grupo maringá

INTEGRATED REPORT

2023

Table of Contents

03 Introduction
03 About this report
06 2023 Highlights
07 Messages from management

11 Grupo Maringá

20 Sustainable strategy
24 Governance
33 Environment
55 Social

81 Performance

90 GRI and SASB Content Index

107 Assurance report

110 Credits

About this report

GRI 2-14

For the fourth consecutive year, we present our challenges and results in the economic, social and environmental spheres, strengthening transparency and commitment to our stakeholders.

This report brings together quantitative and qualitative information related to the performance of operations and main achievements from January 1 to December 3, 2023. It covers all of our business units, linked to the holding company São Eutiquiano Participações S.A., our controlling company, that is, the companies Maringá Ferro-Liga, Mineração Moema, Usina Jacarezinho, Canavieira Jacarezinho and Maringá Energia. Financial information and disclosures are presented on a consolidated basis as Grupo Maringá. When consolidation is not applicable, the text specifies the corresponding scope. **GRI 2-2 | 2-3**

For the first time, we opted for the Integrated Report format, which follows the guidelines of International Integrated Reporting Council (IIRC), aiming at further qualifying information and adopting a more cohesive and efficient approach, consolidating it as an instrument of communication and management.

We have also adopted the guidelines of Global Reporting Initiative (GRI): GRI Standard 2021 and Agricultural Sector GRI, which are globally recognized, and, for the first time, we included an annex to expose the indicators provided for in the Sustainability Accounting Standards Board (SASB) framework for iron and steel producers for the Steel, Metals and Mining unit for the Mining unit, and Biofuels, Agricultural Products and Electric Utilities and Energy Generators for the Sugar-Energy Unit.

The content of this publication was defined and validated by the various internal areas and approved by the officers and Board of Directors. For its preparation, we considered our Materiality Matrix, built in 2021, with ten themes that, from the perspective of our stakeholders, reflect the main impacts of our operations on environment, society and economy, and, consequently, may affect our ability to create and share value in the short, medium and long terms. Any reformulations of information relating to previous years are mentioned in table footnotes. **GRI 2-4 | 2-5**

To send comments regarding this report, which was submitted to external assurance by the independent service provider PwC Brasil, as well as information relating to the Greenhouse Gas (GHG) emissions inventory, verified by Bureau Veritas – we make available the channel: **ri@grupomaringa.com.br**. **GRI 2-5**

Murilo Gomes
(CTT Manager)

Raissa Fiches
(PPC Analyst)

MATERIALITY PROCESS

GRI 2-29

Our Materiality Matrix was built based on a process that involved four steps:

1. **Identification**, in which we make a diagnosis to understand the main current or potential impacts, positive and negative, of our operations on ecosystems, communities, human rights and the economy. Furthermore, we mapped our key stakeholders.

2. **Prioritization**, in which 18 themes identified in the previous stage were presented to stakeholders for their perceptions and assessments.

   Participation included shareholders, suppliers, service providers, employees, integrated producers, banks and investors, customers, unions, associations, organizations, community representatives, in addition to our senior leadership, totaling 1,213 contributions collected.

3. **Analysis**, which consisted of tabulating information and preparing the matrix.

4. **Validation**, a stage in which we submit the results to our leadership for assessment and definition of the ten priority material themes.

Finally, materiality was recommended by the Audit, Risks and Compliance Committee and subsequently approved by our Board of Directors. **GRI 3-1**

PRIORITY MATERIAL TOPICS

GRI 3-2

Material Theme	SDG	Scope	Capitals
Ethics, integrity and human rights	5 GENDER EQUALITY; 8 DECENT WORK AND ECONOMIC GROWTH; 16 PEACE, JUSTICE AND STRONG INSTITUTIONS	Respect our Code of Conduct, which is aligned with our values; guarantee the integrity and transparency of our relationships, managing risks; implement anti-corruption mechanisms at all levels; ensure that all conditions related to human rights are applied and monitored.	• Social and Relationship • Human • Financial • Intellectual
People development, diversity and inclusion	4 QUALITY EDUCATION; 5 GENDER EQUALITY; 8 DECENT WORK AND ECONOMIC GROWTH; 10 REDUCED INEQUALITIES	Promote development (employee attraction, retention, training and career); ensure diversity and inclusion at all organizational levels.	• Social and Relationship • Human • Intellectual • Financial
Health and safety	3 GOOD HEALTH AND WELL-BEING	Adopt best practices in occupational safety and health; continuous improvement in safety management and reduction of accidents and injuries.	• Human • Financial • Intellectual
Energy efficiency	7 AFFORDABLE AND CLEAN ENERGY; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 13 CLIMATE ACTION	Manage resources and monitor energy consumption, promoting actions that optimize it; prioritize renewable energy solutions and technologies; promote energy efficiency development and research.	• Natural • Manufactured • Financial • Intellectual
Customer relationships and satisfaction	16 PEACE, JUSTICE AND STRONG INSTITUTIONS; 17 PARTNERSHIPS FOR THE GOALS	Communicate clearly and transparently about products and processes; increase production flexibility and diversity to serve our customers.	• Social and Relationship • Financial
Climate change	6 CLEAN WATER AND SANITATION; 7 AFFORDABLE AND CLEAN ENERGY; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 13 CLIMATE ACTION; 15 LIFE ON LAND	Establish a strategy to combat climate change, carry out actions to mitigate negative impacts of our actions, such as ensuring reduced emission of Greenhouse Gases (GHG), both direct and indirect, and polluting gases, manage natural resources, ensuring recirculation and proper disposal of waste.	• Natural • Manufactured • Financial • Intellectual
Innovation and technology	8 DECENT WORK AND ECONOMIC GROWTH; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	Encourage and ensure innovative practices for the business; guarantee data privacy and security; seek solutions that enhance the efficiency of our resources.	• Intellectual • Manufactured • Financial
Sustainable agricultural/ forestry practices	2 ZERO HUNGER; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 13 CLIMATE ACTION; 15 LIFE ON LAND	Manage productivity, quality and balance of land use; monitor and preserve biodiversity; prevent and combat fires; control the use of fertilizers, herbicides, pesticides, and other agrochemicals.	• Natural • Manufactured • Financial • Intellectual
Local development and community impact	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 10 REDUCED INEQUALITIES	Support local development and monitor the potential impacts on the surrounding area, promoting positive outcomes for the community.	• Social and Relationship • Financial
Sustainable supply chain	8 DECENT WORK AND ECONOMIC GROWTH	Promote qualification and selection of suppliers based on economic and socio-environmental criteria; ensure best responsible sourcing practices in the supply chain.	• Natural • Social and Relationship • Human • Financial

Note - The materiality study was carried out in 2021. In 2023, there were no changes in the list of material topics.

2023 Highlights

SOCIAL ECONOMIC ENVIRONMENTAL

GROUP

- Beginning of **Management of Corporate Risks** development.
- Strengthening the **Sustainable Strategy Program**, with an emphasis on integration, resilience and centrality of people.
- **Gold Seal** for the 2022 GHG emissions inventory, by GHG Protocol.
- **EBITDA of R$397 million** and Net debt/ EBITDA: 0.4.

SUGAR-ENERGY

Usina Jacarezinho

- Milling **2.53 million** tons of sugarcane.
- Investments to **expand sugar production** starting from the next crop.
- Beginning of **localized vinasse application**, expanding the fertigated areas.

Maringá Energia

- Launch of ***Plantio Total* Program** for Integrated Sugarcane Producers in the Cambará region (PR).
- **Improved efficiency and trading score** of R$6 million in CBIOs, equivalent to the carbon capture from 543 thousand trees.
- **2,500 days** without lost-time injuries of more than 15 days in the Agricultural area.

MINING

Mineração Moema

- Production of **12.1 thousand tons** of high-grade manganese ore.
- **739 days** without a workplace accident with leave.

STEEL INDUSTRY

Maringá Ferro-Liga

- **Expansion of investments** to replace circular furnaces with rectangular ones in bio-reductant production units (UPR), with **more efficient and sustainable technology**.
- 1st diagnosis of **safety culture**, providing the basis for actions from as 2024 towards greater maturity on the topic.
- **Insourcing of transport** in the forestry area and beginning of insourcing in maintenance of rectangular furnaces.
- **Sales of 93,149 tons** of ferroalloys and maintenance of position as the main producer in South America.
- Consolidation of **high grade raw material inventory**, guaranteeing operation autonomy for more than six months.

Message from the Board of Directors

The year 2023 was marked by many variations in scenarios projected at the beginning of the year for the performance of international and Brazilian economies.

Jose Maria Taborda (General Services Assistant)

In the international scenario, it was expected that the American and European economies would be in recession, while the Chinese economy was expected to be in strong expansion. However, what we observed was very far from that: US economy was expanding, European economy was experiencing some growth and Chinese economy was slowing down, especially in the last quarter. In the year, Chinese economy grew. Renowned economic analysis institutions are suggesting continued retraction in China's growth rates, although still evolving at rates above the world average, but below what has been observed in recent years.

On the other hand, geopolitical conflicts have worsened with a substantial increase in tensions between the Western world nations, led by the United States and the European Community, and countries that gravitate around the China-Russia axis. This situation results not only from ideological and military issues, but mainly from conflicting economic interests, arising from deep differences between two very antagonistic visions in effect in liberal democratic economies and those with strong State intervention.

In Brazil, economy grew around 3%, exceeding all expectations from the beginning of the year. This surprising performance was led by the agribusiness sector, which reaped a super crop of over 320 million tons of grains, a 17.2% increase over the previous year. The industrial GDP performance was modest, whereas the services sector grew significantly, influenced by the high level of employment, some growth in the wage bill and a strong increase in the Central Government's income transfer programs. Even so, inflation maintained its downward trend towards the target.

In contrast, economic agents' expectations remained low in view of difficulties of the central government and other federal entities in dealing with the strong growth in expenses, with no stable financing sources in the long term. As a result, the investment rate decreased, leading to uncertainty about the future performance of GDP.

Grupo Maringá has two business lines: one linked to the sugar-energy sector focusing on the production of sugar, ethanol and electricity produced through cogeneration. Another line is the production of manganese ferroalloys. The products resulting from these lines of activity are global commodities with prices established on the international market. In the sugar-energy business, we observed an increase in sugar prices and a decrease in ethanol prices, with the latter being influenced by erratic fuel pricing policies. However, the drop in electricity prices resulting from the high volumes of water retained in hydroelectric powerplant reservoirs negatively affected Maringá Energia's results.

Last year we were able to celebrate the consolidation of operational security programs started several years ago. We obtained the best safety indicators in the history of Grupo Maringá companies. For example: in our sugar-energy agricultural area we reached 2,500 days without lost-time injuries. In Maringá Ferro-Liga we had no lost-time injuries for 453 days. Mineração Moema recorded 739 days without lost-time injuries.

In the steel industry, following a trend observed in the second half of 2022, we had a strong drop in the prices of manganese alloys, which, associated with the Real appreciation against the US dollar of approximately 10% throughout 2023, put pressure on the prices of manganese alloys in national currency, contributing to a reduced competitiveness of our products.

We continued to see significant increases in operating costs that were first felt when supply chains were disrupted as a result of the Covid epidemic. Programs set out in 2021 with heavy investments to structurally reduce operating costs began to show results at the end of 2023. In 2024 and 2025, their benefits will be even more relevant.

One of these initiatives consists of increasing bio-reductant production through the adoption of new technologies for carbonizing wood from our own eucalyptus forests. Unlike other industrial bio-reductant production processes, these new technologies are capital intensive, allowing increased productivity in wood carbonization and substantially reducing pollutant emissions. This is a very significant program to reduce carbon intensity of ferroalloy production and is part of Grupo Maringá's Sustainable Strategy Program (PES).

The results of the sugar-energy activity generated EBITDA of R$313 million and Net Income of R$94 million, with variations of -0.5% and -31%, respectively. Indebtedness remained practically stable and the Debt/EBITDA ratio was 1.21. The extension of debt terms has brought cash stability, as we do not have material commitments in the short term. The duration of our indebtedness is 36 months.

EBITDA in the steel industry reached R$93 million, a decrease of 71% over the previous year. Net income was R$99 million, a decrease of 55% in the same comparison.

The holding company São Eutiquiano Participações S.A. posted a Net Income of R$128 million, down by 43% over the previous year. Net Shareholders' Equity reached R$879 million, a growth of 17% over 2022.

The Group's consolidated results are Net Income of R$170 million, a drop of 45% over the previous year. Net Shareholders' Equity reached R$1,227 million, an increase of 11% over 2022.

Our expectations for 2024 include the same challenging scenario, characterized by uncertainties regarding economic policy direction.

The good news is that inflation appears to be consistently moving towards lower levels. The decrease observed in interest rates is still far from encouraging companies to implement expansion projects. Real interest rates above 5% per year make countless business initiatives unfeasible.

Grupo Maringá has faced difficulties similar to most Brazilian companies. And we have conducted our business with great confidence, dedication and persistence. Resilience has been a hallmark of our evolving business, a result of our corporate governance system that, alongside our Sustainable Strategy Program (PES), induces our employees at different levels to have a strong commitment to ethics and business perpetuity. We are grateful to all our employees who, with the support of their families, contribute to our constant performance improvement. **GRI 2-22**

We are also grateful to our customers, suppliers, business partners and financial institutions for their support in developing our business.

Message from the Executive Board

Amid the challenging scenario of 2023, some aspects of our performance stood out positively, particular the evolution of strategic management, which promotes integrated vision, people centrality and organizational resilience, the key pillars for our business sustainability and perpetuity.

In this period, we confirmed the importance of aspects that we have long assessed and valued as outstanding features that allow us to achieve satisfactory results in the midst of adversities, such as flexibility and production quality, product diversification, self-sufficiency – either total or partial – in critical inputs, and agile decision making. Furthermore, we continued to rely on a qualified and committed team, and to mature relationships with our stakeholders, providing capacity and vitality so that we can continue investing resources in increasingly efficient and resilient ventures.

In the sugar-energy sector, the favorable price of sugar in 2023 – and the prospects that this trend will remain in the coming years – motivated us not only to favor it in the production mix at Usina Jacarezinho, but also to allocate approximately R$25 million to expanding processing capacity from the start of the next crop, which will increase from 23 thousand to 30 thousand bags/day. During the crop, we were surprised by a long drought, despite the El Níño phenomenon, which suggested a more intense rainfall regime, resulting in the crushing of 2.53 million tons of sugarcane, below forecast and 1.5% below the previous crop. **GRI 203-2**. Crushing would have been even smaller if it weren't for the correct management of plantations – both our own and those of our integrated producers –, which includes selecting and disseminating better techniques, technologies and resources.

We continued with our purpose of increasing the use of waste from Usina Jacarezinho and economically and agronomically efficient organic solutions in plantations, to have more sustainable sugarcane crops. Therefore, we have expanded the use of filter cakes – whose composting we qualify – and vinasse. Regarding the latter, this year we introduced an accurate and efficient fertigation system in the field and, in 2024, we will have our own fertilizer factory, which will allow us to enrich vinasse with other nutrients in our unit. Another new feature planned is the creation of a biofactory, so that we can increasingly have and encourage the use of biological inputs to combat pests.

The results of the yeast business in its first full crop were positive, with a production of 2,226 thousand tons sold through a partner company. In electricity cogeneration, we reached 96,675 MWh, and, due to the drop in market prices, revenue decreased from R$33.8 million to R$22.7 million. However, we maintained actions to expand generation capacity, which should be carried out in 2025, after we obtain the new environmental licenses required.

At Maringá Ferro-Liga, we were challenged by the significant drop in national and international demands, driven by factors associated with the economic downturn in several regions and countries. Despite this, sales volume was 93 thousand tons, a 3.5% reduction compared to 2022, with revenue negatively impacted by the drop in prices resulting from low demand and excess supply worldwide. **GRI 203-2**

Given the unfavorable scenario, we continued to focus on reducing costs, a task in which our team proved to be notable for its engagement and ability to present solutions. We opted for shutting down one of our five furnaces for a certain period of the year, due to changes in our smelting operations, without affecting the quality of the ferroalloys, and the renegotiation of raw materials and energy supply contracts – the effects of which will also be seen in 2024 – and improvements in logistics, among other measures.

