nature.

The risk management system, aligned to the ISO 31000 risk management framework, is designed to give the Board visibility of material risks, and ensure that people understand their accountabilities and authorities. For example, any Horizonte team member can stop an activity they consider presents a threat to life, loss of human rights and/or loss of protected environmental, cultural or social values. The CEO alone has the authority to approve activity with a residual (after controls) 'catastrophic' level of risk.

Management are accountable to identify, assess and manage strategic risks, including cumulative, emerging and evolving risks, as well as those of a tactical nature.

In undertaking the process to identify and assess the prevailing risk universe, the company reviews industry trends, peer group benchmarks, market analysis and business unit risk registers.

As an example, for our Araguaia Project, impacts were originally identified and assessed in 2013 within an integrated social-environmental impact assessment ("EIA"). The EIA for the ANS part of the project was submitted in 2014 and approved in 2016. Additional environmental studies were undertaken in 2017 and 2018 and several environmental control plans were drafted in 2017 and submitted as part of the company's request for the Construction License of ANS. The risk register, which categorises risks and identifies actions, is regularly updated.

We have developed several environmental and socio-economic management plans and programs. These will be implemented before, during and after construction, to meet Brazilian licence conditions and international standards.

The risk management system: overview

- ☞ Enterprise Risk Management – the process by which the Board and Management identify and manage Horizonte's strategic risk universe.
- ☞ Materiality assessment – the process through which the Board, Management, specialists and key external stakeholders identify and manage material sustainability risks and associated disclosures.
- ☞ A risk matrix to ensure consistency in risk assessment across the company.
- ☞ Project pipeline risk identification, assessment and management processes including due diligence, impact assessments and related analysis.
- ☞ Business unit (Araguaia, Vermelho) level risk identification, assessment and management processes, including documented risk registers.



Board, Executive and management at Araguaia primary crusher wall

MATERIALITY ASSESSMENT

Each year we analyse how sustainability matters affect our business and our stakeholders – considering financial and non-financial impacts. In carrying out this double materiality assessment, we examine the impacts of sustainability matters on our business as well as the impacts our activities have on stakeholders. This informs our strategy and focus areas for the upcoming year. In 2022, we enhanced this process to reflect the evolution of our business. In this more comprehensive process, we:

- ☞ Identified topics from industry and peer benchmarking, enterprise risk management processes, and industry reporting standards.
- ☞ Undertook a detailed analysis of our peer group reporting on sustainability issues.
- ☞ Invited a variety of internal and external stakeholders to complete a materiality survey to indicate to us which sustainability topics are of most importance.
- ☞ Analyzed the results of survey and desk research to identify priorities - using weighting to 'draw out' issues that intersect with our enterprise risk management, peer-based norms and industry trends.
- ☞ Completed a validation process with Executive Management and sustainability specialized Board members.

MATERIAL TOPICS

Based on these inputs, we determined the material issues to inform the content of this report and other disclosures. The matrix below presents the topics included in our 2022 assessment, while the overview table provides a brief explanation of why these issues are important to the business. The material issues outlined in our 2021 report are all incorporated in this year's assessment but are presented in a greater level of detail.

The level of detail provided in this report reflects the relative importance of each topic to us as a business and to our stakeholders. Issues that are not extensively discussed are still assessed and managed as part of our operational management.

In line with good reporting practice, we review and seek to improve our materiality assessment process each year.



Material topics overview

Area	Topic	Why is this important?	SDG
E	1 Biodiversity	We seek a net-positive impact, by protecting, restoring and enhancing natural capital.	15 14
	2 Climate change risk and adaptation	Our business must be resilient to the challenges of climate change.	13
	3 Land use and re-afforestation	Impacts on biodiversity and GHG emissions from changes to land use.	15
	4 Tailings management	Risks must be managed to prevent adverse impacts on people and the environment.	15
	5 Waste management and effluents	Responsible operations requires effective management of hazardous and non-hazardous waste.	6 15
	6 Water stewardship	As a precious shared resource, effective water management is vital.	6
S	7 Community economic development	Programs can support economic inclusion, local jobs, and shared benefit.	8
	8 Community health	Our activities, and the influx of new workers, can impact community health.	3
	9 Community engagement	Collaborative community relationships underpins shared value.	11
	10 Diversity and equal opportunity	Freedom from discrimination is a fundamental human right.	8
	11 Economic performance	We aim to deliver sustainable direct and indirect economic benefit.	8 11
	12 Employees and people development	Training and development is vital as our people lie at the heart of our success.	4 5 10
	13 Ethics and transparency	Behaving responsibly is vital for building trust with diverse stakeholders.	16
	14 Labour relations	Good employment practices are vital for ensuring workforce welfare and productivity.	5 8 10
	15 Local and national employment	Supporting livelihoods delivers local, regional and national benefit.	11 17
	16 Resettlement	We behave fairly and openly with families affected by physical resettlement.	10 17
G	17 Supply chain management	An effective supply chain is vital to delivery of high-quality operations.	8
	18 Anti-corruption and bribery	Mis-allocated revenues can result in economic, environmental, and social harm.	16
	19 Child labour	Moral and legal obligations prohibit child labour worldwide.	16
	20 Crisis management and recovery	Clear and effective procedures are necessary in cases of emergency.	9
	21 Emergency preparedness	Site-specific response plans are an aspect of good HSE management.	9
	22 Governance and risk	Robust systems and controls are required for us to manage risk effectively.	8 9
	23 Grievance mechanisms	Clearly communicated processes can help address issues of concern.	16
	24 Occupational Health & Safety	Protecting people sits at the core of our business strategy.	3
	25 Human rights	We have an ethical responsibility to respect human rights.	17
	26 Permitting and compliance	We must comply with laws, regulations and permitting requirements.	16 17

BUSINESS INTEGRITY

Our Business Integrity, Human Rights and Security Policies are designed to uphold the principles within the 'Core Conventions' of the International Labour Organization (ILO) as well as those articulated in the United Nations Guiding Principles on Business and Human Rights. These policies express our commitment to responsible and ethical business conduct, protection of human rights and non-discrimination and equal opportunity, covering aspects such as gender, race, religion, personal associations, age, disability, political beliefs, and social orientation.

To ensure that our business partners, and specifically our suppliers also have ethical business practices, we have developed a contractor management system that incorporates independent third-party due diligence of business partners, detailed contractual terms and conditions, as well as a contractor management plan. Suppliers and contractors engaged in the delivery of our projects in Brazil were screened and assessed under this program. Additionally, the contractor management plan includes purpose-developed safety, health, environment and social manuals that detail the obligations required of contractors. To complement these parts of the system, in 2022 we developed a Supplier Code of Conduct, the framework of which was endorsed by the Board of Directors.

ANTI-CORRUPTION

Our Business Integrity Policy addresses key requirements relating to anti-corruption and ethical conduct. The policy specifically addresses our legal context, as well as our zero-tolerance of corruption and bribery. As a company, Horizonte does not allow political contributions or donations. Facilitation payments are strictly prohibited.

Our requirements relating to anti-corruption are communicated across all levels of the organization through training and an annual policy attestation process. Record levels of participation in anti-corruption training were achieved in 2022, with all employees required to complete the training and policy attestation having done so. Anti-corruption risks are also considered through our business wide risk management exercises.

In support of this and other corporate policies, we have established a widely accessible whistleblowing line, using an independent service provider, to give people the opportunity to raise issues confidentially, anonymously and free of charge.

Our operations are not considered to be at high-risk for corruption. There were zero allegations of or incidents of corruption affecting our company in 2022 and no employee, contractor, or business partner relationship was terminated for a corruption related incident.

CONFLICTS OF INTEREST

The Business Integrity Policy is founded on the guiding principles of adherence to all applicable laws and ethical business conduct requirements, wherever we do business. It also reaffirms that ethics and behaviour are individual responsibilities and that high standards of behaviour are expected of all individuals across the organization, regardless of position.

We take action to avoid and manage conflicts of interest. As of 2021, employees have been required to make a disclosure on potential and/or actual conflict of interest, enabling identification of specific risks, further enhancing our governance controls. These responses are reviewed by the company's internal human resources and legal functions.



Araguaia rotary kiln column

OUR PEOPLE

*Our people are the foundation of our business.
They drive everything we do and enable us to make
the best possible use of our high-quality assets*

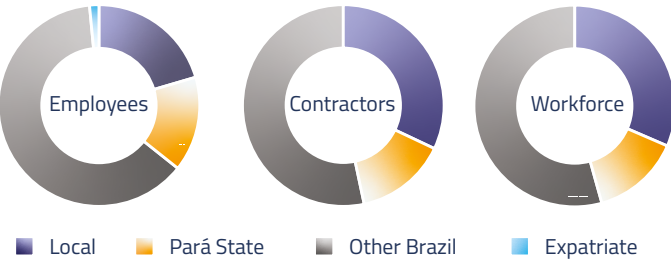


Araguaia mining team

PROVIDING LOCAL EMPLOYMENT OPPORTUNITIES

We employ a total of 141 direct employees, defined as individuals with an employment contract with HZM. This includes staff who are permanent, part-time, on fixed term contracts, or casual labour, including apprentices and graduates. Of these, 70% are male and 30% female. 94 percent of direct employees are Brazilian, with a small number of expatriate staff located in Brazil and other expatriate personnel located in our corporate head office in the UK.

As we are presently constructing Araguaia, we engage a large proportion of contractors. In 2022, the contractor workforce totalled 1,964, 98% of whom worked at Araguaia. All of these contractors are Brazilian, with approximately one-third originating from local host communities (either around Araguaia) or from Pará state. Similarly, about one-third of our employees in Brazil are also local. We anticipate that the contractor workforce will continue to grow as the intensity of construction increases.



Note: Local people from local host communities



TRANSFORMING LIVES

An important benefit of our activities is the meaningful and high value work that we provide. Baseline studies for Araguaia showed that in the regional area, the formal jobs per person of working age in Conceição do Araguaia was just 12% and 10% in Floresta do Araguaia. With a heavy reliance on seasonal and informal employment, vulnerability is high, with 29% and 45% of the population respectively, living in extreme poverty* (Humana 2021).

In contrast, the mean wage in our starting pay-band, is five times the country's minimum wage (2022) of 1,212 BRL per month. Our jobs and the long-life of our assets, means we will provide meaningful, decent work, that will be an important driver of regional economic development, and to transform the quality of life for many.

*World Bank definition. Across Brazil this figure is 5.4% of the population. (\$1.9/day)

GRIEVANCE MECHANISMS

In addition to normal processes for reporting and escalation, Horizonte provides widely publicised grievance mechanisms that enable individuals and communities to raise grievances or concerns with us 24 hours a day, seven days per week. These mechanisms, known as Fale com a gente / Talk to Us, and Linha Ética, are free, accessible, confidential and anonymous services. These systems were upgraded in mid-2022, and now allow for reporting via free call, email, web form and WhatsApp communication methods. The mechanisms can be accessed from both the company's English and Portuguese websites.

Employees and contractors are trained on the purpose of the mechanisms during new starter induction. Within the business units and host communities, an array of posters and other advertising makes people aware of these systems. The company maintains targets for responding to and addressing company-related grievances. An independent third-party specialist provider (Resguarda) has been engaged to administer the grievance mechanism service.

Of the 1,115 formal instances of contact made by members of the community (using Fale com a gente), just 30 (or under 3% of the total) were recorded as 'grievances' and of these, three related to concerns about environmental impact and two to health and safety. We have set targets for response and resolution of genuine grievances and we assess our performance against these targets – 95% of all grievances were resolved in the month in which they were raised.

Horizonte do not tolerate retaliation or discrimination of any kind towards people submitting a concern or co-operating in a related investigation. Reports to the grievance mechanism are directed anonymously to a screening committee from where relevant cases are escalated to specialist Executive Management including the Chief Financial Officer for investigation as applicable.

PROMOTING BOARD AND EXECUTIVE MANAGEMENT DIVERSITY

The Board comprises a group of experienced Directors with a diverse skillset relevant to the development of a mining company. Each Director has a wealth of experience and depth of knowledge in the mining industry and complementary fields including law, business development and capital markets. This diversity of skills and experience across multiple jurisdictions and professional disciplines provides the Company with effective leadership and direction. Each Director keeps their skillset up to date through a combination of continual professional development and attendance at seminars and conferences relevant for the industry in which Horizonte operates. All Directors retire on rotation at regular intervals in accordance with the Company's Articles of Association. Board performance, independence and related matters are discussed in detail in page 48 and 49 of the [Horizonte Minerals Annual Report](#).

Since 2021, the Company has had a formal Nomination Committee. The committee is responsible for finding and assessing appropriate candidates for the Board in line with the Company's evolving required skillset of mine building and production. It is also responsible for developing a formal succession plan.

Board of Directors and Executive Management Team diversity metrics

	Board of Directors	Executive Management	Brazil Subsidiary Company Directors
% Female	20%	25%	0%
% Age <30	0%	0%	0%
% Age 30-50	20%	50%	66%
% Age 50-70	60%	50%	33%
% Age 70+	20%	0%	0%
Citizenship / Nationality	United Kingdom France Australia	United Kingdom Australia	Brazil Australia

NOTE: As at 31 December 2022





Luciano Lima and Kalliane Silva supervising Vermelho geotechnical drilling

ADVANCING DIVERSITY AND GENDER EQUALITY

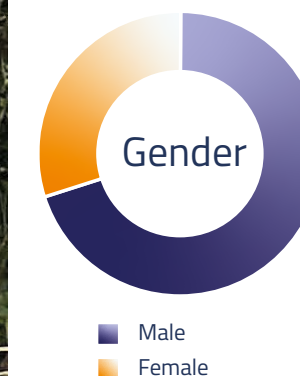
We are proud that 30% of our total workforce are women and are working to increase that percentage. We are also striving to increase the proportion of women who occupy management roles, which currently stands at 15%. In broader 'professional' roles, women hold 49% of these positions at operational and office locations across our business.

The company has undertaken a number of activities to enhance female employment and to support experience in the workplace. These include a zero-tolerance approach to all discrimination and harassment including training on what this means and how it should be implemented, procedures to ensure women are not unfairly discriminated against in cases of redundancy, and measures to ensure that the PPE provided is suitable for female workers. Parental leave is provided to both male and female employees.