We continued to invest in strategic projects that aim to increase productivity and reduce costs, such as implementing a sinter plant in our factory, which is scheduled for completion in 2025. In the next period, we will inaugurate two Bio-reductant Production Unit (UPR). Obtained from our own eucalyptus forests, bio-reductants bring economic and environmental benefits that are increasingly recognized by customers globally due to lower greenhouse gas emissions compared to the use of fossil reductants.

Another strategic highlight was the development of manganese mining operations in Pará, through Mineração Moema, which supplied more than 80 thousand tons of high-grade, low-impurity ore to our steel unit between 2022 and 2023. We continued to invest in the verticalization of our manganese operation and hope to start production in a second deposit in 2024, after environmental licensing is obtained.

People play a central role in our strategy. In this context, we launched Academia Grupo Maringá [Grupo Maringá Academy], a program that integrates efforts to develop our people's technical and socio-emotional skills, and the Identity Program, with which we seek to value and respect diversity and inclusion. In security management, we continued to invest in structure and development of our teams' safety maturity. We celebrated the milestone of 2,500 days with no lost-time injuries of more than 15 days at Canavieira de Jacarezinho, and 453 days at Maringá Ferro-Liga. We have evolved in developing an ethical culture, with humanized and assertive leadership, involving different levels of leadership within our organization.

With responsibility, we continued to develop our management model, in order to continually reconcile the search for economic and socio-environmental results, contributing to generate value for shareholders, investors, customers, employees, suppliers and communities. We thank the more than 1,900 employees on our team, our shareholders and other stakeholders, and invite them to continue contributing to the sustainability and perpetuity of our business.

The Executive Board

We have been reaping the fruit of our strategic planning, as well as our ability to execute, learn and adapt.

Grupo Maringá

GRI 2-1

- *Sugar-energy*
- *Steel industry*
- *Mining*
- *Value Creation Model*

Rodrigo Moreira
(Market Intelligence
Analyst)

White and Raw Sugar

Grupo Maringá operates in steel production chains, through Maringá Ferro-Liga and Mineração Moema, and food and energy, with the companies Canavieira Jacarezinho, Usina Jacarezinho and Maringá Energia. We invest in businesses and solutions that contribute to our growth and resilience, reduce the environmental impact of our operations, and offer high-quality products at competitive prices.

Thus, we create value for our stakeholders and promote sustainable development. We are a privately-held organization controlled by São Eutiquiano Participações S.A., and we have professional management. Our team of 1,927 employees committed to implementing our strategy and practicing our corporate values.

Mission

Act in the steel production chain and in the sugar-energy sector, offering high quality products, with efficiency and competitive costs, taking care of the environment, perpetuating our business and generating value for stakeholders.

Vision

To be a business group recognized for performance, governance, ethics and sustainability.

Values GRI 2-23

INTEGRITY

We value integrity.

We work transparently and under high standards of ethical conduct, we honor our commitments, ensuring our credibility and reliability.

EXCELLENCE

We continually seek excellence.

Efficiency, quality and innovation are sought with agility and focus on generating value.

LEARNING

Restlessness to evolve and grow.

We nurture ceaseless learning through best practices, critical thinking and knowledge sharing, strengthening our ability to innovate and overcome challenges.

COLLABORATION

Together we are better.

The company's results are more important than individual achievements. We work as a team, valuing dialogue and everyone's contributions.

RESPECT

We respect people and the planet.

We value the safety and well-being of our employees and the community.
We care for the environment and respect our customers and partners.

SUGAR-ENERGY

Canavieira Jacarezinho, Usina Jacarezinho and Maringá Energia operate in the municipality of Jacarezinho, located in Northern State of Paraná. The first one is engaged in the production of sugar cane on 28,814 thousand hectares of owned land, partnerships and integrated producers, adopting management that respects the environment and guarantees high productivity. This raw material supplies Usina Jacarezinho, where the following are manufactured:

Sugar-Energy Products

VHP Raw Sugar (Very High Polarization)
With high sucrose content and caramel color, it is highly demanded by major refineries and used as raw material for producing various types of sugar for human consumption. Our production is certified by ISO 9001 and Halal.

White sugar
With more demanding processes and white in color, it is intended directly for human consumption, including in drinks and food. All white crystal sugar production is FSSC 22000, ISO 9001 and Halal certified.

Electricity
Generated from sugarcane biomass for own consumption, and also to be sold. Biomass is a waste from sugar and ethanol production processes in our mills.

Anhydrous ethanol
With 99.7% pure ethanol, added to gasoline by fuel distributors, in accordance with federal regulations, it provides a reduction in carbon emissions from gasoline-powered vehicles.

Hydrous ethanol
With 93% pure ethanol, it is sold directly to consumers at gas stations.

Yeast
By-product of the fermentation of sugarcane juice during ethanol production, intended for animal feed manufacturers.

All of Usina Jacarezinho's sugar and ethanol production is sold in Brazil and abroad via Copersucar, a cooperative of which we are a member.

Maringá Energia uses waste from sugar and ethanol production processes – sugarcane biomass – to co-generate electricity, which supplies our facilities and whose surplus is sold on the free market.

Jacqueline de Fatima (Laboratory Analyst)

LOCATION:

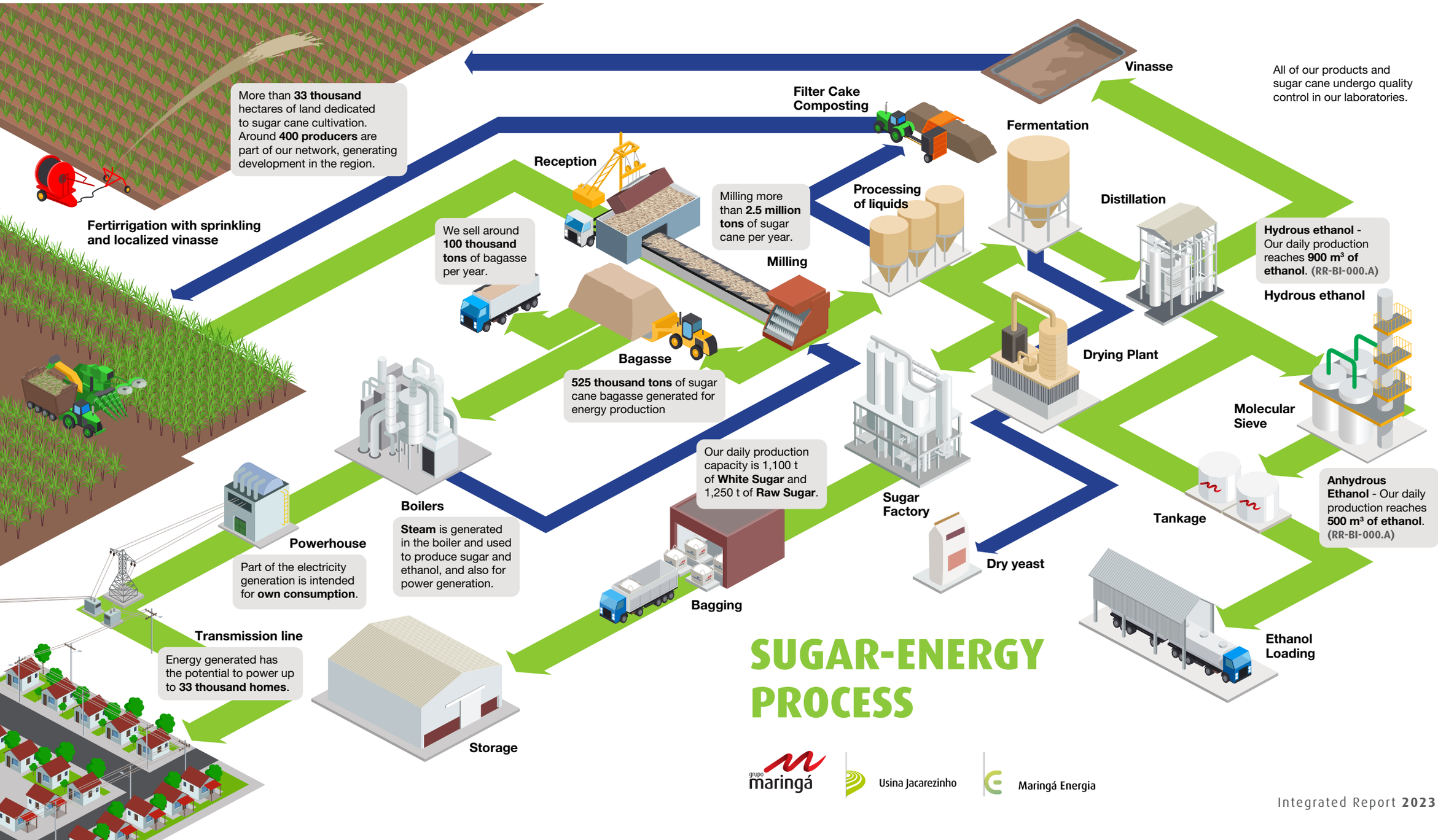
Jacarezinho (PR)

Outstanding features:

- **Flexibility** to prioritize manufacture of sugar or ethanol, according to market demands and prices.
- **Portfolio of varied products** and strengthening of the circular economy, using waste to produce energy, yeast and organic fertilizer for sugarcane cultivation.
- **Self-sufficiency in electricity** through the use of sugarcane biomass, which meets 100% of our needs in the sugar-energy sector and which surplus sold on the free energy market.
- **Trading of sugar and ethanol** via Copersucar, a global leader transacting these products.

Certifications:

- **ISO 9001 –** For the production of sugar, ethanol and sugarcane.
- **FSSC 22000 (Food Safety System Certification) –** Reference standard for the food industry, which guarantees safety throughout the production process (Usina Jacarezinho).
- **Halal –** Certifies that the sugar produced is suitable for consumption by followers of the Islamic faith (Jacarezinho Mill).
- **Renovabio –** Usina Jacarezinho has been certified since 2020 for the Ministry of Mines and Energy program to increase the share of biofuels in the energy matrix (*details on page 39*).



All of our products and sugar cane undergo quality control in our laboratories.

SUGAR-ENERGY PROCESS

Usina Jacarezinho

Maringá Energia

LOCATION:
Itapeva (SP)

STEEL INDUSTRY

Maringá Ferro-Liga, located in Itapeva (SP), Southwest State of São Paulo, is the largest producer of manganese ferroalloys in South America, and serves customers in Brazil and abroad. It stands out for the high quality and versatility of its products, reliability in delivery to commercial partners, efficiency in processes and low carbon emissions compared to national and international competitors, especially due to the supply of its furnaces with in-house produced bio-reductant (charcoal from owned eucalyptus forests) and energy production from 100% renewable sources. Maringá Ferro-Liga is dedicated to the manufacture of the following products, which contribute to reducing unwanted sulfur and oxygen levels in steel, in addition to improving their resistance and malleability:

Ferro-Silico-Manganese
Mainly used in carbon steels, standard steel plates and rods.

High-Carbon Ferromanganese
Mainly used in the production of critical surface steel sheets and high-carbon long steels, with wide use in the automotive and white goods industries.

Outstanding features:

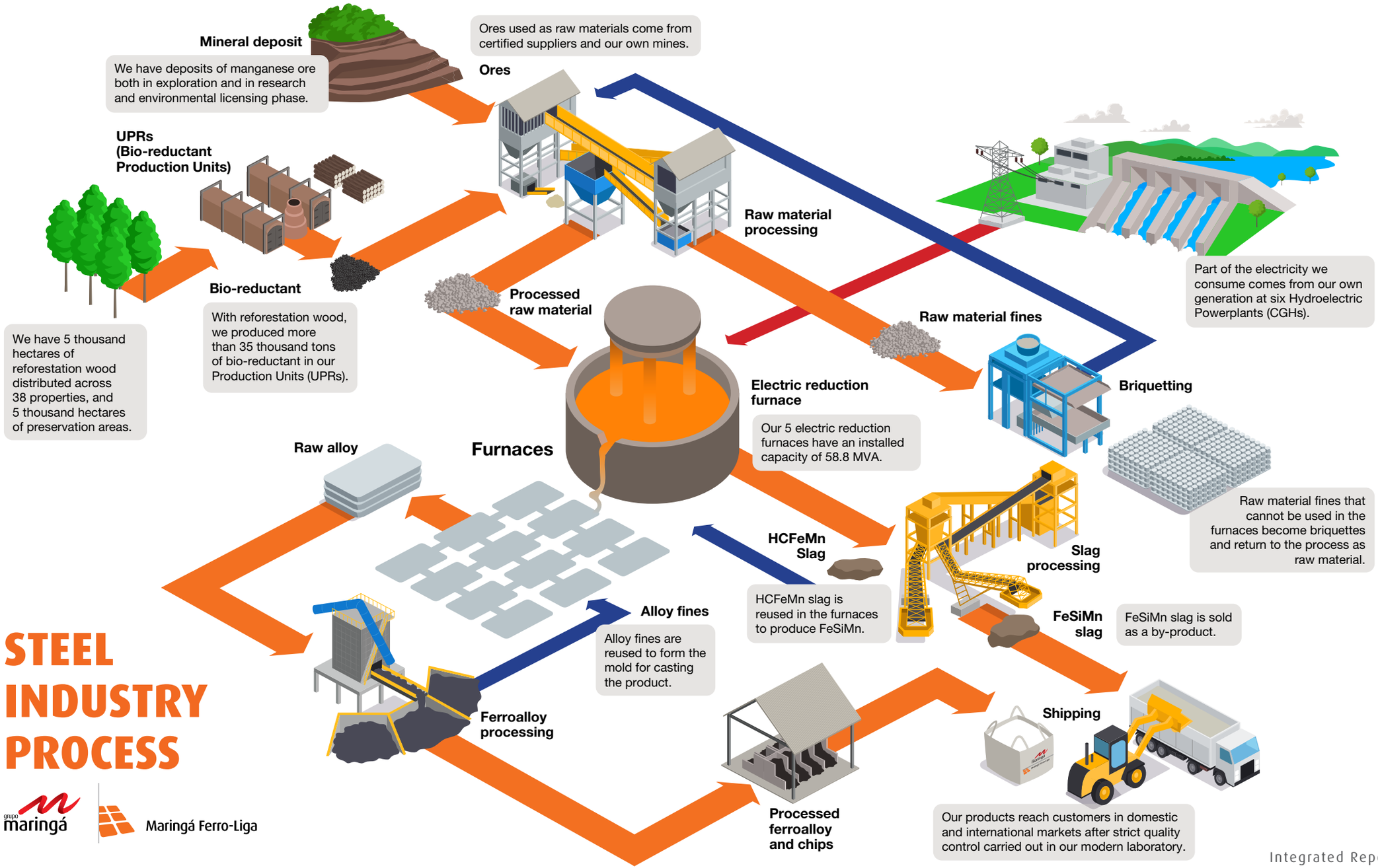
- **Ability** to meet specific ferroalloy composition orders.
- **Possibility** of prioritizing the manufacture of Ferro-Silico-Manganese (FeSiMn) or High-Carbon Ferromanganese (HCFeMn).
- **Own production of bio-reductants** to power the furnaces, reducing our environmental footprint and costs.
- **Growing self-sufficiency** in the supply of manganese ore.
- **Owned and clean generation**, through Hydroelectric Powerplants, of 16% of the electricity consumed in production processes.
- **Only producer of manganese ferroalloys** in the State of São Paulo, with easy access to the national steel complex and the main ports in the Southeast.

Certifications:

- **ISO 9001 –** For production of manganese alloys.
- **ISO 45001 –** Certified by the health and safety standard, renewed in 2022.

Steel Products

STEEL INDUSTRY PROCESS



grupo maringá | Maringá Ferro-Liga

Moema's operational area

MINING

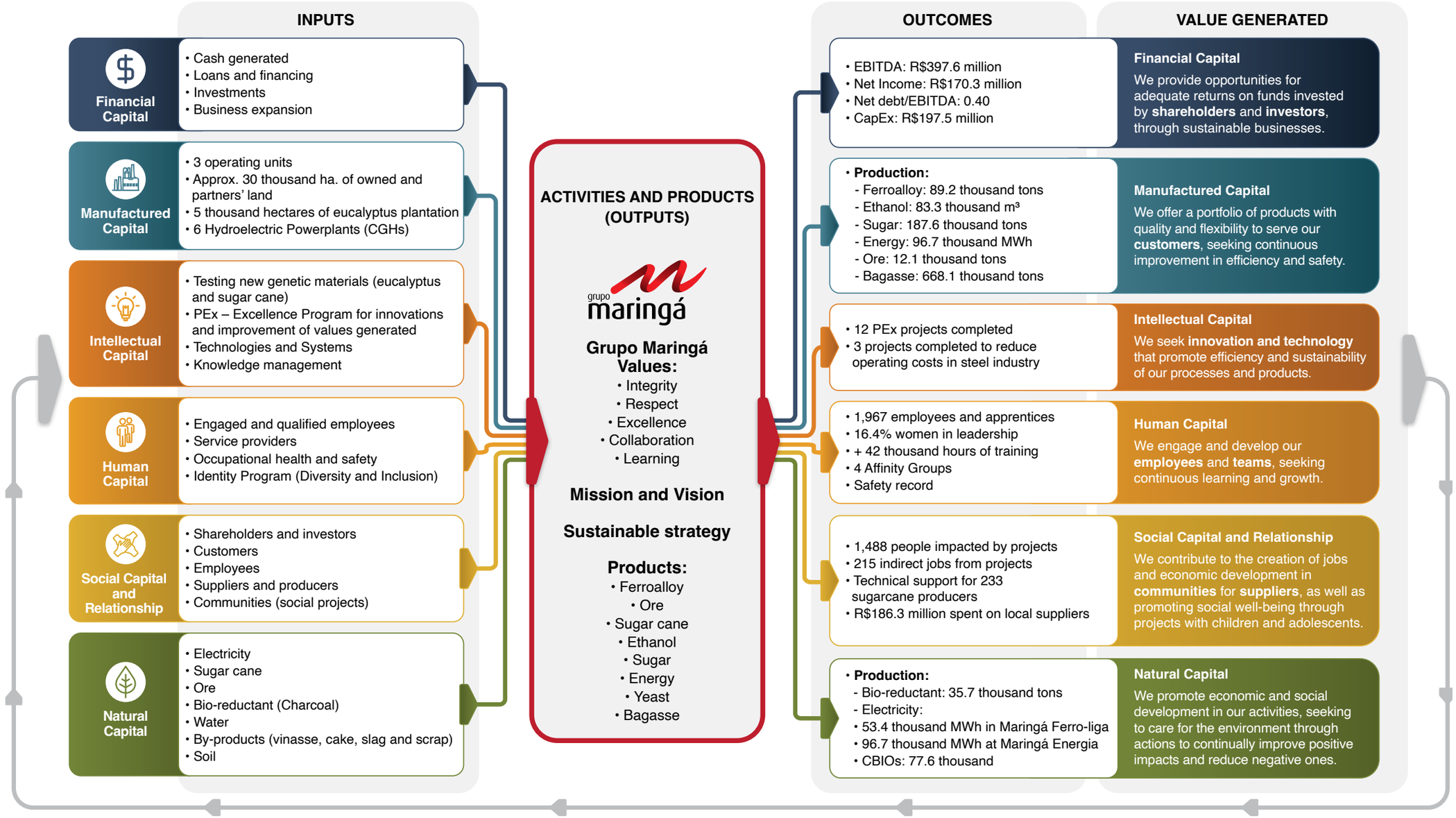
Operating in the region of Marabá (PA), where its headquarters are located, Mineração Moema, founded in 2021, is engaged in mining and processing high-grade manganese ore, a strategic input for our business and used in the production of ferroalloys.

LOCATION:
Marabá (PA)

Outstanding features:

- **Ability** to meet specific ferroalloy composition orders.
- **Possibility of prioritizing** the manufacture of Ferro-Silico-Manganese (FeSiMn) or High-carbon Ferromanganese (HCFeMn).

Value Creation Model



Sustainable Strategy

- *Our sustainable strategy in practice*
- *Integration, people centrality and resilience*

Rosane Alves (Agricultural Development Assistant)

Talita Velozo (Strategy and Innovation Analyst)

Strategy, sustainability and perpetuity are inseparable concepts for us. The Sustainable Strategy Program (PES) has continued to advance for more than two years with the main objective of contributing to sustainability and perpetuity of Grupo Maringá. We consider that, for our strategy to be effective, more than a plan, a set of continuous actions that encompass our different businesses, areas, teams and people is required.

PES seeks to integrate our management efforts from a systemic perspective, improving relationships with stakeholders, assessing and improving our impacts, especially on priority material topics, considering social, economic and environmental perspectives. This work includes ten TMPs, more than 30 initiatives, with more than 50 people directly involved in our three business units.

Our sustainable strategy in practice

Our Sustainable Strategy guides us towards improvements in quality, efficiency and resilience. It is constantly tested by challenges from both the Brazilian and international contexts, which directly impact production costs, demand and prices of the commodities we offer to our customers, climate and technological changes, among other factors – for which reason it is continually assessed and updated.

We hold annual Strategy Workshops to update the business and Group's diagnostic and strategic guidelines. From this, we review our micro strategy with projects, actions, goals, budget and other strategic efforts. This development is carried out with broad participation of business, area and theme leadership.

At the meetings of the Board of Directors (monthly) and of the Executive Board (weekly), the main aspects of our business are discussed, seeking to ensure coherence of our strategy in the short and long terms. Through (monthly) strategy meetings, Working Groups, S&OP and other interactions in and between areas, we share the evolution of our efforts and updates on safety and health, market, production, efficiency, risks, human resources, costs, investments, among other relevant variables in our strategy. Furthermore, every quarter the Executive Board presents results and expectations to our teams, in order to mobilize them to improve our economic, social and environmental performance. Finally, there are several other informal interactions between our employees and with our stakeholders that contribute significantly to the effectiveness of our strategy.

Here are some of the main achievements in 2023 in the highlighted themes:

ETHICS, INTEGRITY AND HUMAN RIGHTS

- Ethics and Integrity Workshops.
- Improving cultural aspects, such as psychological safety and humanized leadership.
- Strengthening communication and actions to make the Ombudsman Channel more effective.
- Corporate Risk Management Project (beginning of the 1st Phase).

CLIMATE CHANGE

- Public Emissions Registry on the Brazilian GHG Protocol Program platform, obtaining the Gold Seal (assured emissions inventory).
- Adoption of GRI, SASB, GHGP references.
- Kick-off of the Mitigation Plan in the units, with an awareness meeting and project prioritization.

PEOPLE DEVELOPMENT, DIVERSITY & INCLUSION

- Humanized and assertive, more sensitive leadership, reconciling the overcoming of operational, economic and socio-emotional challenges.
- Launch of Grupo Maringá Academy.
- Active teaching approach and greater connection with key development priorities.
- Diversity and Inclusion Training for Leadership (69.5% of leaders trained).
- Self-declaration of color, with a 97% coverage.
- Compliance with the Agenda with 14 actions related to Diversity & Inclusion.

LOCAL DEVELOPMENT AND IMPACT ON COMMUNITIES

- Participation of employees in external social project events.
- Recurrent blood donation campaign in Itapeva (SP).
- Winter clothing campaign.

INNOVATION AND TECHNOLOGY

- Improvements in the Group's Excellence Program (PEx), with an emphasis on transformation towards broad sustainability (social, economic and environmental).
- PEx meeting, with presentation of 28 improvement projects completed in the last two years.

Integration, people centrality and resilience

We recognize the important evolution achieved in our organizational practices and culture. At the same time, we are aware of and responsible for the relevant challenges to ensure the effectiveness of our sustainable strategy. With this balanced perception, we continue to improve our governance and strategic management, in order to promote integration, people centrality and resilience, the foundations of our sustainable strategy.

Carlos Alberto, Everaldo Licorini and Claudinei Menezes (Extr/Electric Utilities Managers))

Governance

- *Corporate governance*
- *Ethics and integrity*
- *Risk management*

Lidia Amelia (Human Resources Analyst)

Corporate governance

GRI 2-23

We are a privately held organization. However, to reinforce our commitment to transparency and the credibility of our internal actions, we opted for a governance model aligned with market best practices and organizations such as the Brazilian Institute of Corporate Governance (IBGC) over a decade ago. To this end, our Board of Directors and Executive Board, the highest management and decision-making bodies, are committed to our Vision, Mission and Values, to complying with the sustainable business strategy, to ethical and transparent conduct and processes, and to the creation and sharing of value with stakeholders. **GRI 2-14**

The members of our Board of Directors are elected at the General Meeting for two-year terms of office, with re-election permitted. The composition considers qualifications and experiences that contribute to our business. Their duties are: to promote and guide the business strategy to contribute to sustainable development; to monitor the execution of defined plans and investments, as well as the direct and indirect results and impacts; and to evaluate and approve policies and guidelines that enhance management and operations. The Board of Directors is currently made up of at least 60% of independent members who meet, ordinarily, once a month, and extraordinarily, whenever necessary. It is made up of people with solid training and experience in various strategic topics for our business. **GRI 2-9 I 2-10 | 2-17**

To contribute with analyses, information, proposals and/or recommendations regarding specific subjects, three committees were set up: the People Committee, which provides guidance on planning of actions and management related to employees; the Audit, Risks and Compliance committee, responsible for supporting the conduct of internal audits, selection and hiring of companies that assist us with the qualification of internal controls and risk management and the reliability of operational and financial information, in addition to advising on topics related to sustainability; and the Mining Committee, which monitors our mineral extraction activities and proposes improvements, including prospecting for undertakings and investments. **GRI 2-12 | 2-16**

The Executive Board, in turn, is made up of professionals recruited from the market due to their proven skills and experience. They are appointed by the Board of Directors and elected at the General Shareholders' Meeting, to whom they render accounts and maintain a close and constant relationship for the exchange of information and updates on strategy and its implementation. At the end of 2023, the Executive Board was made up of those responsible for the following topics: Steel unit operations, Steel unit Commercial & Supply Chain, Sugar-Energy Operations, Mineração Moema Operations, Mineração Moema Administrative-Financial areas, Corporate, Chief Executive Officer of Sugar-Energy and Chief Executive Officer of Steel industry. The performance of incumbents is assessed on a periodic basis. **GRI 2-18**

COMPOSITION OF THE BOARD OF DIRECTORS

GRI 2-11

- **Nelson Magalhães Graça**
  Chairman
- **Guilherme Dale**
  Independent board member
- **Henrique Luz**
  Independent board member
- **Marconi Vianna**
  Independent board member

The officers have the support of Corporate (Controllership, Strategy and Management Office, Finance, Supplies, Human Resources, Communication, Diversity and Inclusion, and Information Technology) departments, which propose measures to increase efficiency and continuous improvement in the management model. The Business Unit departments also assist executives, ensuring operational efficiency and employee development. There are also Working Groups made up of key people who manage strategic business topics. Strategic tax decisions are approved by the Corporate Executive Board, which receives support from a specialized team and external advisors. Tax risks are monitored internally through internal auditing and review of tax obligations.

The Compliance, Risk and Audit Committee is responsible for promoting discussions on sustainability, risks and compliance. Every quarter, it shares its concerns and proposals with the Board of Directors. Likewise, the other committees, Mining and People, ensure that their areas of interest are presented and assessed by the Board of Directors at its regular meetings and, if necessary, at extraordinary meetings. Furthermore, the Executive Board plays an important role in analyzing and developing the topics presented, which are submitted to the Board of Directors. Continuous assessment of market and industry is a constant agenda at meetings, which always keeps up to date with the sector's concerns. **GRI 2-13**

Additionally, in 2023 we began building the Corporate Risk Matrix, which aims to map the most relevant risks for our operations. This work will be another source for monitoring concerns in 2024.

During the year, around 15 crucial concerns for the Board of Directors were identified, ranging from regulatory issues to challenges with raw material suppliers. **GRI 2-16**

Jaqueline de Godoy
(Agricultural Planning Analyst)

Ethics and integrity

GRI 2-24 | 3-3 | 13.16.1 | 13.17.1 | 13.18.1 | 13.25.1 | 13.26.1 - Ethics, integrity and human rights

We value transparency, honesty and integrity in business management. These attributes permeate relationships with our stakeholders, who are also encouraged to adopt them, and include complying with national and international laws and regulations applicable to the business.

Ethics and compliance topics are constantly addressed and represent the development of our Integrity and Respect values. They are recurrent, for example, in meetings of the Board of Directors, committees, Executive Board departments and in events with the participation of employees. We also disseminate information and guidance to all these audiences through reflections and active approaches to learning of our people.

In 2023, we held the Ethics and Integrity Workshop for the first time, which will from now on be held annually and included two hybrid meetings. The activities were guided by the most frequent topics in our Ombudsman Channel. The aim is to encourage confronting real problems and improve our practices in addressing them. Participants were able to debate the issues, reflect and discuss practical cases to identify and critically assess alternative approaches in situations of deviations from our code of conduct.

Another training offered during the period was on Humanized and Assertive Leadership during our Sustainable Strategy Workshop. We brought together officers, managers, coordinators, and other key people from our business units, in the city of Cambará (PR), with the support of consultant Felipe Urbano, who has extensive experience in leadership and organizational culture. We shared concepts and carry out group dynamics that contributed to the development of our leadership in the challenge of reconciling the pursuit of operational and economic objectives with the promotion of our employees' well-being and growth.

Our tax strategy is based on tax compliance, maximizing available tax benefits and mitigating risks related to fiscal legislation. We believe in an ethical and responsible approach to tax aspects, aligned with our corporate values. We also constantly assess tax optimization opportunities and relevant impacts of legislative changes on business. Our practices are based on legality and ethics, avoiding any form of tax evasion. **GRI 207-1 | 207-2**

We also have a set of procedures and measures to identify and manage situations that put our Code of Conduct and Values at risk, including situations of conflict of interest. These situations are continuously assessed by the Compliance Working Group, promoting reflections, discussions and corrective and preventive actions, with the participation of managers, Executive Board, Audit, Risks and Compliance Committee, People Committee and Board of Directors. **GRI 2-15**

Operations assessed for risks related to corruption

GRI 205-1 | 205-3 | 13.26.2 | 13.26.4

	2021	2022	2023
Total number of operations	3	3	3
Number of operations subject to corruption-related risk assessments	3	3	3
Percentage of operations assessed for corruption-related risks (%)	100%	100%	100%
Confirmed cases of corruption	0	1	0

ASSOCIATIONS AND EXTERNAL INITIATIVES

GRI 2-28

STEEL INDUSTRY

***Associação Brasileira de Grandes Consumidores Industriais de Energia e de Consumidores Livres* [Brazilian Association of Large Industrial Energy Consumers and Free Consumers] (Abrace)**
One of the oldest entities in the electricity sector, it defends, based on studies and technical documents, the importance of energy at competitive prices to develop the productive sector in Brazil. Maringá Ferro-Liga has been a member since 2015.

***Associação Brasileira dos Produtores de Ferroligas e Silício Metálico* [Brazilian Association of Ferroalloy and Silicon Metal Producers] (Abrafe)**
It brings together the main Brazilian industrial groups producing ferroalloys and silicon metal, contributing to the sustainable development of Brazil. The steel industry has been a member since 1983, with our industrial officer Rodrigo Junqueira as vice-president since 2019.

***Conselho Municipal de Defesa do Environment* [Municipal Environmental Defense Council] (Comdema)**
A local environmental management instrument that unites public bodies, companies, politicians and organizations in search of solutions for the rational use of natural resources and the recovery of environmental damage.

International Manganese Institute (IMnI)
Maringá Ferro-Liga has adhered to the entity's Code of Conduct since 2017, undertaking, among other aspects, to respect the concept of sustainability and implement continuous efforts to exercise the best practices and market standards in safety, health, and environment areas. It is also committed to conducting its business and operations in a manner that supports the positive image of the manganese industry.

***Sociedade de Investigações Florestais* [Forestry Research Society] (SIF), at the Federal University of Viçosa**
It is a partnership between the university and the main forestry companies in Brazil, aiming to support the development of research and professional qualification based on scientific, economic and social and environmental projects.

SINFERSI
Union of Ferroalloys and Silicon Metal Industries of the State of Minas Gerais

Union of Ferroalloy Industries of the State of São Paulo (SINIFESP)
Maringá holding vice presidency from Aug/21 to Aug/25.

Federation of Industries of the State of São Paulo (FIESP)
Maringá represents FIESP with a seat on the entity's executive board (Jan/23 to Jan/25)

SUGAR-ENERGY

Environmental Protection Agency (EPA) Certification
Required to export ethanol to the USA, it certifies that the fuel meets all requirements linked to reducing Greenhouse Gas (GHG) emissions.

Halal Certificate No. alv.jo.2104.2038. Bra
Since 2018, sugar production has been certified for its compliance with Islamic laws and standards.