Gender diversity

- One third of our employees are women. Women in Mining Brazil (2022) found that in 2021 just 17% of workers in mining in Brazil are female and ILO (2019) report that 15% global workers in formal large scale mining are women.
- At each location we range from 28-44% female team members.
- One third of non-professionals are female.
- Almost half of our professionals are female.
- 15% of leadership are women compared to 11% for the wider industry in Brazil (WiM Brazil 2022).

We also consider the age profile of our workforce, recognising the benefit that a diverse age range can bring.

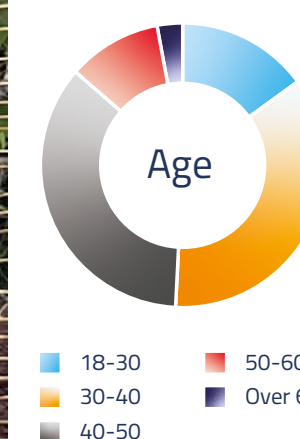


At each location we range from **28-44% female** team members.

15% of leadership are women. Compared to 11% for the wider industry in Brazil (WiM Brazil 2022).

Almost half of our professionals are female.

Age diversity



15% under the age of 30

14% over 50

One-half half under the age of 40

CASE STUDY: BUILDING A GREAT PLACE TO WORK

A key pillar of our sustainability strategy is making Horizonte a great place to work – enabling us to continue to attract and retain talent, and build a high performing team. Many of our team have joined us for the exciting opportunity to be directly involved in the development of the company. As we transition from developer to constructor to operator, our workforce is growing rapidly, driving the need to focus on our culture.

In support of this journey, in November 2022 we conducted our first company-wide employee satisfaction survey. Over 80% of our employees participated in the survey and said:

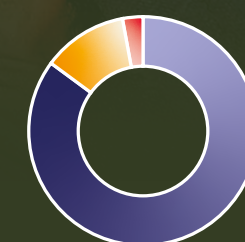
- ☞ That they are treated fairly regardless of race, age, gender or sexual orientation.
- ☞ The team is adaptable, and are proud of what they have accomplished.
- ☞ They are proud to make a difference, and they feel good about how we contribute to the host community.
- ☞ They can count on people in the team to cooperate.

Opportunities were also highlighted: creating an environment in which everyone can openly make improvement suggestions; implementation of more professional development opportunities; and conduct of programs to enhance alignment, teamwork, and inclusion.

In response to this advice from our team, we have:

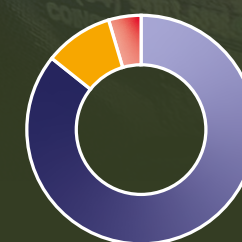
- ☞ Conducted focus group and one on one sessions to obtain direct input into suggestions.
- ☞ Communicated high level feedback and shared aggregated results with leadership and the workforce through a CEO lead briefing.
- ☞ Undertaken a review of our independent reporting and grievance mechanisms.
- ☞ Engaged a specialist consultancy to support the implementation of a requisite organisation and leadership development program named, *Nós somos Horizonte* (We Are Horizonte).
- ☞ Developed an Inclusion and Diversity Policy for Board endorsement.
- ☞ Accelerated our development of a Horizonte Code of Conduct and a Supplier Code of Conduct.

In 2023 we will continue the roll out of these and other improvements, to make Horizonte a great place to work.



I feel good about how we contribute to the community

- Mostly true
- Sometimes
- Mostly untrue



People are treated fairly regardless of – sexual orientation, age, gender or race

- Mostly true
- Sometimes
- Mostly untrue

Araguaia daily pre-start meeting

SAFETY, HEALTH AND WELL-BEING

We are committed to protecting and promoting our employees' health and well-being as individuals and as a collective – this is part of making Horizonte a great place to work!

Powerline construction team from Remo constructing 230 kV power line tower

HEALTH AND SAFETY MANAGEMENT

OVERVIEW

By making health and safety everyone's responsibility, we strive to be a zero-harm workplace. Our occupational Health and Safety Management system is based on the International Finance Corporation Performance Standards, ISO Standards and Brazilian legislation and follows best practice protocols such as Consolidation of Labour Laws.

We feel strongly that occupational injuries and illnesses are unacceptable, and as a result we have a tiered program that focusses in three main areas.

The controls for the risk in each of these areas are designed to be specific to the relevant hazards:

- ☞ Fatal injury risks – e.g. working at height, heavy equipment interactions.
- ☞ Risks of other injuries – e.g. pinch points for hands, musculo-skeletal injuries.
- ☞ Management of emergencies – e.g. rescue of injured persons and management of the safety of the response teams.

To guide our activities in this area, we have five employees dedicated to the health and safety discipline. At Araguaia this team is complemented by 97 health and safety dedicated contractors. The contractors' specialists cover EPCM (Engineering, Procurement and Construction Management) (14), construction (63), mining (6), construction administration (7) and a further 7 providing medical services.

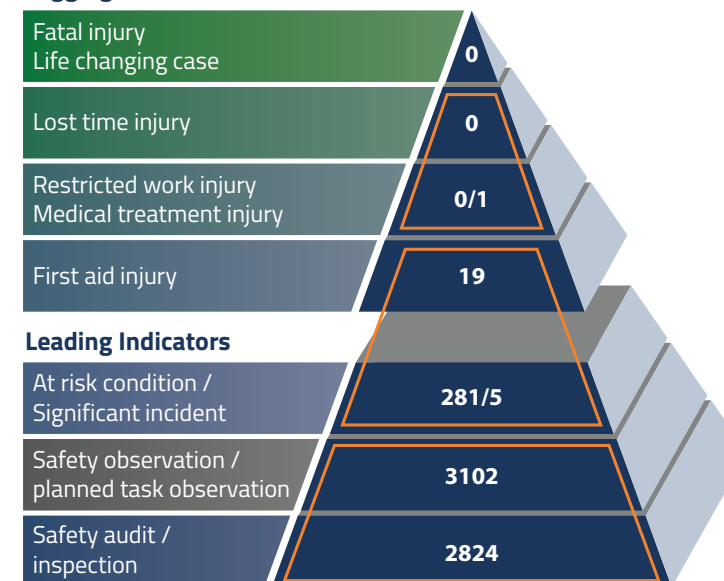
CRITICAL RISK CONTROLS

Critical risk controls are those actions we take to prevent fatal injuries from occurring. We use the hierarchy of controls for management of these risks and our standards and procedures reflect this hierarchy.

At our Araguaia operation, which is in construction, during the year the critical risks identified included the use of heavy equipment and interactions with these equipment, rotating equipment including drilling equipment, exposure to lightning, and working at height. In 2023 as we move into the electro-mechanical construction phase, new critical risks will include cranes and lifting, energy isolation, and confined spaces.

Numerous studies of safety have shown that the majority of serious incidents in the mining industry, result not from unsafe conditions, but from whether people follow rules or not. This is the reason why we focus effort on ensuring the correct behaviours towards risk in our business. To strengthen the focus on behaviour we set and track our performance against various leading indicators (i.e. completion of programs to identify and control risk), as well as the lagging indicators of our safety performance (i.e. incidents and injuries). Our performance on these metrics is illustrated in the pyramid diagram provided.

Lagging Indicators



Lagging Indicators – Fatal injury, Lives changed, Lost time injury, Restricted work injury, Medical treatment injury, First aid injury.

Leading Indicators – At risk condition: no fatality potential, Significant incident: fatality potential, Safety observations, Near misses, Safety audits / inspections, Training records, Toolbox talks.



Furnace foundation construction at Araguaia

GOLDEN RULES

We have established ten Golden Rules of Safety, which are non-negotiable descriptions of good practice when undertaking specific tasks on site. The Golden Rules are the few critical rules that we want people to follow. If our teams abide by the intent of these rules, the majority of incident root causes can be avoided. These Golden Rules cover authorisation to work, equipment, traffic management, restricted areas, work at height, energy isolation, confined spaces, illicit substances, safe positioning and communication.

In addition to the Golden Rules and as part of the critical risk controls, we undertake a range of activities to engage with and involve our teams in the management of their safety:

- ☞ Daily safety dialogues.
- ☞ Safety inductions and regular refresher training.
- ☞ Specific activity-related safety training.
- ☞ Incident and emergency management exercises and training.
- ☞ Vehicle and equipment pre-use checks.

All workers have a safety induction and are issued with badges ('passports') which indicate the activities, equipment and resources they are permitted to operate.

We carry out regular safety assessments, as well as independent third-party H&S inspections. We track lagging performance indicators including fatalities, lives changed and lost time injuries, as well as leading indicators which indicate the strength of our safety culture and controls – such as safety observations, near misses, and training records.

We are aware of the risks that our activities pose to the health and safety of all those involved in the project, and to people in local communities. As an example, to manage such risk, our drivers participate in defensive driving evaluations, and we work closely with contractors to align their safety culture and practices with our expectations.

EMERGENCY AND CRISIS MANAGEMENT

Emergency management addresses the parallel objectives of bringing any emergency situation under control, recovering any impacted persons, and meanwhile, ensuring the safety of the persons who are undertaking these activities.

As we commenced construction of our Araguaia operation in 2021, we began the design and implementation of an Emergency Management Framework for our business. This framework supports business leaders in the actions that they need to take in management of any emergency.

A component of this framework is the Emergency Management Plan for our Araguaia operation, that incorporates preparedness and response elements. During the year we undertook an

emergency training drill at Araguaia. As another element of our preparedness, 69 people were trained in fire extinguisher use and basic first aid. At the operation we presently have four ambulances, each at different work fronts, and seven team members dedicated to providing medical and emergency services.

In support of our Emergency Management Framework, in 2023 we will be developing our Crisis Management Framework. This framework will support executive leadership in managing any event that is protracted in nature or requires business recovery.

Injury data

SITE	Fatalities	All injuries	Total Recordable Injuries	AIFR	TRIFR
Araguaia	0	18	1	13.17	0.73
Vermelho	0	1	0	ND	0
All Horizonte	0	19	1	13.63	0.72

NOTE: Rolling 12-month injury frequency rates are per million hours worked.
ND: Not determined as Vermelho hours worked insufficient to allow meaningful data.

The safety performance of the company in its first year of 'on-ground' activities has been a major achievement. Our Total Recordable Injury Frequency Rate (TRIFR) is three times better than the 2021 ICMC member companies' performance (2.90) and ahead of the individual best performing ICMC company (1.09) for that period (ICMC 2022). Given that our hours worked are relatively low - in the 12 months we ramped up from a workforce of less than 200 people to around 2400 - and that our primary activities are construction, this is an even greater accomplishment. Whilst we recognise this success, each and every day it is critical that we remain focused on ensuring that everyone goes home safely.



Araguaia furnace base plate in transit

PANDEMIC MANAGEMENT

Our pandemic management protocol has been effective in shielding employees from COVID-19 infection. Throughout 2022, all Horizonte employees and contractors were required to have full vaccination status. Our pandemic management plan covered more than 2,400 members of the workforce.

We have supported our workforce by providing first, second and booster vaccinations. Our plan enables us to reconsider vaccination requirements in the light of infection rates, which we monitor on a local, regional and national basis.

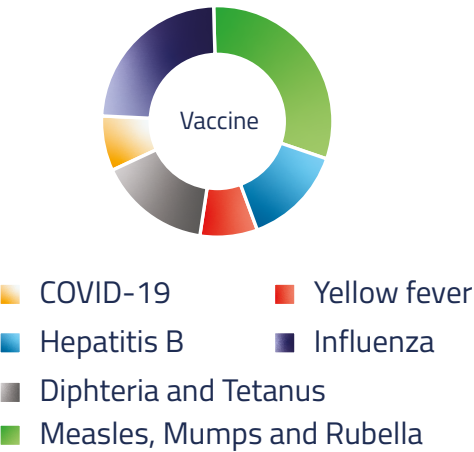
Pandemic management	Employees
Fatalities	0
Hospitalisations	0
Confirmed Cases	31

HEALTH MANAGEMENT

Horizonte provides free curative and preventative health services for its employees and contractors, and all members of the workforce participate in pre-employment and periodic health screening. Over 2,400 people were screened in 2022 – almost half took the opportunity to participate in blood pressure screening, a third had an electrocardiogram (ECG), a third eyesight testing and almost a third liver/kidney function testing.

Health Testing	Workforce
Liver or kidney function	27%
Electrocardiogram (ECG)	37%
Blood pressure	47%
Eye / sight	39%

Other prevention health focused programming included support to government vaccination programming. All members of our workforce participated in COVID-19 vaccinations, and we supported 105 people with booster vaccinations. In total we provided 346 vaccinations to workforce in 2022.



These programs are complemented by occupational hygiene monitoring which is designed to assess the exposure of specific groups of workers to health hazards in the workplace. Such monitoring was conducted for noise, particulate, gas and vibration exposures, with all results within the regulatory limits.



Medical team at Araguaia – Edson Silva, Bruno Carvalho, Giovana Luz, Pedro Pires and José Bonfim



Josemar Dias, HB20 backhoe excavator operator

CASE STUDY: CONTRACTORS SAFETY SCORECARD

To empower accountability for safety, we are using novel campaigns to promote involvement in safety programs.

The 'Safety Scorecard' which we started in August, provides a visual indication of which teams are demonstrating visible felt leadership through participation in our behaviour-based safety programs, including metrics for:

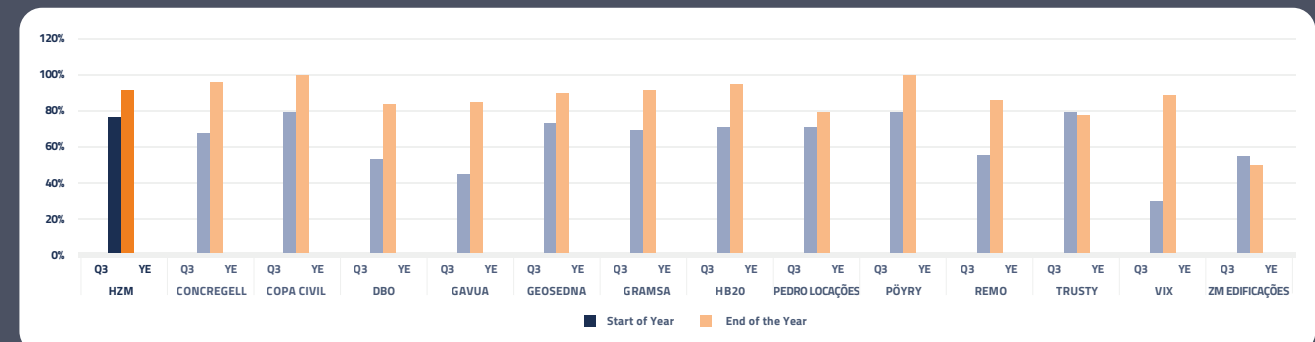
- Completion of area inspections.
- Participation in safety meetings.
- The conduct of routine discussions with workforce on risk and safety.
- Completion of job hazard analysis processes.
- Participation by teams in sustainability related training.