Food Safety System Certification (FSSC 22000) Our white sugar production has been certified since 2018, guaranteeing food safety.

Renovabio
In 2020, we were certified in the National Biofuels Program, thus being qualified to issue and sell CBIOs.

Sugar bagging

MINING

***Instituto Brasileiro de Mineração* [Brazilian Mining Institute] (IBRAM)**
Considered the spokesperson for Brazilian mining, the institute brings together more than 180 members to promote innovations in the sector and disseminate the best technological practices on the market.

GRUPO MARINGÁ

Brazilian GHG Protocol Program (PBGHGP)
In 2023, we voluntarily joined the PBGHGP, which aims to stimulate a corporate culture for preparation and publication of Greenhouse Gas (GHG) emissions inventories. The initiative stems from the Sustainable Strategy Program. In October, we won the Gold Seal for base year 2022 inventory.

Business Pact for Integrity and against Corruption Voluntary commitment made by us since 2022, whose objective is to unite private and public companies to promote a more honest and ethical market.

Roberto Marques, Camila Bettine e Ismail Pereira (Water Treatment Analyst, Planning Analyst and Sampler)

OMBUDSMAN CHANNEL

GRI 2-26

The outsourcing of our Ombudsman Channel, in 2022, aimed to increase reliability and objectivity in the handling of reports. The measure had an important impact on the increase in the number of reports – from 38 to 91 from 2022 to 2023. During the year, we matured the handling of these reports, with improvements in the investigation, assessment and response process. The average time to resolve cases decreased from 71 to 45 days. We also started to produce monthly documents with a descriptive summary of the reports for officers, People and Audit, Risks and Compliance committees. The Ombudsman Channel is available to anyone, internally and externally, 24 hours a day, via website (https://www.canalconfidencial.com.br/grupomaringa/) and telephone (0800 300 4529 (Monday through Sunday, 24 hours a day). Anonymity of those who use the channel is guaranteed, in addition to non-retaliation.

The reports are initially received by the outsourced company, which classifies them and conducts a preliminary analysis. They are then forwarded to the Compliance Working Group, which analyzes each case in detail and establishes the actions for its handling, and then returns to the person in charge of the report.

To track the effectiveness of the reporting mechanisms, the Grupo Maringá internally measures the response rate and the time taken to provide feedback to the whistleblower. **GRI 2-25**

CODE OF CONDUCT

GRI 2-23 | 2-24

Our Code of Conduct, updated in 2023, is disseminated and reinforced internally and presented to every professional hired as soon as they join the team. All employees sign an acknowledgment instrument, which also accompanies our contracts with suppliers and customers – from whom we also expect compliance with the guidelines.

The Code details guidelines related to routine and decision-making actions, reducing the risk of subjective interpretations regarding moral, ethical and behavioral aspects. It also provides instructions on where and how to solve doubts and report misconduct. The document addresses employees' commitments, competition and market practices, ethical and legal business practices, its application and punishments in cases of violation. In 2023, the Code began to cover topics related to human rights more extensively, such as respect for diversity and types of harassment.

Risk management

GRI 2-25 | 2-24

In 2023, the continuous evolution process towards a more synergistic and unified risk management between different areas and business units, aligned with benchmark organizations in this area, was among our priorities. To this end, we conducted a process to build our Corporate Risk Matrix, in partnership with a specialized external company, which will be completed in 2024. Throughout the year, we investigated, with the support of 45 interviewees, including officers, managers, shareholders, coordinators and supervisors of corporate areas and our units, the main risks to our business.

For management, monitoring and reporting purposes, these risks were assessed and classified considering their scope, as follows: Group – Risk applicable to all companies in the group; Sugar-energy – Risk applicable only to Usina Jacarezinho, Canavieira Jacarezinho and Maringá Energia; steel industry – Risk applicable only to Maringá Ferro-Liga; and mining – Risk applicable only to Mineração Moema.

We also developed previews of an impact rule, which considers quantitative and qualitative vectors for risk assessment and classification, as well as their probabilities of consummation.

We expect the matrix and the Risk Management Program to be defined by mid-2024.

The partner consulting company will also forward proposals for risk response actions, to be detailed and deepened in action plans by risk managers, and we plan to incorporate a system for monitoring indicators related to them. The entire process is being conducted considering the Enterprise Risk Management framework of the Committee of Sponsoring Organizations (COSO).

For 2024, our objective is to increasingly integrate risk management into our strategic management, seeking to improve its maturity among leadership.

We also maintain an internal auditing, whose performance follows the standards applicable to publicly-held companies and has the support of an independent consulting company. In 2023, the 3rd cycle of assessments took place, which covered processes in Supplies, People, Tax, Integrated Producers and Finance areas. During this period, we intensified the participation of the team dedicated to risk management in understanding the diagnosis and establishing mitigating actions, with a view to maturing our culture in relation to this topic. We have also reinforced, year after year, the cooperative stance between auditors and teams in the areas assessed to improve the identification of flaws and potentialities and to determine measures to address them. Our internal audits detected 25 vulnerabilities, which have now been addressed by those responsible for them through the application of mitigation plans.

For 2024, our objective is to increasingly integrate Risk Management into our strategic management, seeking to improve its maturity among leadership.

INFORMATION SECURITY

Due to the relevance of this topic in the current context and the constant increase in cyber risks for companies, in 2023 we allocated qualified professionals from our Information Technology area to engage especially in Information Security management and tasks. Furthermore, we have established strategic partnerships with specialized companies and regularly conducted tests to identify vulnerabilities and social engineering.

During the year, we adopted the Security Information and Event Management (SIEM) platform, which allows real-time collection, correlation and analysis of security data.

To promote a culture of information security, we share informative materials with our employees, offering tips and guidance to mitigate risks associated with the daily use of technology. We also organize training and lectures addressing this topic, ensuring that our people are informed.

Employees were made aware of our Corporate Information Security Policy, whose main objective is to preserve our assets and those of our partners against any type of threat, either internal or external, intentional or accidental. Additionally, we have a set of regulations that offers guidance on this topic and directs responsibilities in the use of information technology.

Luciano Martins (Civil Maintenance Supervisor)

Maeda Farm Lake

Environment

- *Forests*
- *Bio-reductant*
- *Agricultural practices*
- *Emissions*
- *Energy*
- *Water*
- *Solid waste*

We recognize the importance of promoting actions and changes in our processes to continue reducing impacts of our operations on the environment. We are committed to contributing to mitigate phenomena such as climate change, aware of the potential effects on our business and revenues. This is evident in our business, where recurring extreme weather events pose significant challenges.

We opt for alternative raw materials and inputs that have a lower environmental impact,aiming to maximize the use of the resources provided by nature, and also for recycling and/or reinserting by-products into production chains. Furthermore, we strictly comply with all environmental laws applicable to our operations, which includes being responsible for maintaining more than 7 thousand hectares of Permanent Preservation Areas (APP) and Legal Preservation Areas (RL) in Paraná, Pará and São Paulo, near our production units. **GRI 2-27**

Concurrently, we increasingly diagnose, measure and monitor environmental variables to accurately understand the possibility of our impacts on nature and to implement effective controls. These efforts are essential for achieving clarity and assertiveness in the actions we need to take, ensuring effectively fulfilling our commitments.


Alexandre Costa (Motor pump operator)

Operating units within or adjacent to the environmental protection

GRI 304-1 | 13.3.2 | EM-MM-160a.3

Sugar-energy				
Name	**Location**	**Property**	**Situation**	**Size (ha)**
Jacarezinho Area	Jacarezinho (PR)	Privately owned or captive areas and partnership	Adjacent	10,348
Santo Antônio da Platina Area	Santo Antônio da Platina (PR)	Partnership	Adjacent	984
Cambará Area	Cambará (PR)	Partnership	Adjacent	968
Ourinhos Area	Ourinhos (SP)	Partnership	Adjacent	1,593
Itambaracá area	Andirá (PR)	Partnership	Adjacent	43
Chavantes Area	Chavantes (SP)	Partnership	Adjacent	97
Ibirarema Area	Ibirarema (SP)	Partnership	Adjacent	802

Note 1 – Steel industry: there are no areas within or adjacent to environmental protection areas.
Mining: Mineração Moema Mine facilities are located in a settlement area, which is monitored by the National Institute of Colonization and Agrarian Reform (INCRA).

Note 2 - There is no study on biodiversity value in the areas mentioned.

Species included on the IUCN Red List and national conservation lists with habitats in areas affected by the organization's operations GRI 304-4

Siderurgia	IUCN	SP	ICMBio	MMA
Critically endangered	0	0	0	0
Threatened	0	3	0	0
Vulnerable	5	7	1	6
Near threatened	1	10	0	1
Little concern	60	44	0	57

Notes:
Occurring Species: Avifauna, Herpetofauna, Mastofauna and Flora.
IUCN - International Union for Conservation of Nature
SP - Threatened Fauna of the State of São Paulo
ICMBio - Chico Mendes Institute for Biodiversity Conservation
MMA - Ministry of the Environment

References:
SP – Threatened Fauna of the State of São Paulo
ICMBio – Official List of Brazilian Fauna Threatened with Extinction
IUCN – Red List of Threatened Species 2020

Note - There is no data available for Sugar-energy and Mining.

Forests

GRI 3-3 - Sustainable agricultural and forestry practices

Maintaining owned eucalyptus forests, whose wood is used in the production of bio-reductant (charcoal) that feeds Maringá Ferro-Liga furnaces (*see more on page 85*) is a crucial strategy to increase our economic and environmental efficiency. The use of eucalyptus allows us to reduce costs and sources of non-renewable raw materials, whose prices have increased significantly, and maintain a ferroalloy manufacturing process with one of the lowest greenhouse gas emissions in the world.

Of the total of approximately 10 thousand hectares, our forestry operations cover an area of 5 thousand hectares; the other 5 thousand hectares are preservation areas. On average, we plant between 1.2 and 1.4 million trees per year. At the end of 2023, we completed the inventory of this area. The analysis revealed that we have approximately 8.8 million trees planted, in harmony with native vegetation, which is constantly protected on our properties. The inventory is a valuable tool for managing and planning our activities, since it indicates the current capacity and average annual growth of our forests, allowing us to monitor tree growth and optimize productivity. This monitoring is essential to sustain the increase in bio-reductant production. Therefore, our objective is to expand it in the coming years.

We continually invest to improve our forestry activity. This encompasses contracting solutions for precision forestry, georeferencing, soil nutrient analysis, monitoring of rainfall index and average temperature, as well as partnerships with suppliers of seedlings adapted to regional climate conditions and with characteristics suitable for the production of bio-reductants. Through mapping these edaphoclimatic characteristics, present in our forests, it is possible to carry out the most appropriate management for each region. This will allow us to reduce the application of fertilizers and phytosanitary products, as we will being able to have specific prescriptions for each region, in addition to selecting the best genetic materials.

Maringá Ferro-Liga Forestry sector is responsible for selecting genetic materials, for planting and for all forestry management techniques applied to forests. We also monitor the quality of wood that arrives at the bio-reductant producing units and control production processes and quality of bio-reductant shipped to the ferroalloy plant.

During the year, we completed the process of insourcing eucalyptus harvest, started in the previous period, which provides greater operational and supply security.

We implemented a similar measure for the wood transport activity, adopting a mixed system, which combines machinery rental with owned operation.

We also started a beekeeping project in partnership with local honey producer associations. We allow them to access our forest areas to install the boxes/hives and collect the product. This partnership contributes to the generation of income and the development of locations in which we operate. In 2024, we will have the first shipment of honey from this initiative, in which 90% of all production comes from our partners.

Bio-reductant

In 2023, we produced approximately 36 thousand tons of bio-reductant that supplies Maringá Ferro-Liga's electric furnaces. This volume is higher than that recorded in the previous year and higher than our expectations for the period. Our bio-reductant production units were responsible for 61% of the input consumed by Maringá Ferro-Liga, a 6% increase compared to 2022.

Own bio-reductant

During the year, we completed the installation of another four rectangular furnaces at Maringá Bio-reductant Production Unit (UPR), totaling 35. With this, we completed the unit restructuring, replacing old circular furnaces with equipment with greater production capacity, more efficiency and lower emissions of polluting gases. We also restructured the distribution of gas burners in the carbonization plant, reducing from eight to five burners, resulting in less generation of polluting gases. Additionally, we are implementing valves to control air intake in furnaces. These improvements lead to more effective control of the carbonization process, resulting in increased productivity and improved quality of the bio-reductant produced.

We plan to reach 42 thousand tons in 2024, which will be possible with start-up of new bio-reductant production units, the UPRs Tamanduá and São Sebastião. These units will be equipped with rectangular furnaces, allowing the use of mechanized activities and more advanced and efficient technologies. With the implementation of these improvements, we hope to increase our bio-reductant production, contributing to the sustainability and efficiency of our operations.

We are committed to continuing to reduce dependence on mineral-based reductants and bio-reductants from external suppliers. This strategy allows us to improve the working environment for our employees, reduce costs and the emission of polluting gases in the production of ferroalloys, crucial factors for our strategy and competitiveness, meeting the growing market demand for increasingly sustainable products.

Agricultural practices

GRI 3-3 | 13.3.1 | 13.4.1 | 13.5.1 | 13.6.1 - Sustainable agricultural and forestry practices

Identification and selection of the best solutions for sugarcane cultivation play a decisive role in achieving satisfactory results in the field and good factory performance. With increases in efficiency and productivity, we consolidate attributes that allow us to overcome, without major fluctuations, periods of climate adversity, such as the one experienced in 2023, and also positively impact the environment and contribute to the success of our Integrated Producers (*read more on the page 78*).

In 2023, we were surprised by a period with low rainfall at the time of sugarcane development. Even so, we ended the year with an average of 87.84 tons of sugarcane per hectare, slightly below that recorded in 2022 (89.95). In our cultivation areas, and in those of our partners, we introduced technologies, techniques and inputs to guarantee good production, cost reduction, increased productivity and environmental gains.

For example, we continue to employ and disseminate the Interrotational Method Occurring Simultaneously (Meiosi), that is, the combination of sugarcane cultivation with other species of economic and environmental interest, such as soybeans, which brings financial and soil fertility benefits, in addition to combating pests. We also harvest raw sugarcane, without burning, with straw deposited on the soil, enabling its enrichment and conservation, and control traffic on the sugarcane fields, to prevent land-compaction.

In 2023, 96% of sugarcane cultivation in privately owned or captive areas, partnerships and integrated producers (34,261 hectares of arable area) will be free from deforestation or vegetation conversion, according to data certified by Renovabio. **GRI 13.4.2 | 13.4.3 | 13.4.4 | 13.4.5**

In 2023, we completed the insourcing of mechanized planting, which is now 100% owned, and invested, as in previous periods, in renewing our fleet. We have also increased the use of road trains for transportation from the farm to the industry, representing lower costs, and less fuel consumption and emissions – approximately 44% of transportation is already carried out with these vehicles. We worked throughout the period to advance in harvest telemetry, a technology whose intensive use should occur in 2024. It allows better decision-making, at the right time, and based on data.

Vinasse is an effluent generated in the production of ethanol, a source rich in potassium (K), which returns to the crop as fertilizer, avoiding the use of mineral fertilizers. In 2023, we installed the localized vinasse structure in the sugarcane line and in the right quantity, enabling addition of other nutrients, and resulting in more complete and efficient fertilization. This novelty was used on 2,500 hectares, applied even in more distant sugarcane fields.

We also improved the composting process of another industrial waste, the filter cake, which comes from sludge filtration, and is composed of important organic matter and minerals for sugarcane nutrition, such as phosphorus, nitrogen and calcium, increasing agricultural productivity without harming the environment. During the year, we used 86,290 kg of this organic fertilizer – a 16% increase compared to 2022.

Although we prioritize biological pest control, if the use chemical products is necessary, we choose those with the least impact on the environment. If it is highly toxic, we carry out the application in accordance with the manufacturer's instructions and respecting the climate conditions at the time of application, minimizing risks.

For 2024, two major projects should positively impact our agricultural activities in the economic, agronomic and environmental spheres. The first, organization of a Liquid Fertilizer Plant, will allow dilution and enrichment of vinasse with nitrogen, phosphorus, potassium and micronutrients. The other is the Biofactory, where we will originate, for example, biological nematicides, bacteria and fungi, such as those of the Azospirillum genus, which have the ability to fix nitrogen. The two new structures reflect our maturity and that of producers in relation to the use of biological products, which is due to the empirical evidence obtained in experiments and field tests, about the good results they provide.