In parallel with wider campaigns on making Horizonte a Great Place to Work, we realised we could improve our own leadership by assessing the performance of the Horizonte teams to the same standards. This led to enhanced leadership outcomes and influence.

As we are operating in a locale which is new to mining, this program has enabled a platform from which our leaders can coach teams in mining industry standards. This is having flow-on benefits to the community safety management more generally (see our Case Study on [Pela Vida No Transito](#)).



Safety score card performance



SOCIAL EXCELLENCE

By engaging constructively with local communities, we can create shared value



Edilson Lobo, Andressa Morais and Kerley Oliveira with the Ferreira family who will be resettled to the collective resettlement at São José das Arraias

COMMUNITY DEVELOPMENT

We are committed to making a positive contribution to the communities where we work. We believe in the concept of shared value – creating benefit for local people in a way that supports the development and growth of our business. Maintaining a strong relationship with local communities and other stakeholders is a fundamental aspect of our ‘social licence to operate’.

All our projects are covered by local community engagement practices, impact assessments and development programs. In 2022 the total value of our direct community investments was over \$900 k and our total distributed economic value in Brazil was almost \$13 million. To ensure that our programs create genuine and sustainable value, we will monitor the development of our host communities relative to key socioeconomic metrics provided in our [Data workbook](#). Our contribution is organised under three pillars:

Economic Development

- ☞ Maximising local employment opportunities.
- ☞ Developing local suppliers who can provide services to the company and others in the region.
- ☞ Developing small and medium-sized enterprises, particularly in rural areas.

Social Development

- ☞ Providing capacity building programs to local government and communities in our areas of operation.
- ☞ Investing in education/cultural activities (once the project is in production phase).

Care and Respect

- ☞ Supporting public health initiatives, including sexual health education.
- ☞ Providing environmental education.
- ☞ Implementing a resettlement program, aligned with IFC guidelines.
- ☞ Maintaining a mine closure plan and environmental management plans.
- ☞ Engaging and communicating on a continuous basis.

BUILDING POSITIVE COMMUNITY RELATIONSHIPS

We have developed a stakeholder engagement matrix which identifies the stakeholders affected by our activities and provides a framework for managing those relationships. Within it, we have identified as key stakeholders those families and individuals who will be displaced by the project, the surrounding population, and municipalities in nearby areas.

We have carried out actions from our stakeholder engagement action plan, which has been in place since 2013. For example, we

have held consultations through a census, including direct contact with affected families –taking account of cultural sensitivities and local concerns.

Despite the difficulties posed to communication by the COVID-19 pandemic, we have intensified our interaction with stakeholder groups. Our independent auditor has confirmed that our process is fully aligned with good practice requirements.

RESPECTING STAKEHOLDERS' RIGHTS

Mining companies have previously faced criticism for their failure to respect the human rights of local and indigenous peoples. In line with our commitment to the protection of human rights – as enshrined in the Equator Principles and UN Guiding Principles on Business and Human Rights (UNGPs) –in 2022 we released a Policy on Security to support our Human Rights Policy.

To ensure that we understand the needs of our stakeholders, Horizonte has undertaken and frequently update our detailed stakeholder maps and engagement plans. Our stakeholders include governments (federal, state and municipal), communities, people affected by resettlement, business partners (contractors and suppliers), employees and contractor workers and their families, shareholders, investors, NGOs, CSOs and others. These groups have varying needs, and we recognise that it is through engagement and consultation that we can develop meaningful relationships of mutual respect and interdependence.

One area where respect for human rights is integral is resettlement. Our strategy has been to avoid or minimize the need for displacement and resettlement, wherever possible, and to mitigate impacts to all social groups potentially affected by our activities. Rather than rely on legal approaches, we have pursued a policy of friendly negotiation and participation on land access. In 2022 we commenced implementation of our [Araguaia Resettlement Action Plan](#).

Another key element of human rights is the right to freedom of speech and association. In Horizonte, our engagement and grievance mechanisms provide open channels for internal and external stakeholders to raise inquiries or concerns about any aspect of the company's activities.

The performance of Horizonte and our contractors against these standards and commitments, is assessed via our human rights due diligence processes, and assurance audits by the Independent Environment and Social Consultants.

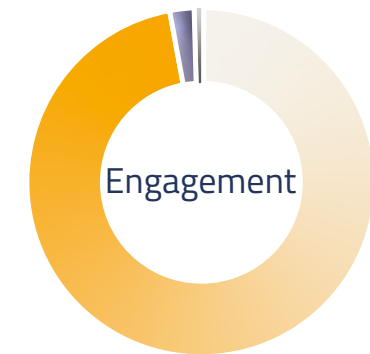
COMMUNITY SAFETY AND HEALTH

Construction projects and mining operations are known to result in impacts that can affect community health and wellbeing, arising from traffic, use of natural resources, introduction of hazardous substances, and health impacts caused by a large influx of labour. There can also be impacts to security and human rights.

Our approach to dealing with community security and human rights risks and impacts is set out in various social management programs, as well as our security management and grievance mechanisms. For example, we are developing initiatives to minimise potential public health impacts from the project, including health promotion proposals and the rehabilitation of local access roads.

While our construction work at Araguaia has not presented any significant issues relating to hazardous materials, we will continue to implement processes relating to accident prevention and control, and emergency planning, as the works advance.

We recognize that responsible shared use of natural resources, such as water, which provide a range of ecosystem services – is an important aspect of the project. Given the need for access to good quality shallow groundwater for local households, we are monitoring groundwater levels and abstraction rates to ensure that no harm is caused. The photo shown on page 48 shows our social and environmental teams engaging with local host communities about water well hygiene and sanitation. Monitoring of some community wells has shown contamination (not related to our operations), but it is because of concern and respect for these families that we raising awareness on safe water supply systems.



97% inquiries & requests

2.6% other grievances

<0.5% Horizonte impact

Christian Mendes, Raquel Ayres and Paulo Lima engaging with Vila Oito community on results of water well monitoring

Marcia Wiesen greets the driver bringing the first shipment of Araguaia furnace components

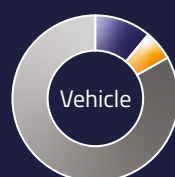
Mr Generaldo da Paz Ananias talks about traffic safety at the “Pacto Pela Vida no Trânsito” launch program

CASE STUDY: PELA VIDA NO TRANSITO

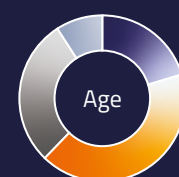
Many of our social management plans at Araguaia are inter-related, creating broader impact and potential for beneficial outcomes. Under one program, we have significantly improved local roads (see our case study) and in a parallel program we identified road traffic safety as a major risk to our host communities.

As part of the program scoping, data shared by the national public healthcare system (SUS) and the State Secretariat for Public Health, highlighted that more than 430 motor vehicle accidents had occurred over five months – 83% involved motorcycles, almost two-thirds involving young people, and most (60%) were men – in a population of some 47,000.

In recognition of this risk and the opportunity to promote safer behaviours, whilst contributing to the UN SDG 3 target of halving road traffic injuries globally, we have started a broad-ranging campaign to raise awareness and educate the community on road safety. The campaign is being conducted in partnership with local authorities – the Municipal Secretary of Education, the Regional office of the Pará State Health Department, the State Traffic Department (DETRAN) and the Municipal Department of Traffic (DMTRAM) – through the Intersectoral Traffic Committee.



□ Bicycles
■ Cars
■ Motorcycles

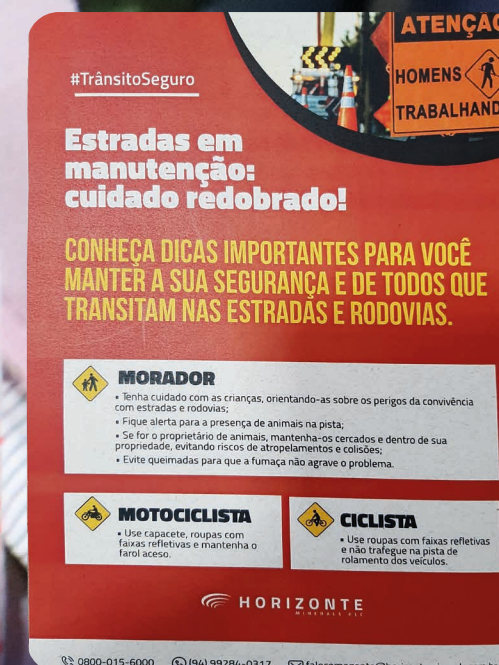


□ <18 years
■ 18-40
■ 41-60
■ >60



□ Male
■ Female

Road traffic accident data statistics for Conceição do Araguaia (Jan – May 2022)



The campaign, known as *Pela Vida No Trânsito* (Together For Life In Traffic) included:

- Signing of a ‘Pact for Life in Traffic’ by 62 local companies, institutions and individuals, including Horizonte.
- Donation of 50 helmets by Horizonte and 132 by other partners, for distribution to the community. Recipients were people receiving social benefit support (CadÚnico) with motorbike licences, as identified by DMTRAN, DETRAN and the State Health authority.
- Education campaigns at major street intersections in Conceição do Araguaia.
- Provision of educational material for motorists – billboards, posters, stickers and pamphlets – all produced locally.
- Education to around 4,000 elementary and high school students by DETRAN, DMTRAN, the State Health authority and the Municipal Education authority.
- An evening launch program, attended by about 3,000 members of the host community with an address by the Mayor and other dignitaries.



RESETTLEMENT

Construction of Valdivino Furtado's new family home

CASE STUDY: PARTICIPATORY RESETTLEMENT MANAGEMENT

Horizonte works to minimise disturbance to communities where-ever possible. Where resettlement is necessary, projects are planned and implemented according to Brazilian regulations and the International Finance Corporation (IFC) Performance Standard 5 to improve, or restore, the livelihoods and standards of living of displaced persons.

IFC PS 5 requires informed community participation in developing, negotiating and implementing any resettlement programs and provides grievance mechanisms to ensure fairness and equity.

In developing the Araguaia Project, we have engaged closely with the 18 households affected by Phase 1. As part of this phase, two families that lived where the main infrastructure is being constructed, have agreed to temporary accommodation whilst their new resettlement homes are constructed. The Resettlement Action Plan (RAP) is being implemented in phases to avoid unnecessary disturbance wherever possible and minimise negative impact.

The project affected households have elected arrangements that suit their individual needs. Some families are resettling to a collective resettlement location, whilst others have elected individual rural or urban locations. Other properties will be secured through free negotiation.

In 2022, stage 1 of the RAP started with resettlement house construction, relocation of families to temporary accommodation and commencement of the livelihood restoration and enhancement program.

Over the next few years Horizonte will monitor the progress of these families and our program implementation, following which we will monitor for a minimum of three years post-implementation to ensure the sustainability of the resettlement outcomes. Part of our monitoring also includes recording the resettlement journey for some of these families – in the inset, Mr. Luiz Pereira is interviewed as part of these activities.



Mr Luiz Pereira is interviewed about his resettlement experience



Mr Ronaldo Ferreira and his family

CASE STUDY: LOCAL CONTENT

During the year we established two important community development partnership agreements. The agreements are with Brazil's leading national industrial training provider, Serviço Nacional de Aprendizagem Industrial (SENAI) and the Pará State Industries' Federation or Federação das Indústrias do Pará (FIEPA), to strengthen the capacity of local communities participation in direct and indirect economic activities associated with the Araguaia Nickel Project.

FIEPA is the lead Federation advocating for industrial sector development in Pará – a collaboration of specialist institutions with the goal of meeting the needs of industry and its' workers in the state. FIEPA is widely recognized in the Pará state for its expertise – over more than 20 years – in fostering local industrial business development.

The two-year partnership program highlights include:

- ☞ Horizonte funding of over \$2 million Brazilian Reais for technical training delivery.
- ☞ Over 450 industry-recognised, accredited apprenticeships and traineeships.
- ☞ Conduct of the training at the Pará state university for strengthening of national institutions.
- ☞ Delivery of a supplier development program.
- ☞ Establishment of business advisory services in conjunction with the Conceição do Araguaia Commerce Association.
- ☞ SME business capacity program delivering two-month training courses to 90 local small businesses.
- ☞ Conduct of tourism-related training for 400 people, to strengthen the existing tourism sector in Conceição do Araguaia.

These programs will result in the development of transferable industrial skills, enabling local community members to enhance participation in mine local procurement and supply chains as well as direct employment opportunities.

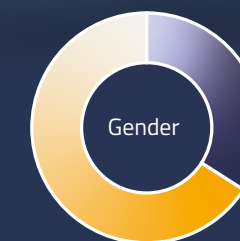
Janaina Lima is a participant in our SENAI partnership as an apprentice electrical technician

Since the inception of this program in May 2022, the following has been achieved:

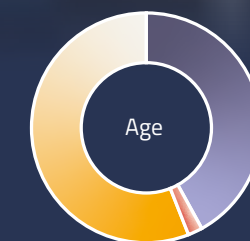
- ☞ 21 accredited training courses have started and 12 have been completed.
- ☞ 228 people have graduated from the programs.
- ☞ High levels of diversity have been achieved through the program with:
 - 32% female graduates.
 - 14% youth graduates (<21 yrs of age).
 - 2% older persons (greater than 60 years of age).

We are pleased that by the end of the year, already almost 40% of program graduates had transitioned from training to employment – 33 at the Araguaia project and a further 37 in the community. It is our target that within six months, as many as 70% of program graduates will obtain direct or indirect employment in support of the Araguaia project.

SENAI graduates:



Male
Female



30 to 60 years
< 30 years
> 60 years



Local community
Other

CVs in SINE database



Jobs searched via SINE database



PROTECTING THE ENVIRONMENT

We are committed to being effective stewards of the natural environment, and of creating a net positive impact

Wagner Gomes records data from stream monitoring conducted by Francisco de Sousa

ENVIRONMENTAL STEWARDSHIP

Our Health, Safety, Environment and Social (HSES) framework is part of our integrated management system (IMS), and is aligned with ISO 14001:2015, and 45001:2018, and IFC guidelines.

INTEGRATED MANAGEMENT SYSTEM

The IMS integrates social, environmental, governance and permitting requirements in a series of tools enabling record keeping and tracking, corrective action management, document control as well as databases for recording monitoring data and community engagements. The IMS reduces management risk, by automating alerts to team members and managers for permit renewals, submission dates, reports, notifications and conditions. Within IMS, the HSES framework is a manual and a digital platform, using various tools including a package that stores environmental data from groundwater, surface

water and air quality samples, noise monitoring programs, biotic monitoring, as well as stakeholder and social data.

As part of our management framework, we have engaged an independent environmental and social consultant to carry out the monitoring required by lenders. Their scrutiny has covered the construction phase and the first year of the operational phase of the project, and assesses our performance, management systems, risk management, monitoring, and compliance with applicable standards such as the IFC performance standards and the Equator principles.

ENVIRONMENTAL MONITORING

We routinely monitor environmental parameters relating to air quality, surface water, ground water, noise, flora and fauna and also carry out noise and vibration monitoring.

Groundwater quality monitoring is carried out at a total of 20 points at Araguaia and Vermelho. We also monitor surface water quality at 61 points, and water flow at 170 points across streams, rivers, and springs. Hundreds of samples are collected and analysed on a regular basis, in support of baseline studies, environmental and social impact assessment studies, and for ongoing compliance.

For example, noise monitoring is being undertaken quarterly at 11 points at Araguaia and 9 points at Vermelho and builds on a significant baseline of data. As with some of the other monitoring equipment, we are in the process of upgrading our noise monitoring equipment. This upgrade will enable the data to be recorded directly to a phone or laptop removing the potential for transcription errors. Noise levels are often noted to be above the Brazilian noise level guidelines for farm zones and mixed zones (which are predominantly residential areas). Exceedances are mainly due to animals or resident noise, and no noise issues derived from the project have been noted to date.

We also monitor impacts to the soil, as earth moving works include the stripping and storage of topsoil from the construction site, and its retention in managed bunded areas until required for restoration purposes. We are monitoring 12 locations bi-annually and using the findings to inform our approach to topsoil and other natural materials storage - to minimize the erosion of, and loss of the viability of, these materials.

In our first year of project monitoring at Araguaia – our previous monitoring was of pre-project conditions – we have continued to develop our monitoring capacity and capability. This has included:

- ☞ expansion and modification of our monitoring networks,
- ☞ installation of new monitoring equipment, and
- ☞ adoption of new monitoring standards.

Surface and ground water quality and flow monitoring, as well as our noise and vibration monitoring programs were largely implemented in accordance with our PCAs (environmental control plans). Our air quality monitoring program experienced some impact owing to the amount of time it took to acquire, install and commission our monitoring stations, and our noise monitoring was adapted to new standards issued by Brazilian regulators.

Araguaia Monitoring Programs	Monitoring schedule*	Quality objectives**
Air – gas	18%	100%
Air – particulate	27%	61%
Noise	94%	93%
Vibration	100%	100%
Water – flow/volume	100%	100%
Water – ground	91%	100%
Water – surface	94%	99%

*Percentage achievement of planned monitoring

**Collected samples conformance to regulatory standards.

Despite some impact to achievement of monitoring schedules, overall our monitoring demonstrated no to minimal impact to the community and environment in relation to water quality, water flow, vibration and noise from construction of Araguaia.

In September at Araguaia, during clearing of land for the Araguaia cooling water dam, an environmental incident occurred. A small seasonal stream in the dam basin area was blocked, resulting in water stagnation and fish death. Although the activity was a permitted activity, and the stream dries out each dry season, we took a conservative position and reported the event to the regulator.

At Vermelho, we continued to collect pre-project data, to allow us to have a detailed understanding of the site before our project is developed. These data add the existing extensive baseline data sets and will support the documentation of an updated project Feasibility Study.



Sebastião Neto undertakes noise monitoring

AIR QUALITY MANAGEMENT

With construction starting at Araguaia in May 2022, we commenced the implementation for our monitoring programs in the year. Whilst installing our permanent monitoring stations for air, we undertook monitoring with manual equipment, to ensure we understood the effectiveness of our controls.

Our approach to air quality monitoring is built on an understanding of the potential impacts – such as those from oxides of nitrogen (NO_x and NOx), sulphur dioxide (SO₂), and particulates from the movement of vehicles and the earthworks – and of the most appropriate technology to measure them. We are monitoring PM10 through a Hi-Vol with monthly 24-hour measurements. This is due to be replaced with a continuous air monitor which will provide more robust data and allow an appreciation of the effects of weather (such as wind and rain) as well as the mitigation activities employed. SO₂ and NOx measurements are monthly 24-hour measurements which will be replaced shortly by continuous monitoring equipment which will also monitor carbon monoxide.

As is typical in Pará, it is during the dry season that dust from unsealed roads has the greatest impact on road-side communities. Our pre-production baseline monitoring provided evidence of these seasonal impacts, and our ongoing monitoring is there to understand and manage our contribution to these impacts, as we continue to roll out our management controls.

Pre-project, 74% of particulate sampling results were within the quality standards, which had decreased to 60% during the year, with higher levels of dust experienced. Whilst these are negative impacts attributed to the project, they are the result of activities to improve and upgrade roads and bridges that were previously in poor condition – making them significantly safer to use – for the long-term benefit of our workforce and other road users.



Flávia Veronese explains new continuous air quality monitoring station to independent environmental and social auditor from Arcadis

CASE STUDY: MANAGING IMPACTS

In partnership with State and Municipal organisations, as part of the construction of our Araguaia operation we have begun an extensive program of upgrades to roads that will not only benefit our project, but will also have real and lasting positive benefits to the community. Construction started during the hot and dry part of the year, which meant that as we implemented controls for dust generation, we were able to learn with the community, which were the most useful.

Under the partnerships, 40 km of State and Municipal roads, and a bridge have been upgraded incorporating a range of activities to reduce the impact of the road upgrade activities and to minimise ongoing impacts from the usage of the roads. Activities associated with the roads have included:

- ☞ Road widening and straightening.
- ☞ Capping of the roads with lateritic materials to reduce dust formation.
- ☞ Installation of road safety features including barriers, speed bumps, and speed signage.
- ☞ Use of buses instead of cars to reduce road traffic.
- ☞ Traffic monitoring to understand vehicles using the road.
- ☞ Purchase and planned installation of four automatic, continuous real time, air quality stations.
- ☞ Traffic safety and management campaigns.

These improvements will significantly improve road accessibility and safety for road users and will improve air quality for families living next to these roads. The company has now begun engagement with the bodies accountable for roads, to advance discussions on an ongoing private: public partnership (PPP).

A key objective of the PPP will be to solicit commitment from these bodies to ongoing management to complement the R\$40M of support already contributed by the company. By supporting the strengthening of national and local systems of governance, sustainable regional development can be achieved. Under the PPP, the company will be seeking to achieve further improvements in air quality amenity for families living near these roads.

In parallel with these discussions, at the road-side locations most affected by our activities, we will be applying additional controls in the upcoming dry season to further reduce dust generation, and we will continue to engage with communities on their effectiveness.

State road (PA449) upgrade works underway



Team engaging with road-side home owner



WATER STEWARDSHIP

We recognize the importance of water as a resource for the community and within the natural environment. We are committed to water efficiency in our operations and our aim is to be a water steward in the region, adopting Brazilian and international standards.

The Araguaia Project operates in the town of Conceição do Araguaia, approximately 25km from the Araguaia River. The area receives high rainfall, is sparsely populated and water is used primarily for agricultural activities. There are no other existing industrial complexes. These factors affect the water catchment for the region, which has a positive water balance. Neither Araguaia or Vermelho are classified by the Aqueduct Water Risk Atlas as High or Extremely High Water Risk.

Large rivers in the micro-region of Conceição do Araguaia provide the population with a guaranteed water supply. While there is high rainfall, the climate has distinct seasons, with a dry season which typically lasts from May to September.

The construction, operation and closure of Araguaia have potential impact on surface and groundwater – such as changes in quality and localised shallow draw-down resulting from dewatering of pits to ensure safety during mining. Relatively small amounts of water are used during construction, with the largest use for dust suppression on roads and earthwork areas. Other water uses include concrete preparation and use for domestic purposes.

When Araguaia moves into operation, Horizonte anticipates that some 220m³/hr will be abstracted from the Arrais River via a pipeline to the water-cooling dam. All water will be recycled in the closed-circuit design of the plant, meaning make-up water will only be required to account for evaporation.

We carry out surface and groundwater monitoring, continuously at the river abstraction point, and monthly or quarterly at other monitoring locations.

While wastewater volumes are currently low, we anticipate they will increase as the number of workers on site increases during construction.

Water

Source	2022
Water withdrawal (ML)	75
Water recycled (ML)	0
Water discharged (ML)	0
Water consumed (ML)	75

Note:
Water data shown is not broken down by areas of ‘high’ water stress as per GRI requirements as we do not operate in areas of ‘high’ water stress.



Stream condition monitoring



CASE STUDY: VERMELHO EIA AND IMPACT ASSESSMENTS

Risk assessment is a critical process of governance in our business – covering the entire life cycle of our projects. At Vermelho we have recently completed an extensive process of Environmental and socioeconomic Impact Assessment or Estudo de Impacto Ambiental (EIA) to inform project permitting and to update the previous Feasibility Study.

Baseline study updates have been carried out, to understand the existing physical, biotic and social environment. These and technical studies, were conducted over four years from 2019 to 2022 – building on the previous extensive array of work completed by Vale – and culminated in the submission of the updated EIA and a non-technical summary, known as Relatório de Impacto Ambiental or RIMA, to the regulatory agency, as the first stage of re-licencing the project. Our Vermelho Pre-Feasibility Study provides a history of the project.

Importantly, these studies have highlighted a number of valued environmental and socioeconomic components that the company can enhance protection of, in the context of our operations. As an example, near to the proposed operation are a series of caves that host a wide variety of flora and fauna, with over 300 species directly identified in the studies to date. Studies quoted in the EIA by speleological (cave) experts report that of the more than 22,000 cavities registered in the ICMBio/Cecav¹ Database, less than 3% have been subject to formal assessment of the resident bat populations. Given the critical role of bats to cave environments and in broader ecosystem services, such as pollination and seed dispersal, these specialist studies will not only enhance scientific knowledge but will also allow us to support protection of these habitats.

1. ICMBio is the Brazilian Ministry of Environment's Institute for Biodiversity Conservation that administers the National System of Protected Areas. Cecav is the National Center for Cave Research and Conservation.



Expert speleologists from Spelayon assessing caves at Vermelho



Colony of Greater spear-nosed bats

OUR APPROACH TO CLIMATE CHANGE

ALIGNED WITH GLOBAL EFFORTS

Increasing global recognition of the need for urgent climate action is driving the demand for certain ‘critical’ minerals. Nickel is a key enabler of the clean energy transition, as it is a critical component in both stainless steel – needed for wind, geothermal, solar and nuclear power production – and for energy storage, such as electric vehicle battery technology. As a part of this sustainability driven supply chain, Horizonte is committed to the ethical, safe and responsible production of low carbon nickel products.

At Horizonte, we recognise the extensive science revealing the scale of the climate challenge that we face as a global society. The Paris Agreement has been ratified by 194 nation states and the European Union, including all parties to the United Nations Framework Convention on Climate Change, and represents over 98% of global greenhouse gas emissions – showing the extent of global recognition of this threat. As a developer transitioning to become a globally significant nickel producer, we are positioning our business to support the objectives of the Paris Agreement through the lifetime of our assets.

CLIMATE CHANGE ACTION PLAN

Within Horizonte, our goals and targets for decarbonization will form part of our Climate Change Action Plan – a plan we are working on now. The plan will be updated every three years to ensure its continued evolution with our business and the environment.

Our approach to climate change, and the associated planning, is driven by these key themes:

- ☞ Integrity and governance – the strategic elements of the plan that relate to the positioning of our business in a global context, and the governance that we are implementing to reflect this.
- ☞ Climate risks and opportunities – understanding the impacts that climate change may have on our business, as well as the impacts our business may have in relation to climate change, local community adaptation and resilience.
- ☞ Our decarbonization journey – the tactical elements of the plan that relate to implementation of opportunities to decarbonise our business.
- ☞ Partnerships – form the foundation that elevates these programs to enable genuine and sustainable outcomes.

The plan will detail how we are preparing for and managing the risks – as well as exploring the opportunities that climate change presents – whilst producing nickel. In this manner, delivering on our climate change commitments is integral to our purpose – *our commitment to the ethical, safe and responsible production of low carbon nickel products* – and is fully aligned with the commitments of global society.

GOVERNANCE

Our Board, together with its standing committees, and specifically the Sustainability Committee, has oversight of our work on climate change and decarbonization, as a material strategic and governance issue. The Board oversees the company’s approach to managing climate change risk and delivering our decarbonization commitments, recognising:

- ☞ interdependency – Horizonte is dependent on and has an impact on the natural environment – thus our ability to deliver on our purpose is intimately entwined with our decarbonization objectives.
- ☞ opportunity – to leverage our advantages as a nimble, nickel-focused business, with two Tier 1 long-life assets, that are being developed in the knowledge of climate change.
- ☞ reality – that as a business in the process of transitioning from developer to producer, many aspects of our systems and decarbonization opportunities are under development, allowing time to fully formulate and validate our plan.

Our Chief Executive Officer, together with our Executive Management, is accountable for executing our approach to climate change. Reflecting the current construction phase, our team’s performance is linked to our successful transition from nickel developer to low-carbon nickel producer. We are continuing to develop our performance recognition and reward systems and intend that climate-related key performance indicators will form part of short and long-term incentive plans. This will help to drive outcomes that protect and create long-term value.

ENGAGEMENT

We regularly engage with our investors on our material environmental, social and governance (sustainability) topics and to hear their views on our approach, progress and governance of climate change. Strategic decisions and investments are assessed in our capital allocation framework, including those which support our climate change commitments. Investment decisions to drive decarbonization within our business and sphere of influence, consider project returns and portfolio value, by considering prevailing and future carbon pricing and the output of our transition and physical risk assessments. Further work on the development of these systems is underway as part of our programs of operational readiness.