Volume and intensity of agrochemicals used according to the following toxicity levels GRI 13.6.2

Sugar-energy	Liters			kg		
	2021	**2022**	**2023**	**2021**	**2022**	**2023**
Highly toxic	680	2,517	1,059	522	151	458
Moderately toxic	52	64	1,240	5,273	4,892	358
Little toxic	24,963	23,085	40,339	1,479	898	476
Unlikely to cause acute harm	38,048	44,258	56,759	6,805	4,633	622

Note - The total number of agrochemicals classified as "extremely toxic" was 0 (zero) in the last three years.

Total area of land under active production (ha) FB-AG-000 C

	2021	**2022**	**2023**
Privately owned or captive areas and partnerships	11,435	10,733	11,413
PIC areas	17,150	17,737	17,402
Total	28,585	28,470	28,815

Sugarcane seedling nursery

RENOVABIO

Considering the current certificate, obtained in October 2022 and valid until October 2025, we recorded improved performance in Renovabio, a national biofuels policy that aims to expand biofuels in the Brazilian energy matrix and induce efficiency gains in reducing greenhouse gas emissions effect on production. When compared to the previous certificate, our Energy-Environmental Efficiency scores went from 53.30 to 55.79 gCO2eq/MJ in relation to hydrous ethanol, and from 53.60 to 56.14 gCO2eq/MJ for anhydrous ethanol, in addition to having an increase of 3.15 percentage points in eligibility volume, currently at 94.39%. Among the factors that impacted the result is our requirement for Integrated Sugarcane Producers to submit their Rural Environmental registry (CAR) to ensure that cultivation only occurs in regular areas. Other aspects that contributed to progress are the use of sustainable alternatives in agricultural management with mitigation of Greenhouse Gas emissions.

Between 2020 and 2023, within the scope of Renovabio, we were able to issue 285.4 thousand Decarbonization Credits (CBIOs), equivalent to R$18 million, in environmental assets negotiated with fossil fuel distributors, which acquire them to offset polluting emissions, and with interested investors. Each security corresponds to one ton of carbon that is no longer emitted into the atmosphere.

FIRES GRI 2-25

Accidental and/or criminal occurrences continue in our sugarcane fields, being worse in years marked by droughts, such as 2023. We maintain a robust structure for preventing, monitoring and fighting fires, as well as awareness campaigns – via radio, posters on buses, billboards and visits to schools – intended for producers and communities, about safety and health risks and environmental damage. We also provide whistleblowing and alert channels: (43) 99110-7149 (Whatsapp) and Ombudsman Channel on our website.

At Jacarezinho, we keep 78 constantly trained firefighters and 11 trucks to contain fires, in addition to 24-hour monitoring in the sugarcane fields – fires are mostly caused by people passing through them –, in Permanent Preservation Areas and in Legal Preservation Areas. We also have a Mutual Aid Plan, with another sugar-energy plant in the region of Ourinhos (SP), for reciprocal support in case of incidents. In 2023, as part of the agreement, we held a fire drill.

In 2024, more towers equipped with high-definition cameras and satellite observation will be introduced, which permits identification of areas of intense heat across the plantations.

São João Farm

Emissions

GRI 3-3 | 13.1.1 | 13.2.1 | 13.7.1 | 13.8.1 - Climate Change

To achieve our goal of reducing Greenhouse Gas (GHG) emissions in our operations, we took another important step forward in 2023 by winning the Gold Seal of the Brazilian GHG Protocol Program (PBGHGP) for the 2022 GHG inventory. This is a recognition of the quality of our inventory, ensured by an independent company and published in the Public Emissions Registry (RPE), providing confidence in the veracity of the information to support our actions.

For the GHG emissions inventories reported in this document, we followed the GHG Protocol methodology, consolidated by operational control.

Throughout our operations, we seek to mitigate the emission of polluting gases, which includes the adoption of the following resources and/or practices:

- Increased logistical efficiency;
- Replacement of reductants of fossil origin with bio-reductant (charcoal) produced by Maringá Ferro-Liga itself;
- Modernization of furnaces in the production of charcoal and ferroalloys;
- Use of electricity from renewable sources;
- Expansion of energy cogeneration;
- Increased efficiency in agricultural activities to minimize consumption of fossil fuel and alternative sources of nitrogen;
- Fighting criminal fires;
- Proper planting and management of forests with increased CO_2 capture by trees;
- Monitoring our emissions.

The Emissions Management project is underway, and we are working to develop the Emissions Mitigation Plan, which will enable us to establish projects for priority implementation.

In 2023, Maringá Ferro-Liga also answered the questionnaire from the Carbon Disclosure Project (CDP), a global non-governmental organization that mobilizes investors, companies and government agencies to obtain information on Greenhouse Gas emissions and actions to mitigate them. The initiative complied with a request from a Brazilian customer

Another European company in the steel segment, and also a consumer of our ferroalloys, assessed us in relation to environmental (including emissions), social and governance aspects. These actions enabled us, among other measures, to maintain an information bank more compliant with ISO 14.064, which precisely addresses processes related to verification and validation of emissions inventories and GHG mitigation projects.

In the sugar-energy sector units, in addition to our emissions inventory, we collect and disseminate information through Copersucar's sustainability and GHG indicators. Also within the scope of Renovabio, we monitor and collect e data, which includes the amount of GHG released throughout the life cycle of ethanol types, from production of raw material to its use by consumers.

ENVIRONMENTAL RECOVERY

At Mineração Moema, an analysis of areas for environmental adequacy was conducted at Moema II, and recovery actions were outlined for each of the areas, considering the stage of each of the points assessed. Based on technical indications made by a specialized company, grass hydroseeding activities were carried out, in addition to the planting of seedlings of native species, as recommended in the Degraded Areas Recovery Plan (PRAD).

Gilberto Barbosa
(Gas Station Attendant)

Sugar-energy

Scope 1 GRI 305-1 | 13.1.2 | FB-AG-110a.1	2021	2022	2023
Emissões diretas GEE (tCO_2eq)			
Mobile combustion	18,234	20,911	20,125
Stationary combustion	9,729	10,252	9,623
Industrial processes	-	-	2
Solid waste and liquid effluents	51	13,147	15,195
Fugitive emissions	757	790	594
Agricultural activities	14,379	10,519	18,123
Total Scope 1 emissions	43,151	55,620	63,662
Biogenic emissions (tCO_2eq)	848,980	670,183	645,806
Scope 2 GRI 305-2 | 13.1.3	**2021**	**2022**	**2023**
Indirect emissions from energy acquisition (tCO_2eq)			
Electricity	239	46	0.43
Scope 3 GRI 305-3 | 13.1.4	**2021**	**2022**	**2023**
Other indirect emissions (tCO_2eq)	3,124	3,309	2,206
Other indirect biogenic emissions (tCO_2eq)	382	349	257
GHG emission intensity GRI 305-4 | 13.1.5	**2021**	**2022**	**2023**
Total GHG emissions (tCO_2eq)	43,390	55,665	63,662
Intensity (tCO_2eq/t sugarcane crushing)	0.018	0.022	0.03

Note 1 - Sugar-energy scope 2 includes 50% of electricity purchased from Grupo Maringá's corporate headquarters, located in the city of São Paulo.

Note 2 - To calculate intensity, scope 1 and 2 non-biogenic emissions were considered. And the quantity of crushed sugarcane was used as denominator.

Note 3 - Gases considered in the calculation are: CO_2, CH_4, N_2O and HFCs.

Steel industry

Scope 1 GRI 305-1	2021	2022	2023
Direct GHG emissions (tCO_2eq)			
Mobile combustion	1,024	1,155	2,018
Stationary combustion	99	103	43
Industrial processes	89,817	67,964	76,842
Solid waste and liquid effluents	25	24	21
Fugitive emissions	176	146	5
Agricultural activities	232	157	147
Total Scope 1 emissions	91,373	69,550	79,076
Biogenic emissions (tCO_2eq)	62,181	82,405	84,199
Biogenic removals (tCO_2eq)	228,904	228,991	226,170
Scope 2 GRI 305-2	**2021**	**2022**	**2023**
Indirect emissions from energy acquisition (tCO_2eq)			
Electricity (based on purchasing choice)	37,355	8,066	5,284
Electricity (location-based)	37,355	11,565	8,479
Scope 3 GRI 305-3	**2021**	**2022**	**2023**
Other indirect emissions (tCO_2eq)	10,671	14,566	8,100
Other indirect biogenic emissions (tCO_2eq)	4,511	35,293	22,103
GHG emissions intensity GRI 305-4	**2021**	**2022**	**2023**
Total GHG emissions - based on purchasing choice (tCO_2eq)	128,728	77,616	84,360
Total GHG emissions - based on location (tCO_2eq)	128,728	81,115	87,554
Intensity - based on purchase choice (tCO_2eq/t alloy)	1.27	0.85	0.93
Intensity - based on location (tCO_2eq/t alloy)	1.27	0.89	0.96

Note 1 - Steel industry scope 2 includes 50% of electricity purchased from Grupo Maringá's corporate headquarters, located in the city of São Paulo.

Note 2 - To calculate intensity, scope 1 and 2 non-biogenic emissions were considered. And the net quantity of ferroalloy produced was used as denominator.

Note 3 - Gases considered in the calculation are: CO_2, CH_4, N_2O and HFCs.

Mining

Scope 1 GRI 305-1	2022	2023
Direct GHG emissions (tCO_2eq)		
Mobile combustion	781	507
Stationary combustion	151	-
Solid waste and liquid effluents	3	3
Fugitive emissions	97	-
Agricultural activities	-	1
Change in land use	-	-
Total Scope 1 emissions	1,032	511
Biogenic emissions (tCO_2eq)	95	59
Biogenic removals (tCO_2eq)	-	919
Scope 2 GRI 305-2	**2022**	**2023**
Indirect emissions from energy acquisition (tCO_2eq)		
Electricity	2	1
Scope 3 GRI 305-3	**2022**	**2023**
Other indirect emissions (tCO_2eq)	2,013	12,941
Other indirect biogenic emissions (tCO_2eq)	205	1,544
GHG emissions intensity GRI 305-4	**2022**	**2023**
Total GHG emissions (tCO_2eq)	1,034	512
Intensity (tCO_2eq/tmanganese ore)	0.016	0.04

Note 1 - There is no data available for 2021, which was the first year of our mining operation.

Note 2 - To calculate the intensity of GHG emissions, scope 1 and 2 non-biogenic emissions were considered. And the quantity in tons of manganese ore produced was used as denominator.

Note 3 - Gases considered in the calculation are: CO2, CH4 and N2O.

Note 4 - Refrigerant gas is used; however, there is no established control to obtain data and, therefore, it was not possible to report it in the inventory.

Note 5 - Emissions related to fuel consumption are included in the Mobile Combustion category given that the control used does not allow fuel data to be distinguished by equipment.

Significant air emissions

Steel industry GRI 305-7 | SASB EM-IS-120a.1

mg/Nm³	2021	2022	2023
NOx	65	81	47
Particulate Matter (PM)	14	9	18

Note - Values calculated by the average of the furnaces' five sources (chimneys), considering the limit of CONAMA 436/11 parameter.

Sugar-energy GRI 305-7 | 13.1.8 | SASB RR-BI-120a.1 | IF-EU-120a.1

mg/Nm³	2021	2022	2023
NOx	286	229	326
Particulate Matter (PM)	135	97	133

Note - Values calculated by the average of the four boilers.

Bagasse and sugar cane

Energy

GRI 3-3 – Energy efficiency

Energy self-sufficiency is already a reality at our units in Jacarezinho (PR), and expanding it remains a goal of Maringá Ferro-Liga, in Itapeva (SP), since the electricity input accounts for approximately 18% of production cost.

To supply our steel industry, in addition to purchasing electricity through bilateral contracts with the largest renewable energy generators, we have six Hydroelectric Powerplants (CGHs), five of which are operated remotely and concentrated in an Operations Center, which in 2023 contributed approximately 16% of our electricity consumption. Own generation reached 53,419 MWh, a result of rain distribution throughout the year and an excellent indicator of machine availability. The result was achieved despite the temporary shutdown of CGH São José, the only one with local operation. Since it is our smallest plant, its generation costs are no longer competitive in relation to the external market.

During the period, we maintained investments in repowering of Poço Preto 2 plant, whose installed capacity will double after completion of the works, reaching 8 MW. Some environmental licensing challenges made us extend the schedule, and we are expecting completion in 2025. The increase in generation should boost our share of generation in the plant's energy consumption to more than 30%. Throughout 2023, we continued prospecting to identify opportunities for wind and photovoltaic generation.

Another important project set out was the study of connecting the CGHs with Elektro concessionaire distribution grid, enabling interconnection of our generation systems in parallel with that of the distributor that serves the region. Our CGHs are not connected to the National Integrated System (SIN), and, by adopting the solution, we will make important gains in stability of energy supply to the plant, especially supply frequency. Parallelism will ensure that any shutdowns due to technical issues are minimized, which should increase our machine availability and energy generation indicators, in addition to improving the quality of the energy injected into the furnaces.

Total electricity consumption of Maringá Ferro-Liga, in 2023, was 326,540 MWh, a decrease of 0.8% compared to the previous year. The reduction is mainly due to the shutdown of one of our five furnaces, as a way of reducing costs and adjusting to market demand during the year.

Maringá Energia, which engages in cogeneration from sugarcane bagasse, a residue from sugar and ethanol production, provided energy consumption of 49,346.4 MWh to Sugar-energy. The unit has capacity of 25MW (of which 10 MW can be sold on the free market), which will be doubled upon completion of a new investment stage of R$70 million, and combines its own funds and those from the National Bank for Economic Development and Social (BNDES).

Energy consumption within the organization GRI 302-1 I SASB EM-IS-130a.1 | EM-MM-130a.1 | FB-AG-130a.1

Steel industry

Energy Sources (GJ)		2021	2022	2023
Non-renewable fuel	Diesel	22,673	17,455	29,508
	Gasoline	861	957	1,491
	LPG	110,018	115,594	121,025
Total consumption		133,552	134,006	152,024
Renewable fuel	Ethanol	172	394	182
Electricity	Self-produced (hydro)	180,429	196,013	192,309
	Purchased	1,057,669	988,746	983,236
Total consumption		1,238,098	1,184,759	1,175,545
Electricity	Sold (surplus)	165,355	481,543	477,499

Note - Data from previous years was subject to review.

Sugar-energy

Energy Sources (GJ)		2021	2022	2023
Non-renewable fuel	Diesel	272,921	310,321	314,443
	Gasoline	95	171	129
	LPG	552,150	612,725	571,948
Total consumption		825,166	923,217	886,520
Renewable fuel	Ethanol	5,780	6,093	6,273
	Sugarcane bagasse	4,978,824	5,338,737	5,026,116
Total consumption		4,984,604	5,344,830	5,032,389
Electricity	Self-produced (sugarcane bagasse)	166,502	179,715	177,647
	Purchased	8,334	3,759	5,467
Total consumption		174,836	183,474	183,114
Electricity	Sold by Maringá Energia	158,340	224,451	170,384
	Resale	0	0	32,328
Total sale		158,340	225,451	202,712

Note 1 - Steel industry's self-produced energy comes from water sources, and sugar-energy's comes from sugarcane bagasse.
Note 2 - Data from previous years was subject to review

Mining

Energy (GJ)		2022	2023
Non-renewable fuel	Diesel	23,241	7,667
Electricity	Purchased	16	98

Note 1 - 2021 was the first year of our Mining operation and there is no data traceability.
Note 2 - For reporting the total electricity consumed, Moema I and Moema II are not considered. There is electricity consumption at those units, but it is not measured. When reporting total fuel consumption, the volume of gasoline used and the total amount of Diesel S-10 used to supply support vehicles are not considered, as there is no consumption monitoring. Furthermore, the storage site is not considered. There is consumption therein, but no data monitoring.

Total energy consumed (GJ) SASB EM-IS-130a.1 | EM-MM-130a.1 | FB-AG-130a.1

	Steel			Mining			Sugar-energy		
	2021	2022	2023	2021	2022	2023	2021	2022	2023
Total energy consumed (all sources) (GJ)	1,371,822	1,319,159	1,327,751	-	23,257	7,765	5,984,606	6,451,520	6,102,024
% grid electricity (purchased)	77	75	74	-	0.1	1.3	0.1	0.1	0.1
% renewable energy	13	99	37	-	0	0	86	86	85

Note - Renewable energy data for steel industry in 2022 and 2023 includes the portion of self-produced energy and acquired energy holding a Renewable Energy Certificate.