Phase	Integrity and governance	Climate risks and opportunities	Our decarbonization journey
Development	<i>Shaping Our Business</i> <ul style="list-style-type: none">☞ Global nickel industry energy performance benchmarking☞ Role of nickel in the climate smart future☞ Board Sustainability Committee mandate☞ Strategic risk management frameworks – ERM and materiality	<i>Identifying the Impacts</i> <ul style="list-style-type: none">☞ Project feasibility studies☞ Environmental impact assessments☞ Cumulative impact assessments☞ Transition risk assessment☞ Physical risk assessment	<i>Exploring Opportunities</i> <ul style="list-style-type: none">☞ Design/engineering decarbonization opportunities concept study☞ Opportunities assessment – native vegetation clearing avoidance☞ Opportunities assessment - farm afforestation and de-stocking
Operational readiness	<i>Business governance</i> <ul style="list-style-type: none">☞ Executive Management frameworks☞ TCFD aligned reporting preparation☞ Scope 1 and 2 reporting – construction phase☞ Scope 3 data assessment	<i>Assessing the Impacts</i> <ul style="list-style-type: none">☞ Climate scenario modelling and analysis☞ Physical risk assessment update☞ Nickel industry life cycle assessment research☞ Integrated capital assessment processes carbon pricing	<i>Planning for Decarbonization</i> <ul style="list-style-type: none">☞ Energy supply security assessment☞ Energy supply contracts☞ Design/engineering opportunities - concept to pre-feasibility (PFS)☞ Integrated carbon and biodiversity afforestation plan implementation
Production commencement and ramp-up	<i>Business Integration</i> <ul style="list-style-type: none">☞ Energy and emissions tracking☞ Energy and emission KPIs☞ Scope 1 and 2 reporting – ramp-up phase	<i>Addressing Impacts</i> <ul style="list-style-type: none">☞ Adaption and resilience plans☞ Afforestation planning	<i>Planning for Decarbonization</i> <ul style="list-style-type: none">☞ Production parameters validation☞ Energy tracking systems☞ Emissions monitoring systems☞ Design/engineering opportunities - PFS to FS☞ Operational opportunities concept study☞ Commencement of afforestation
Operational maturity	<i>Business Embedding</i> <ul style="list-style-type: none">☞ Marginal abatement cost curve (MACC) development☞ Integrated decarbonization pathway planning systems☞ Goals and target setting☞ Scope 1 and 2 reporting – operations phase	<i>Managing Impacts</i> <ul style="list-style-type: none">☞ Adaption and resilience plans validation and planning☞ Just energy transition☞ Product life cycle assessment	<i>Decarbonising our activities</i> <ul style="list-style-type: none">☞ Design/engineering opportunities - budget and implementation☞ Operational opportunities – concept to PFS☞ Operational opportunities – PFS to FS☞ Operational opportunities – budget and implementation☞ Integrated carbon and biodiversity afforestation plan implementation
Partnerships	<ul style="list-style-type: none">☞ Industry association due diligence and membership☞ Industry association working groups	<ul style="list-style-type: none">☞ Stakeholder engagement☞ Local Development Agenda drivers	<ul style="list-style-type: none">☞ By-product carbon sequestration research☞ Explore partnerships for the goals (SDG 17)

CLIMATE-RELATED RISKS, OPPORTUNITIES, IMPACTS AND DEPENDENCIES

Within Horizonte, climate-related risks and opportunities are identified, like all strategic risks, as an integral part of our [Enterprise Risk Management](#) and [Materiality](#) processes. These processes are complemented by purposeful assessments of:

- ☞ transition risks – arising from changes in the real economy as a result of global efforts to mitigate or reduce greenhouse gas emission and adapt to the existing or expected impacts of climate change.
- ☞ physical risks – arising from changes in planetary conditions due to increasing greenhouse gas concentrations, leading to changes in climatic patterns (chronic) and more frequent and severe weather-related events (acute).
- ☞ impacts and dependencies – arising from the duality of the relationship of the business with the natural environment – where the company has an impact on natural capital, as well as relying on ecosystem services to enable it to function.

Transition Risks

In 2021, Horizonte was supported by Climate Risk Services in carrying out a transition risk assessment that identified risks and opportunities, covering policy and regulation, reputation, technology and market domains. These outputs have informed our approach to climate change and decarbonization and will guide our plan development – so that we remain attuned to the risks associated with the energy transition, while also preparing the company to capitalize on emergent opportunities.

Market	Technological-based price decoupling of Class 1 and Class 2 nickels leads to reduced demand for Class 2	Risk
	Opportunity for technological development to improve applicability of Class 2 nickel for low-carbon economy and increase demand	Opportunity
	Increased demand for carbon-friendly steel products, including consideration of upstream supply chain such as commodity extraction and production	Opportunity
	Continued growth in demand to support global climate mitigation and adaptation efforts	Opportunity

Horizonte continues to monitor the nickel market on a routine basis with the support of market experts. Despite some fluctuation, the 10-year trend has seen an increase in demand. Stainless steel remains the dominant area of nickel consumption but use in battery technologies continues to grow. We are also exploring mechanisms, such as the [Nickel Mark](#) assurance framework, to leverage the growing consumer demand for responsibly sourced minerals.

Policy	National climate commitments result in requirements to reduce emissions	Risk
	Exposure to carbon pricing or tax results in purchase of emissions allowances	Risk
	Change in availability or cost of coal leads to increased costs or delays	Risk
	EU Carbon Border Tax impacts customer purchase price or volume	Risk
	Mandatory Climate-Related Financial Disclosures means additional disclosure	Risk
	Stricter mining regulation leads to emissions reduction requirements	Risk
	Stricter regulation on land use leads to restrictions on expansion	Risk

Horizonte is addressing risks related to policy by operating on the premise that changes in regulation will occur in the short to medium term life of our enterprise. In planning for such changes, we are actively exploring a range of emission avoidance and reduction opportunities; planning for afforestation at our Araguaia operation (positive land use change); establishing a long-term coal contract; and enhancing our disclosures towards TCFD aligned reporting.

These activities are complemented by monitoring international carbon pricing, legislative developments in Brazil, the UK and the EU, and national progress towards reduction targets – activities supported both in-house and through our membership of the [Nickel Institute](#) and the [Critical Minerals Association](#).

Brazil has continued to enhance its environmental protectional policy. Building on this, we are planning to undertake large-scale afforestation efforts in recognition of our inter-dependency on ecosystem services for carbon sequestration.

Technology	Technological advancements in energy/emission efficiency results in capital expenditure for best available technologies	Risk
	Technological advancements in energy/emission efficiency results in cost savings and emissions reduction	Opportunity
	Improved energy transmission and distribution efficiency leads to Scope 3 emission reduction and improved energy pricing	Opportunity

Horizonte maintains a watching brief on technological advancements that can be deployed in our processes, with a view to maximizing cost and process efficiency. Process technologies have the potential to minimise emissions and reduce waste, while the introduction of energy generation from renewable sources can deliver broader sustainable benefit for the long-term. We are working to embed innovation not only in our own operations, but across our supply chain, where improved transmission and distribution can support scope 3 greenhouse gas emission reductions.

Reputation	Investor climate disclosure requests lead to devaluation or increased effort	Risk
	Potential for shareholder action on climate results in need for climate action	Risk
	Proactive disclosure of TCFD recommendations attracts investors and clients	Opportunity
	Pressure to improve quality of disclosures leads to increased work/disclosure	Risk
	High quality disclosure against TCFD attracts investors and clients	Opportunity
	Reduced valuation or other reputational impacts of high emissions intensity	Risk
	Improved valuation, increased sales, or other benefit from 'green' reputation	Opportunity
	Supply chain management of Scope 3 emissions	Risk
	Pressure for emission reduction leads to investment in reductions/offsets	Risk
	Improvement of emission profile through carbon offsetting strategy and plan	Opportunity

Climate and decarbonization is a topic of great interest to Horizonte’s lenders and shareholders. Virtually all of our shareholders and senior lenders have their own climate-related commitments or targets – including Glencore, Hargreaves Lansdown, Natixis, EKF, Société General, ING and BNP Paribas.

Horizonte’s business purpose – *the ethical, safe and responsible production of low carbon nickel products* – is a key enabler of the clean energy transition, and is fully aligned with societal demand and our own decarbonization journey.

Horizonte will be uniquely positioned amongst global nickel companies to leverage its position as a supplier of [responsibly sourced nickel](#).

In the arena of dependencies, we have completed assessments for Araguaia that go beyond ‘normal’ regulatory requirements including integrated and cumulative impact assessments, and ecosystems services assessments to increase understanding of the inter-relationship between the human and natural environments.

Physical risks

To support the development of our climate change action plan, we will undertake climate scenario modelling to obtain a full view of climate-related risks for our business and key parts of our supply chain.

Exposure to all eight physical hazards (coastal flood, river flood, heat stress/wave, cold stress/wave, wildfire, erosion, drought, and water stress) will be based on third-party verified and credible global climate data and climate model providers including: NASA, EU Commission Copernicus, and World Resources Institute Aqueduct. Physical risks will initially be assessed in a high-emissions climate scenario in line with the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathway (RCP 8.5). This scenario provides a robust assessment of potential impacts, as it goes beyond the global base case assumption of at least 2°C of warming and assumes more severe physical impacts, allowing us to stress test exposure of our assets and resilience to physical climate change.

In undertaking these assessments, and in line with our commitments to IFC Performance Standards and Equator Principles, we are also adopting the precautionary principle. As a result, when considering the resilience of our critical infrastructure to climate change impacts and the resulting adaption planning, it is necessary to understand the more severe impacts. Again RCP 8.5 is appropriately robust, as the outputs from climate model simulations for other RCPs are virtually the same when undertaking analysis and planning over 20-30 year timescales. From this process, we expect to identify climate hazards of concern to our business that will inform an update of our physical risk assessment and form the basis of our adaption and resilience planning.

For risks identified through earlier physical risk assessment, we have implemented controls including:

- ☞ personnel safety, e.g. construction of fire breaks, drainage controls, use of storm detection systems;
- ☞ asset security, e.g. equipment selection, use of sliding form, all weather construction pads; and
- ☞ adaptation and resilience, e.g. avoidance and afforestation planning, and community social and nature based programs.



RESPONSIBLE ENERGY AND EMISSIONS MANAGEMENT

RESPONSIBLE ENERGY AND EMISSIONS MANAGEMENT

In line with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD), we have considered the strategic impact of climate change on our business and supported our analysis with detailed consideration of our predicted and actual emissions in 2022.

PREDICTED EMISSIONS

As part of our modelling, we completed detailed engineering energy mass balance exercises for our Araguaia 1 business to determine expected emissions, which has informed related impacts, dependencies, risks and opportunities. The Feasibility Study predicted Scope 1 and Scope 2 energy emissions (tCO_2e), as well as energy (GJ/t Ni produced and GJ/tonne ore processed) and emissions intensity metrics (tCO_2e/t ore produced and tCO_2e/t Ni produced) for Araguaia.

This analysis forecast that land use change will be the predominant source of emissions in the construction phase – representing 93% of the almost of 900 $ktCO_2e$ expected across this phase.

During the operations phase, the rotary kiln is expected to be responsible for around half of the approximately 480 $ktCO_2e$ of annual greenhouse gas emissions.

Break down of construction and operations greenhouse gas emission sources



- Land use change
- Mobile Equipment
- Electricity



- Mobile Equipment
- Dryer
- Rotary Kiln
- Electric Furnace
- Refining
- Electricity



Primary crusher foundation formwork at base of Araguaia run-of-mine (ROM) pad

ENERGY USE AND EMISSIONS PERFORMANCE 2022

In 2022, we significantly advanced the construction of our Araguaia project. Most of our energy consumption and all the land use changes were associated with that project. As predicted, land use change was the principal source of emissions, representing approximately 96% of our total GHG emissions in the year. Energy consumption in the period was predominantly comprised of diesel use for generators. At Vermelho, 21 GJ of grid electricity was purchased to run the project office. Across both sites, 43% of our energy consumption was from renewable sources, and 57% from non-renewable.¹ Araguaia will be connected to grid electricity in 2023, providing access to the predominantly renewable Brazilian supply. Data shown covers both Araguaia and Vermelho business units.

Energy consumption 2022

Source	GJ
Diesel	47,658.41
Petrol	15,572.38
Electricity	75.43
Total	63,306.22

Land use change 2022

	Hectares
Farm pasture	106.13
Shrub savanna	3.05
Metalophil savanna	0
Early stage forest	12.52
Mid-stage forest	8.13
Total	129.83

Greenhouse gas emissions 2022

	tCO _{2e}
Scope 1 (direct) – energy consumption*	4,488.95
Scope 1 (direct) – land use change**	95,779.10
Scope 2 (indirect)	0.91
Total	100,269.96

* DEFRA emissions factors were used for the calculation of Scope 1 emissions. Calculations include CO₂, CH₄, and N₂O. Purchasing records are the source of raw data.

**IPCC 2006 Guidelines for National Greenhouse Gas Inventories were used to calculate land use change emissions.

CASE STUDY: ARAGUAIA NICKEL RKEF LINE 1

We started work on the plan to produce a low-carbon nickel product at Araguaia in 2018, even before we had raised the funds to commence construction. Environmental impact assessments, feasibility studies and value engineering studies explored industry benchmarks and high-level opportunities. Concept level studies conducted in 2020 identified potential design and engineering decarbonization opportunities for Araguaia:

- Rotary kiln off-gas heat recovery.
- Sun-drying of run of mine ore.
- Kiln selection to allow soft-lifting process.
- Replacement of coal for calcining with pulverised petcoke.
- Substitution of coal for firing the dryer with the use of woodchips or biomass.
- Substitution of coal for reduction with charcoal.

These opportunities present a range of absolute greenhouse gas (GHG) emission reductions, as well as opportunities to substitute to sources of energy from renewable sources in place of non-renewable sources.

Prior to fundraising in 2021, and the start of construction in 2022, we had already invested in and advanced specific climate and decarbonization studies for Araguaia, with the objective of further advancing these concepts to a point that they are determined as viable, when we reach steady-state operations.

In 2022, we signed US\$ 137 million in energy contracts to secure a 10-year electricity supply for Araguaia. Under these contracts, we are guaranteed 100% power for half of the period and a minimum of 63% for the remainder. The acquisition of energy in Brazil for Araguaia takes advantage of the Brazilian electricity generation matrix that is substantially renewable (over 89% on average over

the last 35 years). This flexibility builds on our adaptive and resilience-based management approach – ensuring we maximise opportunities to source essentially renewable electricity, whilst protecting the business in the event of climate impact to electric power generation.

For 2023, we have committed to undertake climate scenario modelling, update our physical risk assessments, begin adaptation planning, and scope studies to move the design and engineering opportunities – through the project pipeline – from concept to pre-feasibility. In time, we expect our decarbonization expenditure will also include a greater proportion of operational expenditure, such as the electricity supply contract, as we begin operations.

Foundation concrete pouring at Araguaia

RESPONSIBLE RESOURCE CONSUMPTION

We aim to minimise the use of all resources, whether natural or man-made, in our project development.

Development of the Araguaia project has involved concrete pouring and the use of reinforced steel and mesh. Earthworks have required some vegetation and land clearance. A total of 87,697 m³ of topsoil has been stripped and 522,055 m³ of soil moved.

As part of our effort to reduce waste, we re-use waste materials wherever possible. In 2022, we re-used 225,000 m³ of waste rock as access road pavement at Araguaia.

Materials Consumption (2022)

Concrete (m³)	Steel (t)
11,836	664

WASTE, REUSE AND RECYCLING

We are implementing our waste management plans using the waste management hierarchy.

Our actions to manage waste responsibly include provisions and procedures relating to hazardous materials, including establishing hazardous classification areas. We plan to develop a detailed plan for hazardous waste management as part of the Value Engineering phase.

Current volumes of waste generated are minimal. Nevertheless, we have contracted with a local third-party waste management company that has appropriate knowledge and expertise. We are also exploring the possibility of co-developing a landfill facility with the local city.

In addition to efforts to reduce waste, we re-use waste materials wherever possible.

Waste generation and disposal (2022)

Waste rock mined (t)	Sewage sludge (kL)	Waste to landfill (t)
225,000	846	17

Waste Recycling (2022)

Waste rock (m³)	Waste Oil (L)	Metal (t)	Plastic (t)
225,000	1,250	4	11



Wagner Silva planting seedlings at one of the Araguaia restoration areas

BIODIVERSITY

Our stated goal is to have a net positive impact on biodiversity. This is consistent with our aim of ensuring sustainability is integral to business decision making.

The project will not affect any international or national protected area, and has no federal, state or municipal conservation area within its footprint. The nearest indigenous land is approximately 40km away from the project.

FLORA AND FAUNA MONITORING

An extensive array of baseline biodiversity studies, which extended beyond the area of direct impact of the project, will be complemented by ongoing programs of monitoring - through operations and later closure. The monitoring programs are designed to assess impacts and benefits of Horizonte's activities and biodiversity initiatives.

Whilst Horizonte's activities will have minimal impact to biodiversity of conservation significance, the company's presence in the area has resulted in the 'identification' of species, that although widespread in the canga, are suspected to not have been previously catalogued ('potentially new to science'). This is just one example of how Horizonte's biodiversity programming can be leveraged, through scientific collaboration and research, to enhance biodiversity knowledge and conservation.



BIODIVERSITY KNOWLEDGE AND RESEARCH

Through extensive biodiversity studies, we have supported the collection of specimens and publication of species records by the Brazilian Biodiversity Information System (SiBBR) and the Global Biodiversity Information Facility (GBIF). These networks and data infrastructure are funded by governments to provide open access to data about all types of life on Earth, enabling data and science-driven decision making on environmental management.

Building on existing relationships, outreach is underway for the establishment of long-term strategic partnerships with regional biodiversity research institutions with the aims to support research, publication of scientific studies and other programs to expand global biodiversity knowledge.



Najla, an Ambientare biologist rescues a sloth from a drilling track at Vermelho

BIODIVERSITY EDUCATION

Aligned with our objectives for biodiversity protection, we conduct workforce education on the protection of animals and plants. We use a range of methods including training, posters and social media information.

Connecting the objectives of expansion of scientific knowledge and community education, we have begun high-level planning for the development of a digital photographic guide to species of the metallophilic savannah. Such digital resources have the potential to be coupled with a community seasonal 'spotting' program, book publication and other activities to support biodiversity education.

BIODIVERSITY AND SOCIO-ECONOMIC VALUE

Conceição do Araguaia, the main town hosting the ANP, hosts an annual summer festival (Festival de Verão) adjacent to the bank of the Araguaia River. Reflecting this regionally significant tourism period, the town has numerous tourism facilities including hotels, restaurants, and other services.

Building on this, through our facilitation of a Local Development Agenda, eco-tourism is a market identified for further research. Company personnel have direct experience in such program-ming, having led the development of bird spotting and traditional eco-tourism programs developed elsewhere globally by mining companies. Widening of the tourism season has the potential for far-reaching socio-economic value with obvious benefits to biodiversity protection.

ENVIRONMENTAL COMPENSATION

Our Environmental Compensation Program, agreed with the Environmental Compensation Chamber of Pará (CCA), enables us to invest an agreed amount into one or more conservation units (areas of protected habitat) located within the State - as directed by the CCA. In 2022, we invested more than \$1.82 million.

This program achieves the International Finance Corporation Performance Standard 6 requirement for 'set-aside' compensation - that is, land of higher biodiversity or ecosystem services value is set aside and excluded from development for the implementation of conservation enhancement measures.



Flávia Toledo and Raimundo Pereira show seed collected at Araguaia for re-vegetation and afforestation

CASE STUDY: BIODIVERSITY MANAGEMENT

The Araguaia nickel project is in a transitional area between the Brazilian Amazon and Cerrado biomes. The project area has historically been cleared for agriculture – cattle grazing or crops – and is now mainly characterized by modified habitat.

To quantify the potential of the project's impact on biodiversity, extensive baseline studies were conducted from 2013-14 and expanded in 2017-18. These studies and a Critical Habitat Assessment (CHA) conducted in 2018 and updated in 2021, have established a comprehensive understanding of the existing species richness and diversity of flora and fauna.

The studies identified that around 1,726 hectares of land is expected to be impacted, of which:

- ☞ Some 71% is modified habitat (primarily pasture and farm).
- ☞ 24% is natural habitat (discrete areas of open ombrophile forest, metallophile savannah, also known as 'canga', and aquatic and hydromorphic habitats).
- ☞ 5% is critical habitat.

We have developed a Biodiversity Action Plan (BAP) that has as its core objective, a minimum of no net loss of biodiversity in natural habitat and the goal of net positive impact or a net gain of critical habitat. The mitigation hierarchy of the BAP considers

prevention (and avoidance), minimization and restoration before compensation. The BAP forms part of a broader Biodiversity Monitoring and Evaluation Plan which integrates and coordinates all biodiversity initiatives.

Prevention and avoidance

We have redesigned part of the Araguaia south layout to reduce impact to critical habitats and are continuing to explore options for further avoidance through optimisation. Additional avoidance of impact to biodiversity and critical habitats is expected to be achieved by:

- ☞ Optimisation of the cooling water dam design resulting in a reduction in footprint.
- ☞ Re-design of the Arraias River water abstraction point, removing the originally proposed floating barge and pump system, with a less invasive channel diversion, from which water can be abstracted; and
- ☞ Burial of the project water pipeline to reduce interference to animal movement that would result from the originally planned above-ground pipeline.

Minimisation

To minimise loss resulting from vegetation clearing, we have implemented a Germplasm Rescue Program, where plant propagules including seeds, fruits, tubers and seedlings are collected, stored and later propagated for revegetation – conserving both species and genetic diversity. In 2022 we collected almost 20 kg of native plant seed, from 48 different species, that will be utilised in our afforestation and revegetation programs. We also planted over 5,000 seedlings in our programs this year.

We have also implemented an extensive fauna rescue program, that involves search and relocation of animals ahead of clearing, as well as rescue of fauna from areas under construction. This effort covers all areas of impact including road, powerline and main site activity areas. In 2022 we successfully rescued and relocated 209 animals and are sad to report 38 animal deaths as a result of our activities.

Restoration and ecosystem enhancement

We have committed to enhancing biodiversity through an array of restoration and ecosystem enhancement actions including:

- ☞ Protection of areas of critical habitat that are not currently protected under law.

- ☞ Restoring riparian vegetation and habitat adjacent to springs and water courses impacted by agriculture, and protection of these areas through the establishment of buffers.
- ☞ Undertaking revegetation and reforestation of pasture and farm areas with native and endemic species.

These actions, which have already begun, are in addition to normal mine-site reclamation programs and demonstrate the depth of Horizonte's commitment. Objectives are the creation of wildlife corridors, enhancement of buffers from activities that pose threats to wildlife, the reduction of edge-effects, the re-establishment and enhancement of ecosystem services, as well as parallel objectives related to re-forestation and climate change.

In support of Horizonte's actions, the company established a nursery in 2017 and has been propagating native species for forest restoration. This nursery has now been expanded, to enable an annual production of some 80,000 seedlings and has been complemented by the construction of a Biodiversity Conservation Centre that will be a base for fauna rehabilitation, research and a variety of environmental education programming.

Spring monitoring at Princesa da Mata farm



Flávia Veronese and Flávia Toledo inspect seedlings in the new Araguaia nursery

LAND MANAGEMENT

LAND USE

We monitor our land use, including the amount of land area disturbed and rehabilitated. This includes our rehabilitation of lands that have been disturbed by others but rehabilitated by Horizonte.

When monitoring land use, we are also mindful of the biodiversity of the affected land, and monitor disturbance to habitats that are unprotected, or nationally or internationally protected. In 2022, the construction of the powerline resulted in disturbance to 22 hectares of unprotected habitat and 2 hectares of nationally protected land. Through the nursery we are developing, we are propagating and planting species that will support land rehabilitation.

Land disturbance

Location Area (Ha)	2021	2022
Total area of mining leases (ML)	14,257	
Land disturbance to MLs in current year	0	130
Total disturbance to MLs to date	0	130
Land rehabilitated in current year	0	2
Land fully remediated to date	0	0

Note: Values are rounded to the nearest hectare.

SUSTAINABLE MINE CLOSURE

We have developed a preliminary mine closure plan for both our Araguaia and Vermelho projects, which include costings. The Araguaia conceptual closure plan has been approved by regulators as part of the project permitting. We are committed to updating the closure plan as the project develops. Vermelho's conceptual closure plan will be assessed by the regulator as part of the assessment of the Environmental Impact Assessment process.

VALUE

We seek to deliver shared value and to have transparent financial reporting



Furnace foundation concrete pouring

LOCAL VALUE RETENTION THROUGH LOCAL PROCUREMENT

We are taking a lead in developing local capability by employing local labour, using local suppliers, and developing the capability of local organisations.

Our approach is to use local suppliers wherever possible, including advertising procurement opportunities in local locations and publications. In 2022, 50% of our total procurement expenditure was with Brazilian companies, with the vast majority originating from the Araguaia site. A breakdown of our local procurement spend is provided in the table.

Local Procurement expenditure (2022)	
Host community companies ⁽¹⁾	\$
Araguaia	1,946,068
Vermelho	74,232
HM do Brasil	—
Total	2,020,300
Host country companies ⁽²⁾	
Araguaia	85,109,207
Vermelho	1,687,021
HM do Brasil	54,376
Total	86,850,604
Brazilian companies (total)	
Araguaia	87,055,275
Vermelho	1,761,253
HM do Brasil	54,376
Total	88,870,904
Non-Brazilian companies	
Araguaia	87,606,063
Vermelho	75,724
HM do Brasil	—
Total	87,681,787
All companies	
Araguaia	174,661,338
Vermelho	1,836,977
HM do Brasil	54,376
Total	176,552,690

1. Host community companies are those domiciled, owned or established in mine-impacted communities. For Araguaia, these are Conceição do Araguaia, Floresta do Araguaia and Xinguara. For Vermelho, this is Canaã dos Carajás.

2. Spend with Brazilian companies, excluding host community companies.

We also seek to draw our workforce from the local community. As described in the ‘People’ section of this report, 94% of our direct employees are Brazilian, and all of our contractor workforce in 2022 were Brazilian, with approximately one-third originating from local host communities. The employment of local people builds positive relationships with our host community and develops workplace skills that are often transferable across sectors, for wider economic benefit.

To build longer-term capability, we support the development of skills in the local supply chain. In 2022, we established two programs, in partnership with national industrial training providers. The agreements are with Brazil’s leading national industrial training provider, Serviço Nacional de Aprendizagem Industrial (SENAI) and the Pará State Industries’ Federation or Federação das Industrias do Pará (FIEPA).



Remo team with cable reels for the 120 km of power line



Brunna Pajanoti, Filipe Oliveira and David Chiron discussing grade control drilling program

EITI

Although Brazil is not a participant in the Extractive Industries Transparency Initiative, we believe in transparency and therefore record and disclose payments made to the government of Brazil as per the EITI requirements.

ESTMA

We report all our public payments under the Canadian Extractives Sector Transparency Measures Act (ESTMA) where applicable. These disclosures are available in [dedicated reports published on the Horizonte website](#).

Payments to the government of Brazil	2022 US\$
Property tax	31,511
Import duties	1,245
Royalties	0
Fees Permits Licences	130,807
Withholding tax	0
Stamp duties	0
Payroll Taxes	1,092,292
VAT	10,198
Taxes on financial operations	1,522,836
Finance income taxes	313,828

FINANCIAL CONTROLS AND FLOW OF FUNDS

Horizonte conducts its corporate management from the United Kingdom, Isle of Man and the Netherlands and is supported by experts in banking, financial and tax matters. We utilise large, established and well-recognized financial institutions in the United Kingdom, Isle of Man, the Netherlands and Brazil and apply consistent levels of control in all jurisdictions.

Until our mine development projects in Brazil reach production and generate revenue, all transfers of funds have been and will continue to be from the Company to the Brazilian entities pursuant to an inter-company credit facility, senior lender debt facility or a capitalization through issuance of shares.

As the company holds bank accounts in a variety of jurisdictions, differences in banking systems and controls are addressed by stringent controls in all the locations; especially those relating to management of cash, authorization levels, bank reconciliations and segregation of duties.

To ensure that the flow of funds to Brazil functions as intended, the Company and its relevant subsidiaries are registered with BACEN, ensuring that remittances to Brazil occur through a correctly registered and recognized channel.

TAX

We recognize that taxes provide important sources of government revenue and are central to national fiscal policy and macroeconomic stability, representing a key mechanism by which we contribute to the economies of the countries in which we operate.