Fuel consumed by the fleet, renewable percentage (GJ) FB-AG-110a.3

Sugar-energy

	2021	2022	2023
Total fuel consumed (diesel, gasoline and ethanol)	278,796	316,585	320,845
Total renewable fuel consumed (ethanol)	5,780	6,093	6,273
% renewable fuel	2	2	2

Energy consumed outside the organization (GJ) GRI 302-2

Steel			Mining			Sugar-energy		
2021	2022	2023	2021	2022	2023	2021	2022	2023
127,205	179,304	106,470	-	-	-	46,300	48,704	30,461

Note - Data refers to downstream and upstream fuel consumption, taken from the GHG Protocol tool.

Number of customers served IF-EU-000.A

Sugar-energy

Consumer category	2021	2022	2023
Commercial	41,744	62,412	56,309

Note - We do not serve the other categories: Residential and Industrial

Total electricity delivered/dispatched (MWh) IF-EU-000.B

Sugar-energy

Consumer category	2021	2022	2023
Commercial	41,744	62,412	56,309

Note - Total electricity delivered was 0 (zero) for the other consumer categories: Residential, Industrial, Wholesale Customers and all other retail customers.

Energy intensity rate GRI 302-3

Steel			Mining			Sugar-energy		
2022	2023	2021	2022	2023	2021	2022	2023	2023
Alloy Production			Manganese Production			Crushed sugarcane		
13.5	14.6	-	0.35	0.64	2.5	2.5	2.4	2,4

Note 1 - Sugar-energy intensity data from previous years was adjusted.

Note 2 - The types of energy included in the energy intensity rate are those consumed within the organization, i.e., electricity and fuels.

Reduction in energy consumption (GJ) GRI 302-4

	Steel			Sugar-energy		
	2021	2022	2023	2021	2022	2023
Lighting circuits	827	233	-	-	-	-
Motor circuits	366	412	-	-	-	-
Generator/boiler replacement	-	-	-	1,056,728	-	-
Chipper turbine removal	-	-	-	648,466	-	-
Total	1,193	645	-	1,705,194	-	-

Note 1 - Mining recorded no reduction in energy consumption.

Note 2 - In 2023, no units recorded energy consumption reduction obtained directly as a result of conservation and efficiency initiatives.

Water

GRI 3-3 | 13.1.1 | 13.2.1 | 13.7.1 | 13.8.1 - Climate Change

In the steel industry, water is collected directly from Taquariguaçu River, pumped to the Water Treatment Plant (WTP), where it receives primary treatment to adjust basic parameters. It is then sent to distribution lines, where it is used to cool furnaces with adjustment to other parameters through the addition of additives. These parameters are stipulated by the needs of the equipment involved in cooling furnaces. Furthermore, water used in the production process does not generate effluents, since the system is closed and recirculated. The only loss considered is through evaporation. **GRI 303-1 | 303-2 | SASB EM-IS-140a.1**

Management of this topic involved a series of actions and, in 2023, the project to reduce consumption of chemical products in water treatment began, with actions aimed at reducing consumption and waste. Work was carried out across the areas, mainly furnaces, to raise awareness among employees about the use of this resource. Another action was mapping the Water Supply and Treatment System by a specialized consulting company, with the purpose of identifying opportunities for improvements in the system.

Planning for rainwater reuse system also began. The catchment basin is undergoing licensing and the engineering project for pumping water to the WTP and subsequent reuse has already been completed.

Water catchment and consumption, also for the steel industry, is monitored through one-off measurement and daily recording. A sector indicator measures the amount of water consumed in production of one ton of ferroalloy. **GRI 303-1**


Barra CGH Dam

In mining, water used in the mine for human supply comes from an underground collection point (well), which has a Grant Exemption issued by the State Department of Environment and Sustainability. Therefore, it is only consumed in bathrooms, sinks and for cleaning, and is not proper for human consumption. Water for personal consumption comes from gallons of mineral water purchased from third parties. There is no treatment system for post-consumption water. Mineração Moema holds a surface collection point grant (Córrego do Rio Engano) for use in the wet processing of manganese ore. Subsequently, the resource is directed to decantation/recirculation basins, i.e., a closed system in which water returns to the process, with no disposal in or contamination of water bodies. **GRI 303-1 | 303-2 | SASB EM-MM-140a.1**

In sugar-energy, water collected from a surface source is used to generate vacuum (sugar plant) in a closed-circuit system, with cooling on a spray-pond. At the end of the crop, this water is made available to the fields and incorporated into the soil through fertigation. Another part of the surface water collected is used in closed-circuit system to wash boiler gases, a part of it being stored in the sedimentation box to protect the structures (masonry).

Water collected from an underground source, in turn, is used in ethanol fermentation, sugar production and reverse osmosis used in the boiler to generate steam. Another part is used in ethanol condensation (distillery) and bearing cooling (milling). Cooling waters are intended for the fields at the end of the crop, to be incorporated into the soil via fertigation.
GRI 303-1 | 303-2 | SASB FB-AG-140a.1 | IF-EU-140a.1 | RR-BI-140a.1

Water catchment broken down by sources (in megaliters)

Water catchment GRI 303-3 | SASB EM-IS-140a.1	Steel		
	2021	2022	2023
Surface water	235	227	220
Underground water	0.07	0.07	0.08
Third party water	-	-	0.30
Total	235	228	220

Note 1 - There was no collection of seawater or water produced in the last three years. Water collection from third parties was only accounted for in 2023.

Note 2 - 99.97% of water collection is fresh water (total dissolved solids < 1,000 mg/l). The remaining 0.03% refers to other types of water (total dissolved solids > 1,000 mg/l).

Note 3 - In the steel industry, two assumptions are considered for water catchment: surface water, where control is carried out by meters; and underground water, where the maximum volume granted is considered.

Note 4 - In mining, water was collected from surface and underground sources, but the volume collected was not monitored.

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Water catchment GRI 303-3 | 13.7.4 | SASB FB-AG-140a.1 | IF-EU-140a.1 | RR-BI-140a.1	Sugar-energy		
	2021	2022	2023
Surface water	2,208	2,221	2,291
Underground water	448	486	611
Produced water	1,698	1,665	1,772
Total	4,354	4,372	4,674

Note 1 - In sugar-energy, produced water comes from raw material, which is water that enters the organization's boundaries as a result of extraction or processing, but is not used in production.

Note 2 - There has been no sea water collection in the last three years. In relation to third-party water, it has been collected, but is not being accounted for.

Note 3 - In sugar-energy products, "Dissolved Solids Analysis" is not performed.

Water discharge by source (in megaliters)

Water discharge GRI 303-4	Steel		
	2021	2022	2023
Underground water	0.14	0.16	0.11

Note - In the Steel industry, there is a maximum volume granted for discharge in water bodies, however, there is no disposal of water in water bodies for surface sources.

Water discharge GRI 303-4 | 13.7.5	Sugar-energy		
	2021	2022	2023
Surface water	92.9	114.2	115.7
Underground water	0.5	0.5	0.5
Total	93.4	114.7	116.2

Note 1 - At the end of the crop, water is made available to the fields, and incorporated into the soil through fertigation.
Note 2 - There is no discharge of seawater or third-party water.
Note 3 - In mining and steel units, there is no disposal of water into water bodies during the processing process.

Water consumption (in megaliters)

Sugar-energy GRI 303-5 | 13.7.6 | SASB FB-AG-140a.1 | IF-EU-140a.1 | RR-BI-140a.1	2021	2022	2023
Total consumption	2,656	2,707	2,787

Note 1 - There is no consumption of water from areas of water stress.
Note 2 - In steel and mining units, there is no reliable data on water consumption.

Percentage of agricultural products coming from regions with high or extremely high baseline water stress FB-AG-440a.2

	2021	2022	2023
Total purchases of agricultural products	1,500,056	1,626,947	1,540,366
Purchases from regions with high or extremely high baseline water stress	0	0	0
% purchases from regions with high or extremely high baseline water stress / Total purchases of agricultural products	0	0	0

Note - According to the Aqueduct Water Risk Atlas tool of the World Resources Institute (WRI), none of the areas of Usina Jacarezinho are in areas of high or extremely high baseline water stress.

Solid waste

GRI 306-2 | 13.8.3

The Solid Waste Management Plans (PGRS) in our units guarantee sorting, collection, storage, transportation and proper final disposal. This management is not carried out by third parties. They are continually assessed for us to increase the noble disposal of materials, preferably sending them for recycling or reinserting them into production processes.

In the steel industry, to reduce waste generation, environmental education campaigns are carried out, in addition to technical studies on the process. Recyclable waste, such as scrap metal, is sold to companies that resell it as raw materials; used oils from mechanical maintenance are sent to companies that carry out refining; administrative recyclable waste, such as paper, cardboard, plastics and disposable cups, are donated to trash picker cooperatives; and organic waste goes to landfills. Class I (hazardous) waste is sent to licensed companies, which blend the material to produce energy to power furnaces.

In 2023, at Maringá Ferro-Liga, we updated the PGRS, resulting in an increase in the sale of recyclable waste by that unit, totaling revenue of approximately R$300 thousand. We also contracted software that qualifies material management and allows the issuance of Waste Transport Manifests and quick provision of data to the Federal Government system. At the unit, we maintain a recycling bin and a partnership with two recycling cooperatives from Itapeva (SP). In addition to materials, we allocated funds for the purchase individual equipment and in 2023 we donated two forklifts worth R$75 thousand each.

At Mineração Moema, solid waste management is provided for in the Solid Waste Management Plan submitted to the State Department for the Environment and Sustainability (Semas/PA), within the scope of its environmental study. However, there are no significant impacts related to this generation due to the characteristics of manganese ore processing process. Remaining waste is sent to Vila Cruzeiro do Sul landfill. Due to the distance between the mine located in the rural area and the urban area of Marabá, where roads are not paved, it has not yet been possible to establish partnerships with cooperatives.

In the sugar-energy area, environmental campaigns are conducted with guidance from employees to reduce waste generation, as well as studies to reduce the production process. Process waste (composted filter cake, boiler ash and vinasse) are sent to the fields and incorporated into the soil as organic fertilizer; recyclable materials, such as metal scrap, plastic scrap, paper/cardboard and plastic and/or metal barrels are sold to duly licensed companies; used oils from automotive maintenance are sold to companies that carry out re-refining; agrochemical packaging waste is returned to an association of agrochemical distributors through the reverse logistics system; and Class I (hazardous) and Class II (non-hazardous) waste are sent to industrial landfills by duly licensed companies.

GRI 306-2 | 13.8.2

Recyclable waste is sold to companies that resell it as raw material.

Waste generation and significant waste-related impacts GRI 306-1 | 13.8.2

Steel			Mining			Sugar-energy		
Inputs	Activities	Outputs	Inputs	Activities	Outputs	Inputs	Activities	Outputs
Lubricating oils	Preventative and corrective maintenance	Class I waste – Hazardous (used oil)	Office supplies / Food supplies	Administrative activities/ cafeteria	Class II waste - Non-hazardous (paper, plastic, glass, common and organic waste and other non-hazardous waste)	Sugar cane	Liquid extraction	Class II waste - Non-hazardous (organic - Sugarcane bagasse)
Office material	Administrative activities, package opening, IT	Class II waste – Non-hazardous (recyclable)	Materials and parts	Operational activities	Class II waste - Non-hazardous (metal scrap free from contamination by oils and greases)	Sugarcane juice	Sugar manufacturing	Class II waste - Non-hazardous (organic - Filter cake)
Food material, personal hygiene material	Food preparation, use of toilets, preparation of snacks	Class II waste – Non-hazardous (organic)	Tires	Operational activities	Class II waste - Non-hazardous (waste tires)	Sugarcane juice	Ethanol manufacturing	Class II waste - Non-hazardous (organic - Vinasse)
Parts and components used for equipment maintenance	Corrective and preventive maintenance	Class I waste – Hazardous (materials contaminated with oils, greases, paints)	IT materials and others	Administrative and operational activities	Class I waste - Hazardous (batteries, electronics and light bulbs)	Lubricating oils	Preventive and corrective maintenance (industrial and automotive)	Class I waste – Hazardous (used oil)
Metal materials and parts	Assembly and repair of structures and parts	Class II waste – Non-hazardous (metal scrap)	Parts and components used for equipment maintenance	Operational activities	Class I waste - Hazardous (waste contaminated with oils and greases)	Office supplies	Administrative and IT activities	Class II waste – Non-hazardous (recyclable)
Construction material	Masonry works or civil repairs	Class II waste – Non-hazardous (RCC)				Food materials	Food preparation	Class II waste – Non-hazardous (organic)
Outpatient clinic materials	Outpatient care	Class I Waste - Hazardous (RSS)				Materials and parts	Assembly and maintenance	Class II waste – Non-hazardous (metal scrap)
Tires, belts, rubbers	Plant maintenance and tire changes	Class II waste – Non-hazardous (rubber scrap)				Outpatient clinic materials	Outpatient care	Class I Waste – Hazardous (RSS)
Eucalyptus Wood	Production of bio-reductants	Class II waste - Non-hazardous (fly ash from coal production)				Inputs	Agricultural and industrial production	Class II waste – Non-hazardous (recyclable plastic packaging)
						Tires, belts and rubber	Automotive maintenance	Class II waste – Non-hazardous (rubber scrap)
						Filters	Automotive maintenance	Class I waste – Hazardous (contaminated material)
						Agrochemicals	Cultivation	Class I waste – Hazardous (reverse logistics)
						Sugar cane	Steam and energy production	Class II waste – Non-hazardous (boiler ash)

Note - In mining, there is no waste management due to licenses that are still pending release.

Waste generated, in metric tons (t)

Siderurgia GRI 306-3 I SASB - EM-IS-150a.1

Waste generated	2023	Disposal method
Administrative recyclables	14	Cooperative donation (recycling)
Dedusting powder	402	Blending for co-processing and recycling
Used oil	7	Sale - Recycling (re-refining)
Metal scraps	323	Sale - Recycling
Class I (hazardous)	33	Blending for co-processing and recycling
Civil construction waste	3,309	Destination - Coprocessing
Canvas, bags and rubber scrap	2	Industrial landfill
Organic	120	Landfill
Coal fines	13,577	Incineration (coprocessing, incineration, energy recovery)
Total waste	17,787	

Note - Data was not monitored in previous years.

Sugar-energy GRI 306-3 I 13.8.4

Waste generated	2021	2022	2023	Disposal method
Bagasse	628,549	678,228	668,079	Steam/electricity generation and trading for power generation
Filter cake	67,390	74,640	86,290	Mixing/composting yard and incorporation into the soil as organic fertilizer
Vinasse	1,070,953	1,219,797	1,100,888	Waterproof box in strategic locations and distributed to the fields for application to the soil as organic fertilizer, via fertigation.
Metals and scrap	661	619	925	Sent for recycling
Paper/Cardboard	9	13	22	Sent for recycling
Plastic	132	85	67	Sent for recycling
Tires	32	21	30	Sent for recycling
Class I waste	14	14	21	Sent to industrial landfill
Class II waste	14	14	21	Sent to industrial landfill
Used lubricating oil	21	21	20	Sent for recycling
Total waste	1,767,777	1,973,453	1,856,363	

Waste destined and not destined for final disposal, in metric tons (t)

Steel industry GRI 306-4 I 306-5 | SASB - EM-IS-150a.1

	2023	
	Waste not destined for final disposal	Waste destined for final disposal
Canvas, bags and rubber scrap	-	2
Organic	-	120
Administrative recyclables	14	-
Used oil	7	-
Metal scraps	323	-
Class I (hazardous)	33	-
Civil construction waste	3,309	-
Other unspecified waste	402	-
Coal fines (with processing)	10,672	-
Coal fines (energy recovery)	203	-
Coal fines (incineration)	-	2,703
Total waste	14,962	2,825
	17,788	

Note - Data was not monitored in previous years.