Our approach to tax strategy, compliance and payments is to comply with the letter and spirit of applicable laws and to behave ethically in all our activities in the jurisdictions where we operate. At present, our core operations are in development and are therefore largely pre-revenue. These operations include corporate entities in the United Kingdom, Isle of Man and Netherlands, with our mine development projects in Brazil.

The Board has ultimate responsibility for the governance of our tax matters. Our internal finance function monitors and conducts regular checks on the rigor of our systems of internal control, including our processes for tax calculations and payments and are supported by external, independent tax specialists.

Further details of our tax reporting can be found in the tax note of the audited annual consolidated financial statements of Horizonte Minerals Plc for each full year.

As with any other issue, stakeholders can raise concerns about our tax practices through the company grievance mechanism which incorporates whistle-blower protection protocols.

Economic Contribution

Statement of added Value Description	USD 2021	USD 2022
Revenue	560,767	6,753,719
ECONOMIC VALUE GENERATED	560,767	6,753,719
Operational costs	3,523,403	1,014,523
Employee salaries and benefits	1,997,414	5,915,464
Government payments (Brazil)	470,090	3,103,254
Investments health, safety and environment	701,327	2,047,837
Community investments	142,570	904,761
DISTRIBUTED ECONOMIC VALUE	6,834,804	12,985,839
ACCUMULATED ECONOMIC VALUE	-6,274,037	-6,232,120

Statement of added Value Description	BRL 2021	BRL 2022
Revenue	3,129,360	35,527,199
ECONOMIC VALUE GENERATED	3,129,360	35,527,199
Operational costs	19,662,352	5,293,479
Employee salaries and benefits	11,146,568	30,264,879
Government payments (Brazil)	2,623,338	14,624,404
Investments health, safety and environment	3,618,845	10,738,887
Community investments	735,659	4,720,772
DISTRIBUTED ECONOMIC VALUE	37,786,762	65,642,421
ACCUMULATED ECONOMIC VALUE	-34,657,402	-30,115,222

NOTE: Accumulated Economic Value = economic value generated minus economic value distributed



Araguaia dryer foundation

VALIDATION AND ASSURANCE

Horizonte's integrated Enterprise Risk Management system reflects a delegation of authority framework that is complemented by various internal validation and control processes.

Supporting these processes in the disciplines of environment, land management, security, safety, health, social, and human resources/rights, Horizonte employed 35 specialists in the year. Additionally at Araguaia, these resources are complemented by 148 construction specialist safety, health and environmental personnel – representing around 6% of the construction workforce as at the year end. These employees and contractors collaborate in the delivery of the sustainability programs and in the internal review and validation of performance by the project team.

Additional assurance and validation are provided by project-specific technical committees, as well as company advisory panels and similar. These groups, which comprise internal and external technical experts, review performance and risk management in areas of technical and project materiality.

Complementing these internal functions, Horizonte is supported by external financial, legal, tax and audit services providers.

As a requirement of the Araguaia Common Terms Agreement, an independent environment and social consultancy (IESC), ARCADIS, monitors and reports on the company's performance on a quarterly basis, against the International Finance Corporation Performance Standards (IFC PS), the World Bank EHS Guidelines, the Equator Principles (EP4) and other specific good international industry practice (GIIP) standards.

The IESC team typically comprises a lead auditor that specialises in environment, safety and health, a biodiversity expert and a social expert. The monitoring and reporting carried out by this team takes the form of performance audits against the standards, comprising two field visits and two desk-top documentation reviews each year. Throughout the 2022 audits, the IESC team observed that Horizonte was transparent in their engagement with the audit team. The data published herein is a summary of the information shared with the IESC throughout the year.

Deepening the external assurance and validation on our sustainability performance, a number of governance and sustainability specialist resources from the lender groups – bank and export credit agency representatives – also participated in the September 2022 audit.



Independent auditors and lenders inspect canga vegetation during sustainability audit

INDEXES



Water flowing over canga following rain

GRI INDEX

GRI CONTENT INDEX

Statement of use	Horizonte Minerals plc has reported in accordance with the GRI Standards for the period 01 January-31 December 2022.
GRI used	GRI Foundation 2021; GRI General Disclosures 2021; GRI Material Topics 2021.
Applicable GRI sector standard	Horizonte has reported to the GRI Mining and Metals Supplement whilst the draft Sector Standard for Mining is in development

Disclosure	Description	Location / Information
GRI Foundation 1: 2021		
Requirement 1	Apply the reporting principles	Completed
Requirement 2	Report the disclosures in GRI2: General Disclosures	Completed - see following
Requirement 3	Determine material topics	Completed. 2022 Sustainability Report p24-25
Requirement 4	Report the disclosures in GRI3: Material topics	Completed - see following
Requirement 5	Report disclosures from GRI topic standards for each material topic	Completed - see following
Requirement 6	Provide reasons for omission	Completed - see following
Requirement 7	Publish a GRI content index	Completed
Requirement 8	Provide a statement of use	Completed
Requirement 9	Notify GRI	To be completed post publishing of this report.

GENERAL DISCLOSURES

Disclosure	Description	Location / Information
GRI Foundation 2: 2021		
The Organization and its reporting practices		
2-1	Organizational details	2022 Sustainability Report p4-5 2022 Annual Report p2-3
2-2	Entities included in the organization's sustainability reporting	2022 Sustainability Report p2 Horizonte Minerals plc and all subsidiaries, including Araguaia Níquel Metais Ltda (Araguaia Project), Trias Brasil Mineração Ltda (Vermelho Project) and HM do Brasil Mineração Ltda.
2-3	Reporting period, frequency and contact point	2022 Sustainability Report p2
2-4	Restatements of information	None
2-5	External assurance	2022 Sustainability Report p94 2022 Annual Report and financial information is fully audited.
Activities and workers		
2-6	Activities, value chain and other business relationships	2022 Sustainability Report p4-7 2022 Annual Report p2-3
2-7	Employees	2022 Sustainability Report p30-35 2022 Annual Report p 108
2-8	Workers who are not employees	2022 Sustainability Report p30-35, 44-45

Disclosure	Description	Location / Information
Governance		
2-9	Governance structure and composition	2022 Sustainability Report p22-23 2022 Annual Report p48-49
2-10	Nomination and selection of the highest governance body	2022 Sustainability Report p31 2022 Annual Report p48-49
2-11	Chair of the highest governance body	2022 Annual Report p42-45
2-12	Role of the highest governance body in overseeing the management of impacts	2022 Sustainability Report p22-23 2022 Annual Report p42-45
2-13	Delegation of responsibility for managing impacts	2022 Sustainability Report p22-23 2022 Sustainability Report p31
2-14	Role of the highest governance body in sustainability reporting	2022 Sustainability Report p22-23 2022 Annual Report p45
2-15	Conflicts of interest	2022 Sustainability Report p26
2-16	Communication of critical concerns	2022 Annual Report p48-49
2-17	Collective knowledge of the highest governance body	2022 Sustainability Report p31 2022 Annual Report p46-47
2-18	Evaluation of the performance of the highest governance body	2022 Annual Report p49
2-19	Remuneration policies	2022 Annual Report p51-53
2-20	Process for determining remuneration	2022 Annual Report p51-53
2-21	Annual total compensation ratio	2022 Management Information Circular p10-15

Strategy, policies and practices		
2-22	Statement on sustainable development strategy	2022 Sustainability Report p8-9, 12-17, 68-71 2022 Annual Report p14-15
2-23	Policy commitments	2022 Sustainability Report p10-17
2-24	Embedding policy commitments	2022 Sustainability Report p20-21
2-25	Processes to remediate negative impacts	2022 Sustainability Report p26-85
2-26	Mechanisms for seeking advice and raising concerns	2022 Sustainability Report p31 2022 Annual Report p32
2-27	Compliance with laws and regulations	2022 Sustainability Report p26-92
2-28	Membership associations	Brazilian Association of Mineral Exploration Companies (ABPM). Brazilian Mining Association. Critical Minerals Association. Nickel Institute.

Stakeholder engagement		
2-29	Approach to stakeholder engagement	2022 Sustainability Report p24-25, 48-49 2022 Annual Report p32-33, p49
2-30	Collective bargaining agreements	2022 Sustainability Report p30 Data workbook - Employment tab

Disclosure	Description	Location / Information
GRI Foundation 3: 2021		
Disclosures on material topics		
3-1	Process to determine material topics	2022 Sustainability Report p24-25
3-2	List of material topics	2022 Sustainability Report p24-25
3-3	Management of material topics	2022 Sustainability Report p26-94

ECONOMIC PERFORMANCE

Disclosure	Description	Location / Information
201: Economic Performance		
201-1	Direct economic value generated and distributed	2022 Sustainability Report p92
201-2	Financial implications and other risks and opportunities due to climate change	2022 Sustainability Report p70-71; Annual Report p39
201-3	Defined benefit plan obligations and other retirement plans	Not material
201-4	Financial assistance received from government	None
202: Market Presence		
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	2022 Sustainability Report p31; Data workbook - Diversity tab
202-2	Proportion of senior management hired from the local community	2022 Sustainability Report p30; Data workbook - Diversity tab
203: Indirect Economic Impacts		
203-1	Infrastructure investments and services supported	2022 Sustainability Report p48-54 Data workbook - Community tab, Social Programs tab
203-2	Significant indirect economic impacts	2022 Sustainability Report p48-54
204: Procurement Practices		
204-1	Proportion of spending on local suppliers	2022 Sustainability Report p88 Data workbook - Brazil Value Sharing tab
205: Anti-Corruption		
205-1	Operations assessed for risks related to corruption	2022 Annual Report p35-41
205-2	Communication and training about anti-corruption policies and procedures	2022 Sustainability Report p26
205-3	Confirmed incidents of corruption and actions taken	Zero
206: Anti-Competitive Behaviour		
206-1	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	Zero
207: Tax		
207-1	Approach to tax	2022 Sustainability Report p92; 2022 Annual Report p79
207-2	Tax governance, control, and risk management	2022 Sustainability Report p91; 2022 Annual Report p34-41, 79.
207-3	Stakeholder engagement and management of concerns related to tax	2022 Annual Report p34-41, 79

ENVIRONMENT

Disclosure	Description	Location / Information
301: Materials		
301-1	Materials used by weight or volume	2022 Sustainability Report p76
301-2	Recycled input materials	2022 Sustainability Report p76
301-3	Reclaimed products and their packaging materials	Not material
302: Energy		
302-1	Energy consumption within the organization	2022 Sustainability Report p74
302-2	Energy consumption outside of the organization	2022 Sustainability Report p74
302-3	Energy intensity	Not applicable, HZM in pre-production
302-4	Reduction of energy consumption	Not applicable
302-5	Reductions in energy requirements of products and services	Not applicable
303: Water and effluents		
303-1	Interactions with water as a shared resource	2022 Sustainability Report p64
303-2	Management of water discharge-related impacts	2022 Sustainability Report p64
303-3	Water withdrawal	2022 Sustainability Report p64
303-4	Water discharge	2022 Sustainability Report p64
303-5	Water consumption	2022 Sustainability Report p64
304: Biodiversity		
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	No impact to Biosphere, World Heritage areas, RAMSAR wetlands or International Bird Areas. Araguaia may impact a small area of critical habitat using IFC criteria, see 2022 Sustainability Report p 84
304-2	Significant impacts of activities, products, and services on biodiversity	2022 Sustainability Report p66-67, 78-81
304-3	Habitats protected or restored	2022 Sustainability Report p78-81
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	2022 Sustainability Report p84 Details of species of conservation significance are provided in Project EIA Summaries .
305: Emissions		
305-1	Direct (Scope 1) GHG emissions	2022 Sustainability Report p74
305-2	Energy indirect (Scope 2) GHG emissions	2022 Sustainability Report p74
305-3	Other indirect (scope 3) GHG emissions	Not reported
305-4	GHG emissions intensity	Not applicable, HZM in pre-production
305-5	Reduction of GHG emissions	Not reported, HZM in pre-production
305-6	Emissions of ozone-depleting substances	Zero
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Not reported, HZM in pre-production
306: Waste 2020		
306-1	Waste generation significant waste-related impacts	2022 Sustainability Report p76
306-2	Management of significant waste-related impacts	2022 Sustainability Report p76
306-3	Waste generated	2022 Sustainability Report p76
306-4	Waste diverted from disposal	2022 Sustainability Report p76
306-5	Waste directed to disposal	2022 Sustainability Report p76
308: Supplier environmental assessment		
308-1	New suppliers that were screened using environmental criteria	2022 Sustainability Report, p15 & 26. Brazil providers undergo independent due diligence screening.
308-2	Negative environmental impacts in the supply chain and actions taken	2022 Sustainability Report p31

SOCIAL

Disclosure	Description	Location / Information
401: Occupational Health and Safety		
401-1	New employee hires and employee turnover	Data workbook - Employment tab
401-2	Benefits provided to fulltime employees that are not provided to temporary or part-time employees	Not reported
401-3	Parental leave	Data workbook - Diversity tab
402: Labour / Management relations		
402-1	Minimum notice periods regarding operational changes	Not reported
403: Occupational Health and Safety		
403-1	Occupational health and safety management system	2022 Sustainability Report p38
403-2	Hazard identification, risk assessment, and incident investigation	2022 Sustainability Report p38-40
403-3	Occupational health services	2022 Sustainability Report p42
403-4	Worker participation, consultation, and communication on occupational health and safety	2022 Sustainability Report p38-42
403-5	Worker training on occupational health and safety	2022 Sustainability Report p40
403-6	Promotion of worker health	2022 Sustainability Report p42
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	2022 Sustainability Report p42-44
403-8	Workers covered by an occupational health and safety management	100%
403-9	Work-related injuries	2022 Sustainability Report p40
403-10	Work-related ill health	2022 Sustainability Report p40
404: Training and Education		
404-1	Average hours of training per year per employee	7.7 Data workbook - Training tab
404-2	Programs for upgrading employee skills and transition assistance programs	Data workbook - Training tab
404-3	Percentage of employees receiving regular performance and career development reviews	Not yet in place, as HZM is in pre-production phase
405: Diversity and Equal Opportunity		
405-1	Diversity of governance bodies and employees	2022 Sustainability Report p31
405-2	Ratio of basic salary and remuneration of women to men	Data workbook - Diversity tab
406: Non-Discrimination		
406-1	Incidents of discrimination and corrective actions taken	None reported
407: Freedom of Association and Collective Bargaining		
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Zero. Union representation is protected under the Brazilian Constitution and Brazilian law.
408: Child Labour		
408-1	Operations and suppliers at significant risk for incidents of child labour	US Department of Labor found 56.5% of child labour is in agriculture, with 35.2% in services and 8.2% in industry. See 2022 Sustainability Report, p15 & 26. Brazil providers undergo independent due diligence screening.

Disclosure	Description	Location / Information
409: Forced or Compulsory Labour		
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labour	Global Slavery Index reports estimated prevalence of modern slavery in Brazil of 1.8 victims per 1,000 population with inequality and governance key drivers of vulnerability. 2022 Sustainability Report p15 & 26. Brazil providers undergo independent due diligence screening.
410: Security practices		
410-1	Security personnel trained in human rights policies or procedures	100%
411: Rights of indigenous peoples		
411-1	Incidents of violations involving rights of indigenous peoples	Zero
412: Human Rights Assessment		
412-1	Operations that have been subject to human rights reviews or impact assessments	Araguaia – social impact assessment and Equator Principles/ IFC PS2 human rights reviews
412-2	Employee training on human rights policies or procedures	Data workbook - Training tab training on ethics and integrity includes human rights.
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	2022 Sustainability Report p15 & 26. Brazil providers undergo independent due diligence screening.
413: Local Communities		
413-1	Operations with local community engagement, impact assessments, and development programs	Araguaia Nickel Project
413-2	Operations with significant actual and potential negative impacts on local communities	All operations have the potential for significant impacts – both positive and negative – on local communities.
414: Supplier social assessment		
414-1	New suppliers that were screened using social criteria	2022 Sustainability Report p15 & 26. Brazil providers undergo independent due diligence screening.
414-2	Negative social impacts in the supply chain and actions taken	See 2022 Sustainability Report p31
415: Public policy		
415-1	Political contributions	Zero
416: Customer health and safety		
416-1	Assessment of the health and safety impacts of product and service categories	Not applicable
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Not applicable
417: Marketing and labeling		
417-1	Requirements for product and service information and labeling	2022 Sustainability Report p6-7 for information about Responsibly sourced nickel.
417-2	Incidents of non-compliance concerning product and service information and labeling	Not applicable
417-3	Incidents of non-compliance concerning marketing communications	Not applicable
418: Customer privacy		
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Not applicable

GRI MINING AND METALS SUPPLEMENT

Disclosure	Description	Location / Information
GRI G4 MINING AND METALS SUPPLEMENT		
MM-1	Amount of land (owned or leased and managed for production activities or extractive use) disturbed or rehabilitated.	2022 Sustainability Report p87
MM-2	The number and percentage of total sites identified as requiring biodiversity management plans according to stated criteria, and the number(percentage) of those sites with plans in place.	Data workbook - Land and Biodiversity tab
MM-3	Total amounts of overburden, rock, tailings, and sludges and their associated risks	2022 Sustainability Report p78
MM-4	Number of strikes and lockouts exceeding one week’s duration, by country.	Zero
MM-5	Total number of operations taking place in or adjacent to Indigenous Peoples’ territories, and number and percentage of operations or sites where there are formal agreements with Indigenous Peoples’ communities.	Zero
MM-6	Number and description of significant disputes relating to land use, customary rights of local communities and Indigenous Peoples.	Zero
MM-7	The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and Indigenous Peoples, and the outcomes.	2022 Sustainability Report p31, 51
MM-8	Number (and percentage) of company operating sites where artisanal and small-scale mining (ASM) takes place on, or adjacent to, the site; the associated risks and the actions taken to manage and mitigate these risks	Zero
MM-9	Sites where resettlements took place, the number of households resettled in each, and how their livelihoods were affected in the process.	2022 Sustainability Report p54-55
MM-10	Number and percentage of operations with closure plans.	2022 Sustainability Report p87

SASB INDEX

Disclosure	Description	Location / Information
SASB INDEX: METALS AND MINING STANDARD		
EM-MM-110a.1	Gross global Scope 1 emissions, percentage covered under emissions limiting regulations	2022 Sustainability Report p74
EM-MM-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	2022 Sustainability Report p68-71
EM-MM-120a.1	Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N2O), (3) SOx, (4) particulate matter (PM10), (5) mercury (Hg), (6) lead (Pb), and (7) volatile organic compounds (VOCs)	Not reported, HZM in pre-production.
EM-MM-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	2022 Sustainability Report p74
EM-MM-140a.1	(1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	2022 Sustainability Report p64; Zero operations in High or Extremely High Water Stress regions
EM-MM-140a.2	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Zero
EM-MM-150a.4	Total weight of non-mineral waste generated	2022 Sustainability Report p76
EM-MM-150a.5	Total weight of tailings produced	Not applicable: HZM in pre-production.
EM-MM-150a.6	Total weight of waste rock generated	2022 Sustainability Report, p76
EM-MM-150a.7	Total weight of hazardous waste generated	Data workbook - Waste and Materials tab
EM-MM-150a.8	Total weight of hazardous waste recycled	Data workbook - Waste and Materials tab
EM-MM-150a.9	Number of significant incidents associated with hazardous materials and waste management	Zero
EM-MM-150a.10	Description of waste and hazardous materials management policies and procedures for active and inactive operations	2022 Sustainability Report p76
EM-MM-160a.1	Description of environmental management policies and practices for active sites	2022 Sustainability Report p58; p58-67
EM-MM-160a.2	Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation	Araguaia Nickel Project has low potential for acid generation or metal leaching.
EM-MM-160a.3	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	HZM discloses which sites are on or near endangered species habitats, but not corresponding reserves.
EM-MM-210a.1	Percentage of (1) proved and (2) probable reserves in or near areas of conflict	Zero
EM-MM-210a.2	Percentage of (1) proved and (2) probable reserves in or near indigenous land	Zero
EM-MM-210a.3	Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	No activities in areas of indigenous peoples or conflict
EM-MM-210b.1	Discussion of process to manage risks and opportunities associated with community rights and interests	2022 Sustainability Report p48-49
EM-MM-210b.2	Number and duration of non-technical delays	Zero
EM-MM-310a.1	Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees	Zero, although 100% of employees have the right to freedom of association
EM-MM-310a.2	Number and duration of strikes and lockouts	Zero
EM-MM-320a.1	(1) MSHA all-incidence rate, (2) fatality rate, (3) near miss frequency rate (NMFR) and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees	2022 Sustainability Report p40 94 people (employees and contractors) underwent emergency response training and four training sessions including one drill was conducted
EM-MM-510a.1	Description of the management system for prevention of corruption and bribery throughout the value chain	2022 Sustainability Report p26 Also see Business Integrity Policy.
EM-MM-510a.2	Production in countries that have the 20 lowest rankings in Transparency International’s Corruption Perception Index	Zero. Sustainability Report p 6-7 for discussion of responsibly sourced nickel, including Transparency.
EM-MM-540a.1	Tailings storage facility inventory table: (1) facility name, (2) location, (3) ownership status, (4) operational status, (5) construction method, (6) maximum permitted storage capacity, (7) current amount of tailings stored, (8) consequence classification, (9) date of most recent independent technical review, (10) material findings, (11) mitigation measures, (12) site-specific EPRP	Not applicable: HZM in pre-production.
EM-MM-540a.2	Summary of tailings management systems and governance structure used to monitor and maintain the stability of tailings storage facilities	Not applicable: HZM in pre-production
EM-MM-540a.3	Approach to development of Emergency Preparedness and Response Plans (EPRPs) for tailings storage facilities	2022 Sustainability Report p40
EM-MM-000.A	Production of (1) metal ores and (2) finished metal products	Not applicable
EM-MM-000.B	Total number of employees, percentage of contractors	2022 Sustainability Report p30

LOCAL PROCUREMENT REPORTING MECHANISM INDEX

Disclosure	Description	Location / Information
LPRM 100: Context for Local Procurement disclosures		
101	Mining company name	Horizonte Minerals plc
101	Mine site name	Araguaia Níquel Metais Ltda (Araguaia Project), Trias Brasil Mineração Ltda (Vermelho Project) and HM do Brasil Mineração Ltda
101	Reporting period	1 January–31 December 2022
101	Stage of assets	Pre-production
101	Estimated mine life	Approximately 30-years production life
101	Average number of workers	2022 Sustainability Report p30
LPRM 200: Procurement systems		
201	Policy on local suppliers	2022 Sustainability Report p55 and 88
202	Accountability on local suppliers	Procurement function
203	Major contractors and local suppliers	We are supporting the prioritization of local suppliers through two development programs with national training organisations. See Sustainability Report case study (p54–55).
204	Procurement process	Suppliers are able to make direct contact via all engagement mechanisms and in Araguaia town at the company town office
LPRM 300: Local Procurement spending by category		
301	Categorising suppliers	2022 Sustainability Report p88
302	Breakdown of procurement spend	2022 Sustainability Report p88
LPRM 400: Local Procurement due diligence		
401	Due diligence process	Business Integrity Policy
		Business integrity policy is in place.
402	Anti-corruption policy	A stand-alone Anti-Corruption Policy and internal control regime is in plan for 2023.
A403	Training and guidance for suppliers	Provided through purpose-operated Local Supplier Development program sessions
LPRM 500: Methods to incentivise local procurement		
501	Commitments	2022 Sustainability Report p88
502	Preference in scoring of bids	In development
503	Preference in scoring of bids for significant local contributions	In development
504	Non-scoring methods to incentivize local purchasing	In development
505	Supporting suppliers to understand the tender process	In development
506	Special payment procedures for local suppliers	In development
507	Encouraging procurement from particular groups	2022 Sustainability Report p54–55
LPRM 600: External commitments and obligations		
601	Regulations	None
602	Other agreements and contracts	None

NOTES GLOSSARY

AIFR	All Injury Frequency Rate
ANP	Araguaia Nickel Project
ANS	Araguaia Nickel South
B	billion
BAP	Biodiversity Action Plan
BRL	Brazilian Reais
CAHRA	Conflict-affected and high risk areas
CEO	Chief Executive Officer
CO ₂	carbon dioxide
EHS	environment, health and safety
EITI	Extractives Industry Transparency Initiative
EPCM	Engineering procurement and construction management
ERM	Enterprise Risk Management
ERP	Enterprise resource planning
ESG	environmental, social and governance
ESIA	Environmental and Social Impact Assessment
ESTMA	Extractives Sector Transparency Measures Act
FIEPA	<i>Federação das Indústrias do Pará</i> (FIEPA) [Pará State Federation of Industries]
GHG	greenhouse gas(es)
GRI	Global Reporting Initiative
HSEC	health, safety, environment and communities
HZM	Horizonte Minerals plc.
IESC	Independent environmental and social consultant
IFC	International Finance Corporation
ILO	International Labour Organisation
IMS	Integrated management system
ISO	International Standards Organization
IUCN	International Union for Conservation of Nature
LPRM	Local Procurement Reporting Mechanism
M	million
m ³	cubic meter
MHP	Mixed hydroxide precipitate
MSP	Mixed sulphide precipitate
OECD	Organization for Economic Cooperation and Development
QCA	Quoted Company Alliance
RAP	Resettlement Action Plan
RKEF	Rotary kiln-electric furnace
SASB	Sustainability Accounting Standards Board
SDGs	Sustainable Development Goals
SENAI	<i>Serviço Nacional de Aprendizagem Industrial</i> (SENAI) [Brazil's national industrial training authority]
TCFD	Taskforce on Climate Related Financial Disclosures
tCO _{2e}	Tonnes of carbon dioxide equivalent greenhouse gas emissions
t Ni Eq	tonnes of nickel equivalent
TRIFR	Total Recordable Injury Frequency Rate
UN	United Nations
UNEP	United Nations Environment Programme
UNGC	United Nations Global Compact

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

Except for statements of historical fact relating to the Company, certain information contained in this report constitutes "forward-looking information" under Canadian securities legislation. Forward-looking information includes, but is not limited to, the ability of the Company to complete the acquisition of equipment as described herein, statements with respect to the potential of the Company's current or future property mineral projects; the ability of the Company to complete a positive feasibility study regarding the second RKEF line at Araguaia on time, or at all, the success of exploration and mining activities; cost and timing of future exploration, production and development; the costs and timing for delivery of the equipment to be purchased as described herein, the estimation of mineral resources and reserves and the ability of the Company to achieve its goals in respect of growing its mineral resources; the realization of mineral resource and reserve estimates and achieving production in accordance with the Company's potential production profile or at all. Generally, forward-looking information can be identified by the use of forward-looking terminology such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or statements that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved". Forward-looking information is based on the reasonable assumptions, estimates, analysis and opinions of management made in light of its experience and its perception of trends, current conditions and expected developments, as well as other factors that management believes to be relevant and reasonable in the circumstances at the date that such statements are made, and are inherently subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking information, including but not limited to risks related to: the inability of the Company to complete the acquisition of equipment contemplated herein, on time or at all, the ability of the Company to complete a positive feasibility study regarding the implementation of a second RKEF line at Araguaia on the timeline contemplated or at all, exploration and mining risks, competition from competitors with greater capital; the Company's lack of experience with respect to development-stage mining operations; fluctuations in metal prices; uninsured risks; environmental and other regulatory requirements; exploration, mining and other licences; the Company's future payment obligations; potential disputes with respect to the Company's title to, and the area of, its mining concessions; the Company's dependence on its ability to obtain sufficient financing in the future; the Company's dependence on its relationships with third parties; the Company's joint ventures; the potential of currency fluctuations and political or economic instability in countries in which the Company operates; currency exchange fluctuations; the Company's ability to manage its growth effectively; the trading market for the ordinary shares of the Company; uncertainty with respect to the Company's plans to continue to develop its operations and new projects; the Company's dependence on key personnel; possible conflicts of interest of directors and officers of the Company, and various risks associated with the legal and regulatory framework within which the Company operates, together with the risks identified and disclosed in the Company's disclosure record available on the Company's profile on SEDAR at www.sedar.com, including without limitation, the annual information form of the Company for the year ended December 31, 2022, the Araguaia Report and the Vermelho Report. Although management of the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements.

Note that some photographs used in this report were taken before and after the COVID-19 restrictions.

© 2022 Horizonte Minerals. Designed by Web Order Ltd. Photos by Rodrigo Zazá, Larissa Herzog, Gláucia Rodrigues, Idelson Gomes da Silva, Philipa Varris, Kerlley Oliveira and Horizonte image library.