Sugar-energy GRI 306-4 I 306-5 | 13.8.5 | 13.8.6

	2021		2022		2023	
	Waste not destined for final disposal	Waste destined for final disposal	Waste not destined for final disposal	Waste destined for final disposal	Waste not destined for final disposal	Waste destined for final disposal
Bagasse	628,549	-	678,228	-	668,079	-
Filter cake	67,390	-	74,640	-	86,290	-
Vinasse	1,070,953	-	1,219,797	-	1,100,888	-
Metals and scrap	661	-	619	-	925	-
Paper/Cardboard	9	-	13	-	22	-
Plastic	132	-	85	-	67	-
Tires	32	-	21	-	30	-
Outpatient clinic waste	0.1	-	0.1	-	0.1	-
Class I waste	-	14	-	14	-	21
Class II waste	-	14	-	14	-	21
Electronic waste	0.2	-	0.3	-	-	-
Used lubricating oil	21	-	21	-	20	-
Total waste	1,767,749	28	1,973,425	28	1,856,321	42
	1,767,777		1,973,453		1,856,363	

Fernanda Roesler (Environmental Consultant)

Waste not destined and destined for disposal by recovery operation, in metric tons (t)

Sugar-energy GRI 306-4 I 306-5 | 13.8.5 | 13.8.6

Waste not destined for disposal	2021		2022		2023	
	Within the organization	Outside the organization	Within the organization	Outside the organization	Within the organization	Outside the organization
Hazardous waste						
Recycling	-	0.1	-	0.1	-	0.1
Other recovery operations	-	21	-	21	-	20
Total	21		21		20	
Non-hazardous waste						
Preparation for reuse	1,138,344	-	1,294,438	-	1,187,178	-
Recycling	-	835	-	738	-	1,045
Other recovery operations	628,549	0.2	678,228	0.3	668,079	-
Total	1,767,728		1,973,404		1,856,301	

Note - There was no hazardous waste classified as "Preparation for reuse".

GRI 306-4 I 306-5

Waste destined for disposal	2021		2022		2023	
	Within the organization	Outside the organization	Within the organization	Outside the organization	Within the organization	Outside the organization
Hazardous waste						
Confinement in landfill	-	14	-	14	-	21
Non-hazardous waste						
Confinement in landfill	-	14	-	14	-	21

Note - There was no hazardous or non-hazardous waste classified as "Incineration (with energy recovery)", "Incineration (without energy recovery)" and "Other disposal operations".

Waste not destined for disposal by recovery operation, in metric tons (t)

Steel industry GRI 306-4 I 306-5 | SASB - EM-IS-150a.1

Waste not destined for disposal	2023	
	Within the organization	Outside the organization
Hazardous waste		
Preparation for reuse	-	31.2
Recycling	-	1.3
Total	32.5	
Non-hazardous waste		
Recycling	-	344
Other recovery operations	-	14,585
Total	14,930	

Note 1 - There was no hazardous waste classified as "Other operations and recovery".
Note 2 - There was no non-hazardous waste classified as "Preparation for reuse".

Waste destined for disposal by disposal operation, in metric tons (t)

Steel industry GRI 306-4 I 306-5 | SASB - EM-IS-150a.1

Waste destined for disposal	2023	
	Within the organization	Outside the organization
Non-hazardous waste		
Incineration (with energy recovery)	-	2,703
Confinement in landfill	-	122
Total	2,825	

Note 1 - In the steel industry, data was not monitored in previous years. And in 2023, there was no hazardous waste destined for disposal.
Note 2 - There was no non-hazardous waste destined for disposal classified as "Incineration (with no energy recovery)" and "Other disposal operations"
Note 3 - For mining, there is no traceability of quantitative information related to solid waste.

SASB - EM-IS-150a.1

	2023
(1) Total amount of waste generated (t)	17,788
(2) % hazardous waste	0.2%
(3) Waste that has been recycled (t)	14,962
(3) % recycled waste	84.1%

Social

- *Our people*
- *Our customers*
- *Our suppliers*
- *Communities*

Josiel Augusto (Bio-reductant Production Supervisor)

We are permanently willing to dialogue and collaborate with our stakeholders, who contribute to boosting our sustainable strategy and generating positive impacts for our value chain and the planet.

José Junior (Safety technician)

Our people

GRI 3-3 – People development | 13.15.1 | 13.20.1 | 13.21.1

Our people management comprises attracting and retaining talent and maintaining diverse, inclusive, healthy and safe work environments, with opportunities for personal and professional growth and appreciation for commitment and dedication. The Talent Management Policy, focused on people development and aligned with our business strategy, is supported by compensation policies, 180º and 360º performance management, recruitment and selection, 9Box assessment, Young Apprentice program, quality of life program (Mental Health), internal, external and mandatory qualification training, leadership development programs (PDL), among others. **GRI 404-2**

All employees are covered by collective bargaining agreements and involved in performance assessment, at least once every two years, to identify their main needs or demands in relation to skills required for qualified performance aligned with our aspirations. In this process, we have adopted a 360-degree model for manager and coordinator levels and a 180-degree model for the others. This practice for leaders (360 Assessment) is conducted in partnership with an external consulting company and includes self-assessment and assessment by peers, subordinates and customers, as well as feedback meetings, from which Individual Development Plans (PDIs) are prepared. In the 180-degree model, there is also self-analysis by employees, followed by a feedback and consensus meeting with the area manager, who formally analyzes the professional's work, with the development of PDIs. During the period, 516 employees received regular performance and career development assessments. **GRI 2-30**

We monitor professionals' progress on a monthly basis against their improvement plan, and, in 2023, the indicator was positive, with 98% achievement. The set of planned qualifications are part of our Annual Training Plan (PAT) which, during the year, resulted in 463 planned training sessions, an average of 21.5 hours per employee. The 6% increase in training hours was due to the leadership development program and others, making up for training hours not offered during the pandemic period, as well as other initiatives. **GRI 404-2**

We increasingly improve our management and monitoring of qualifications with the maturity of our learning management system (LMS), introduced in 2023. The idea is to gradually strengthen the LMS with the creation or migration of modules and knowledge tracks and, concurrently, promote acquaintance with the platform. **GRI 404-2**

The year was marked by the launch of *Academia Grupo Maringá* brand, which aims to gradually concentrate people development actions. Initially, there is a priority focus on offering resources for the development of current and potential leadership. **GRI 404-2**

In 2023, we also advanced with our Talent Management program, in which we map and promote professionals capable of advancing to positions in business units and/or succeeding leaders. This initiative includes interviews with heads, supervisors, coordinators, managers and officers to identify professionals with high potential and/or whose deliveries are outstanding. **GRI 404-2**

We have also maintained in-house recruitment, which enabled the movement of 14.53% of people during the year, and we launched an Adaptability Survey, applied to all new professionals hired during the initial assessment of their skills, and after 30 and 75 days. Through consultations with them and their superiors, we seek to identify aspects that can be improved to facilitate and enhance integration. Another measure are the Exit Interviews, to delve into the reasons for leaving and adopt improvements. **GRI 404-2**

Regarding compensation, we maintain our own policy that seeks equity and competitiveness in relation to the market, always based on data and information, with the support of consulting companies specialized in the subject and aligned with our governance. It covers senior executives (statutory officers and managers) with both fixed and short-term variable compensation and other benefits granted to employees. This variable compensation is indexed to the achievement of goals established in the strategic planning and in the annual global economic and operational performance objectives of each business. Fixed compensation is applied to members of the governance body (Board of Directors). **GRI 2-19 | 2-20**

The year was marked by the launch of ***Academia Grupo Maringá*** brand, which aims to gradually concentrate people development actions.

Percentage of employees and non-employee workers whose work is controlled by the organization and who are covered by collective bargaining agreements that have terms related to salary levels and frequency of salary payments in major operating units.

GRI 13.21.2 | EM-MM-310a.1

	2021	2022	2023
Employees	97.7%	100%	100%
Non-employee workers	100%	100%	100%

Percentage of employees and non-employee workers whose work is controlled by the organization and who receive above the living wage, broken down by gender.

GRI 13.21.3

	2021		2022		2023	
	Man	Woman	Man	Woman	Man	Woman
Employees	100%	100%	100%	100%	100%	100%
Non-employee workers	100%	100%	100%	100%	100%	100%

For benefits, we monitor market data to keep our competitive and attractive standards. Therefore, in 2023 we implemented a health plan for all employees at Jacarezinho unit, providing coverage for medical appointments, tests, and hospitalizations of members and dependents. There is no difference between the benefits offered to part-time and full-time employees. Everyone receives life insurance, health care plan, extension of maternity leave, food vouchers, transportation, meals, uniform, dental assistance, educational training assistance and remote work assistance (compatible areas). **GRI 401-2**

The Young Apprentice program, which was already adopted in Itapeva (SP), was expanded in Jacarezinho (PR) under the same format. In addition, at this same unit, the AAJ project (Apprenticeship of Adolescents and Young People) also began in 2023, a program aimed at hiring ten young apprentices aged between 18 and 24, of different genders, ethnicities and social classes, to develop technical skills and acquire professional experience in the Automotive Agricultural Maintenance field. By structuring this program, in line with the activities developed at the Mill, at Canavieira and at Maringá Energia, we see the opportunity to internally train professionals capable of holding positions that are currently scarce in the job market, such as Mechanic, Electrician, Welder, Tire Repairman, etc., as well as filling openings in the company. To this end, we had the support of the National Rural Learning Service (SENAR).

In 2023 we completed 90% of the Action Plans originating from the latest Engagement Survey. With established owners, deadlines and objectives, they intend to effectively respond to employees' expressions of dissatisfaction, that is, to reverse negative points. A new survey should take place in 2024, which will enable us to determine the impacts of the measures adopted and whether the favorability index, which was already 93% in 2021, has evolved. **GRI 2-25**

We try to keep our team updated through different dissemination channels, such as "Entre Nós" (Among Us) magazine, corporate TV, bulletin boards, emails, WhatsApp groups, and forums and meetings. We also promote "Café com Prosa" (Coffee with Chat), meetings between professionals from different areas with leaders, to discuss careers, diversity and inclusion, innovations, production, crop and energy cogeneration, among other topics.

Another advance towards qualifying people management was the launch of an area and adoption of People Analytics resources, with a qualified management of data related to our teams. Information processed in the Power BI data assessment and view tool enables us to monitor indicators such as internal use, hiring efficiency, people development, and diversity and inclusion – a priority topic in our corporate strategy.

Jeverson dos Santos
(Forklift operator)

Total number of employees per employment contract (permanent and temporary), by gender

GRI 2-7 I 2-8 I SASB EM-MM-000.B

	2021		2022		2023	
	Permanent	Total	Permanent	Total	Permanent	Total
Men	1625	1625	1658	1,658	1,665	1,665
Women	235	235	239	239	262	262
Total	**1,860**	**1,860**	**1,897**	**1,897**	**1,927**	**1,927**

Note 1 - Data from 2021, 2022 and 2023 refer to the total number of permanent employees, since the total number of temporary employees was 0 (zero) in the three years.
Note 2 - Data from previous years was subject to review.

Total number of employees per employment contract (permanent and temporary), by region

GRI 2-7 I 2-8 I SASB EM-MM-000.B

	2021		2022		2023	
	Permanent	Total	Permanent	Total	Permanent	Total
Sugar-energy (Jacarezinho/PR) - South	1,214	1,214	1,213	1,213	1,279	1,279
Steel (Itapeva/SP) - Southeast	587	587	618	618	606	606
Mining (Marabá/PA) - North	44	44	49	49	26	26
Corporate (São Paulo/SP) - Southeast	15	15	17	17	16	16
Total	**1,860**	**1,860**	**1,897**	**1,897**	**1,927**	**1,927**

Note 1 - Data from 2021, 2022 and 2023 refer to the total number of permanent employees, since the total number of temporary employees was 0 (zero) in the three years.
Note 2 - Data from previous years was subject to review.

Total number of employees by type of employment (full-time or part-time), by gender

GRI 2-7 I SASB EM-MM-000.B

	2021			2022			2023		
	Full	Part-Time	Total	Full	Part-Time	Total	Full	Part-Time	Total
Men	1,624	1	1,625	1,657	1	1,658	1,664	1	1,665
Women	229	6	235	233	6	239	256	6	262
Total	**1,853**	**7**	**1,860**	**1,890**	**7**	**1,897**	**1,920**	**7**	**1,927**

Note - Data from previous years was subject to review.

Julio Cesar (Sorting machine operator)

Employees by age group

GRI 2-7 I 2-8

	2021	2022	2023
Under 30 years old	344	386	423
Between 30 and 50 years old	1,167	1,186	1,184
Over 50 years old	349	325	320
Total	**1,860**	**1,897**	**1,927**

Note - Data from previous years was subject to review

Number of employees and workers by functional category

GRI 2-7 I SASB EM-MM-000.B

Functional category	2021			2022			2023		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Management	13	1	14	14	2	16	14	2	16
Leadership/coordination	10	4	14	12	5	17	11	5	16
Technician/supervision	33	10	43	37	11	48	38	12	50
Head	89	10	99	89	7	96	85	10	95
Operational	1,358	133	1,491	1,371	125	1,496	1,385	136	1,521
Administrative	122	77	199	135	89	224	132	97	229
Total	**1,625**	**235**	**1,860**	**1,658**	**239**	**1,897**	**1,665**	**262**	**1,927**

Note 1 - Data from previous years was subject to review
Note 2 – Members of the Board of Directors and Executive Board are not considered since they do not have an "official" type of employment contract

Functional category	2021			2022			2023		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Interns	13	8	21	19	10	29	31	9	40
Total	1	0	1	0	0	0	0	0	0
Total	**14**	**8**	**22**	**19**	**10**	**29**	**31**	**9**	**40**

Note - Data from previous years was subject to reviews

New hires and employee turnover

GRI 401-1

Age group	2021			2022			2023		
	Total N.	Hired	Rate	Total N.	Hired	Rate	Total N.	Hired	Rate
Under 30 years old	344	212	0.62	386	161	0.42	423	175	0.41
Between 30 and 50 years old	1,167	169	0.14	1,186	154	0.13	1,184	158	0.13
Over 50 years old	349	16	0.05	325	15	0.05	320	26	0.08
Total	**1,860**	**397**	**0.21**	**1,897**	**330**	**0.17**	**1,927**	**359**	**0.19**

Age group	2021			2022			2023		
	Total N.	Terminations	Rate	Total N.	Terminations	Rate	Total N.	Terminations	Rate
Under 30 years old	344	56	0.16	386	41	0.11	423	48	0.11
Between 30 and 50 years old	1,167	44	0.04	1,186	40	0.03	1,184	59	0.05
Over 50 years old	349	4	0.01	325	10	0.03	320	4	0.01
Total	**1,860**	**104**	**0.06**	**1,897**	**91**	**0.05**	**1,927**	**111**	**0.06**

Gender	2021			2022			2023		
	Total N.	Hired	Rate	Total N.	Hired	Rate	Total N.	Hired	Rate
Men	1,625	328	0.20	1,658	284	0.17	1,665	306	0.18
Women	235	69	0.29	239	46	0.19	262	53	0.20
Total	**1,860**	**397**	**0.21**	**1,897**	**330**	**0.17**	**1,927**	**359**	**0.19**

Gender	2021			2022			2023		
	Total N.	Terminations	Rate	Total N.	Terminations	Rate	Total N.	Terminations	Rate
Men	1,625	91	0.06	1,658	78	0.05	1,665	97	0.06
Women	235	13	0.06	239	13	0.05	262	14	0.05
Total	**1,860**	**104**	**0.06**	**1,897**	**91**	**0.05**	**1,927**	**111**	**0.06**

Region	2021			2022			2023		
	Total N.	Hired	Rate	Total N.	Hired	Rate	Total N.	Hired	Rate
Sugar-energy (Jacarezinho/ PR) - South	1,214	127	0.10	1,213	183	0.15	1,279	215	0.17
Steel (Itapeva/SP) - Southeast	587	223	0.38	618	106	0.17	606	126	0.21
Mining (Marabá/PA) - North	44	46	1.05	49	38	0.78	26	18	0.69
Corporate (São Paulo/SP) - Southeast	15	1	0.07	17	3	0.18	16	0	0.00
Total	**1,860**	**397**	**0.21**	**1,897**	**330**	**0.17**	**1,927**	**359**	**0.19**

Region	2021			2022			2023		
	Total N.	Terminations	Rate	Total N.	Terminations	Rate	Total N.	Terminations	Rate
Sugar-energy (Jacarezinho/ PR) - South	1,214	64	0.05	1,213	58	0.05	1,279	72	0.06
Steel (Itapeva/SP) - Southeast	587	39	0.07	618	28	0.05	606	38	0.06
Mining (Marabá/PA) - North	44	0	0.00	49	5	0.10	26	1	0.04
Corporate (São Paulo/SP) - Southeast	15	1	0.07	17	0	0.00	16	0	0.00
Total	**1,860**	**104**	**0.06**	**1,897**	**91**	**0.05**	**1,927**	**111**	**0.06**

Amanda Scura
(HR Analyst)

Maternity/paternity leave

GRI 401-3

Employees on leave to end in the current year	2021	2022	2023
Men (start current year, end current year)	34	31	47
Women (start current year, end current year)	0	5	0
Men (start previous year, end current year)	0	0	1
Women (start previous year, end current year)	4	3	1

Employees on leave to end in the following year	2021	2022	2023
Men (start current year, end next year)	0	1	0
Women (start current year, end next year)	4	2	4

Training Hours

GRI 404-1

Gender	2021			2022			2023		
	Total number of employees	Training Hours	Average training hours	Total number of employees	Training Hours	Average training hours	Total number of employees	Training Hours	Average training hours
Men	1,625	29,010	18	1658	53,302	32	1665	37,146	22
Women	235	4612	20	239	6,596	28	262	4,357	17
Total	**1,860**	**33,622**	**18**	**1897**	**59,898**	**32**	**1927**	**41,503**	**22**

Functional category	2021			2022			2023		
	Management	Training Hours	Average training hours	Total number of employees	Training Hours	Average training hours	Total number of employees	Training Hours	Average training hours
Leadership/coordination	14	220	16	16	670	42	16	320	20
Technician/supervision	14	356	25	17	795	47	16	355	22
Head	43	2,934	68	48	2,993	62	50	1,858	37
Operational	99	2,507	25	96	3,994	42	95	4,702	50
Administrative	1,491	24,611	17	1496	46,217	31	1521	31,246	21
Total	199	2,984	15	224	5,144	23	229	3,023	13
Total	**1,860**	**33,612**	**18**	**1897**	**59,812**	**32**	**1927**	**41,503**	**22**

Note - Information unavailable for Board of Directors and Executive Board.

Functional category	2021			2022			2023		
	Total number of employees	Training Hours	Average training hours	Total number of employees	Training Hours	Average training hours	Total number of employees	Training Hours	Average training hours
Apprentice	21	9	0.4	29	87	3	40	381.7	9.5
Interns	1	4	4.0	0	0	0	0	0	0
Total	**22**	**13**	**0.6**	**29**	**87**	**3**	**40**	**381.7**	**9.5**

Percentage of employees who receive performance analysis

GRI 404-3

	2021			2022			2023		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Total number of employees	1625	235	1860	1658	239	1897	1665	262	1927
Total number of employees evaluated	322	46	368	540	33	573	446	70	516
Percentage	19.8%	19.6%	19.8%	32.6%	13.8%	30.2%	26.8%	26.7%	26.8%

Proportion between base salary and compensation received by women and men

GRI 405-2 | 13.15.3

	2022			2023		
Heads	Base salary (R$)	Remuneration (R$)	Mathematical Reason	Base salary (R$)	Remuneration (R$)	Mathematical Reason
Women	R$5,515.55	R$6,410.44	0.16	R$6,134.23	R$7,465.26	0.22
Men	R$5,724.06	R$7,231.12	0.26	R$5,980.39	R$7,610.06	0.27
Proportion between women and men	0.96	0.89	0.62	1.03	0.98	0.80
Operational						
Women	R$1,702.48	R$2,469.97	0.45	R$1,761.76	R$2,688.62	0.53
Men	R$2,287.28	R$3,359.38	0.47	R$2,378.49	R$3,707.45	0.56
Proportion between women and men	0.74	0.74	0.96	0.74	0.73	0.94
Administrative						
Women	R$3,414.17	R$4,086.63	0.20	R$3,458.27	R$4,415.19	0.28
Men	R$4,080.60	R$4,867.91	0.19	R$4,266.96	R$5,185.90	0.22
Proportion between women and men	0.84	0.84	1.02	0.81	0.85	1.28
Apprentices						
Women	R$1,101.82	R$1,571.42	0.43	R$1,200	R$1,845.67	0.54
Men	R$1,101.82	R$1,620.98	0.47	R$1,200	R$1,755.58	0.46
Proportion between women and men	1	0.97	0.90	1	1.05	1.16

DIVERSITY AND INCLUSION

GRI 3-3

We remain committed to ensuring diversity and inclusion (D&I) at all levels and internal sectors, which motivates us to invest in strengthening a culture that values and recognizes plurality – an important asset for business and everyone's well-being. We emphasize this purpose through the Identity Program, whose pillars are To educate, To include and To represent. We have set up a Working Group on D&I, which manages our strategies in relation to the themes and reports on our progress to our officers. We also maintain studies and analyses on the possibility/feasibility of making public commitments related to identity and inclusion agendas.

In 2023, the initiative gained a new visual identity, and we made progress in drafting a Diversity & Inclusion Policy, which is expected to be published in 2024. We are also focused on training leadership on the topic "People management cycle: more inclusive processes and routines" with the support of a specialized consulting company. The idea is to increase their awareness, as well as reinforce their role in selection and recruitment processes of people with different characteristics, and to disseminate information about respect for differences.

Concurrently, we are dedicated to strengthening the four Affinity Groups (AGs), which debate and develop plans in favor of equality between genders, races, people with disabilities (PwD) and LGBTQIA+. Said groups hold monthly meetings. There are elected leaders in each group, and in 2023 we also established the role of facilitators.

We continually incorporate new features related to diversity and inclusion into routines and processes, such as translation into Libras at events and courses. In 2024, we intend to introduce some categories for directing reports received in the Ombudsman Channel, which will specify whether the reports refer, for example, to cases of racism, homophobia, etc.

In relation to People with Disabilities, we have joined the São Paulo State government's Inclusive Employability Center program, which aims to facilitate meetings between companies that want to hire professionals with this profile and people looking for opportunities.

Identity Program

Cases of discrimination and corrective measures taken

GRI 406-1 | 13.15.4

	2021	2022	2023
Total number of cases received	0	4	5
Number of cases analyzed	0	4	5
Number of cases for which a remediation plan is being implemented	0	0	0
Number of cases for which the remediation plan was implemented and its results were analyzed through routine internal management review processes	0	4	5
Number of cases solved (no longer subject to corrective measures)	0	4	5

DIVERSITY AND INCLUSION CALENDAR

Throughout 2023, we took actions related to diversity and inclusion to raise awareness and engage employees. There were lectures, distribution of informative materials and meetings, always with the participation of the Affinity Groups, on the following dates:

January
- National Trans Visibility Day (with LGBTQIAPN+ AG)

March
- Women's Day (with Gender Equality AG)
- International Down Syndrome Day (with People with Disabilities AG

April
- World Autism Awareness Day (with People with Disabilities AG)
- Indigenous Peoples Day (with Ethnicity and Color AG)

May
- Mother's Day (with Gender Equity AG))

June
- International LGBTQIAPN+ Pride Day (with LGBTQIAPN+ AG)

August
- Father's Day (with Gender Equity AG)
- National Lesbian Visibility Day (with LGBTQIAPN+ AG)

September
- National Day of the Deaf (with People with Disabilities AG)

October
- National Day to Fight Violence against Women (with Gender Equality AG)
- National Day of People with Physical Disabilities (with People with Disabilities AG)

November
- Black Awareness Day (with Ethnicity and Color AG)

December
- National Day of People with Visual Impairments (with People with Disabilities AG)

Estefania Pereira (Controllership Assistant)

Diversity in governance bodies

GRI 405-1 | 13.15.2

Age group	2021		2022		2023	
	Number	%	Number	%	Number	%
Under 30 years old	0	-	0	-	0	-
From 30 to 50 years old	3	20%	3	18%	3	18%
Over 50 years old	12	80%	14	82%	14	82%
Total	**15**	**100%**	**17**	**100%**	**17**	**100%**

Note - Gender and race: Governance bodies are entirely made up of men, 41% of which white and 59% not informed.

Diversity of new employees

GRI 405-1 | 13.15.2

Functional category	2021			2022			2023		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Management	0	0	-	3	0	3	0	0	-
Coordination	2	1	3	0	0	-	0	0	-
Supervision	4	0	4	4	0	4	2	1	3
Head	11	1	12	2	0	2	4	1	5
Operation	249	40	289	229	22	251	290	33	323
Administrative	44	29	73	26	23	49	10	19	29
Intern	2	0	2	0	0	-	0	0	-
Apprentice	2	4	6	6	5	11	19	9	28
Total	**314**	**75**	**389**	**270**	**50**	**320**	**325**	**63**	**388**

Note - As stated by employees themselves

Functional category	2021				2022				2023			
	Under 30 years old	Between 30 and 50 years old	Over 50 years old	Total	Under 30 years old	Between 30 and 50 years old	Over 50 years old	Total	Under 30 years old	Between 30 and 50 years old	Over 50 years old	Total
Management	0	0	0	-	0	2	1	3	0	0	0	-
Coordination	2	1	0	3	0	0	0	-	0	0	0	-
Supervision	0	4	0	4	0	4	0	4	0	3	0	3
Head	2	8	2	12	0	2	0	2	1	4	0	5
Operation	134	132	23	289	100	136	15	251	158	139	26	323
Administrative	34	38	1	73	34	13	2	49	17	12	0	29
Intern	2	0	0	2	0	0	0	-	0	0	0	-
Apprentice	6	0	0	6	11	0	0	11	28	0	0	28
Total	**180**	**183**	**26**	**389**	**145**	**157**	**18**	**320**	**204**	**158**	**26**	**388**

HEALTH, SAFETY AND WELL-BEING

GRI 2-25 | 3-3 | 13.19.1 – Health and safety

We are committed to offering employees environments and resources for them to perform their activities without jeopardizing their physical and mental integrity. We keep an Occupational Health and Safety Management System governed by ISO 45001 to monitor indicators and promote continuous improvements that enable us to prevent and minimize accidents, injuries and occupational diseases. We ensure strict compliance with legislation, seeking to go further, whenever possible, and we invite and encourage our professionals to share their concerns, suggestions and criticisms. **GRI 403-1 | 13.19.2**

The first training offered to employees takes place during Onboarding (hiring and mobilization), where Regulatory Requirements of a collective nature are addressed, as well as information on Internal Regulations, Golden Rules, Code of Conduct, Consequences Policy, Preliminary Risk Analysis (APR), Work Permit, Risks relevant to the role, PPE's, CPE's and precautions for safe movement. Occupational health programs are also presented, such as the Respiratory Protection Program, Hearing Protection and Ergonomics Program. **GRI 403-5 | 13.19.6**

UPR Maringá (Bio-reductant Production Team)

After completing onboarding, the worker is trained in Operational Procedures that are customized according to their role and responsibilities and taught by the leaders of these new employees. Training control is the responsibility of the HR Department. **GRI 403-5 | 13.19.6**

To preserve well-being and guide the team, we rely on a set of internal documents, such as the Integrated Quality, Health, Occupational Safety and Environment Policy, Risk Management Program (PGR), Hazard and Risk Analysis(LPAR), among others, in order to identify hazards and assess health and safety risks in processes. At all units, we conduct awareness and training activities for employees, including outsourced workers, hold emergency drills and adopt routines that include analysis of potential risks. We guarantee the right of refusal to perform tasks deemed to be risky or unsafe. **GRI 403-1 | 13.19.2 | 403-2 | 13.19.3 | 403-7 | 13.19.8 | 403-10**

Thanks to everyone's commitment, we celebrated, in Jacarezinho, the milestone of 2,500 days without lost-time injuries of more than 15 days recorded at Canavieira's activities. At Maringá Ferro-Liga, the highlight was the manufacturing area, where there were also no incidents recorded.

At Maringá Ferro-Liga we carried out the first safety culture diagnosis this year, to determine our maturity in this aspect. Conducted by a third-party company, which applied the Hearts and Minds methodology, the analysis involved quantitative and qualitative stages and own and third-party employees. The result revealed that we are at a level similar to that of most global companies considered as benchmarks. We were classified at the Advanced Reactive level among the five stages of security culture. Based on the results, we have already held a workshop with leaders to identify programs and practices to be applied from 2024 on.

Another advance in the year at Maringá Ferro-Liga was the implementation of a management of third parties system, through the use of a management platform for receiving, assessing and approving all documents, programs, training and exams, for onboarding of these workers to be authorized.

We also started to use the Change Management tool, to prevent negative events related to any type of change in the environments, technologies or other resources used, be it an office chair, a raw material or even a project. The solution encourages prior reflection by a multidisciplinary team on potential impacts/risks arising from actions taken without correct planning.

Other noteworthy actions in the steel industry were the establishment of annual safety plans by management department and a review of the main critical risks inherent in the activities. The first, prepared at the beginning of the period based on a diagnosis with the areas, made it possible to establish priority actions for each one. The second action was based on the results obtained through the Hazard Survey and Risk Assessment (LPAR) tool. Thus, we have listed the 12 main threats with the greatest potential to cause serious injuries or fatalities. The idea is to adopt a differentiated management of these aspects – two of which will be worked on in 2023.

At the units, we maintain proactive tools, such as Daily Safety Dialogues (DDS) and Work Permits, in which all possible risks and actions to mitigate and eliminate them are assessed. We promote training on preserving professional well-being, some of them in partnership with the National Rural Learning Service (SENAR) and the National Industrial Learning Service (SENAI) in the steel industry, which involve issues relating to the application of agrochemicals, defensive driving, safe operation and emergency care. Additionally, there is active participation of employees in the Internal Accident Prevention Committee (CIPA/CIPATR) and working groups, where preventive and improvement actions on the topic are discussed. **GRI 403-4 | 13.19.5 | 403-7 | 13.19.8**

At sugar-energy, our brigade members receive guidance from a professional with proficiency in firefighting and first aid on a weekly basis to act in case of emergency. During the year, in partnership with another plant with whom we have a collaboration agreement to fight fires, we hold meetings, training and firefighting drills, and maintain an Agroforestry Mutual Assistance Plan (PAM). Also at the annual meeting with Integrated Sugarcane Producers (PICs), we usually address health and safety issues, and we regularly conduct audits on their properties on these issues.

At Mineração Moema, no lost-time injuries were recorded during the period, and to date we record 739 days without lost-time injuries, against our previous record of 147 days.

In compliance with the Alcohol Abuse Control Policy, we acquired digital breathalyzers and increased sampling/quantitative weekly tests. With the support of Maringá Ferro-Liga team, we also optimized our procedure for filling out the PPE Form through an electronic system. The expectation is to standardize all operating procedures in 2024, to align them with internal regulations, training sessions, etc.

At the units, we maintain proactive tools, such as Daily Safety Dialogues (DDS) and Work Permits, in which all possible risks and actions to mitigate and eliminate them are assessed.

Workers covered by occupational health and safety management system

Steel industry GRI 403-8	2021	2022	2023
Total number of individuals	589	606	623
Number of individuals who are covered by this system	589	606	623
Percentage of individuals covered by this system	100%	100%	103%
Number of individuals covered by this system, which has been internally audited	546	590	615
Percentage of individuals covered by an occupational health and safety management system based on legal requirements and/or recognized standards/guidelines, which has been internally audited	93%	97%	101%
Number of individuals covered by this system and which has been audited internally or certified by an external party	546	590	615
Percentage of individuals covered by this system and which has been internally audited or certified by an external party	93%	97%	101%

Note - Data from 2021, 2022 and 2023 refer to the total number of employees, since the total number of workers (non-employees) was 0 (zero) in the three years..

Mining GRI 403-8	2021	2022	2023
Total number of individuals	46	46	40
Number of individuals covered by this system	46	46	40
Percentage of individuals covered by this system	100%	100%	100%
Number of individuals covered by this system, which has been internally audited	0	0	0
Percentage of individuals covered by an occupational health and safety management system based on legal requirements and/or recognized standards/guidelines, which has been internally audited	0%	0%	0%
Number of individuals covered by this system, which has been audited internally or certified by an external party	0	0	0
Percentage of individuals covered by this system, which has been internally audited or certified by an external party	0%	0%	0%

Note - Data from 2021, 2022 and 2023 refer to the total number of employees, since the total number of workers (non-employees) was 0 (zero) in the three years.

Sugar-energy GRI 403-8 | 13.19.9	2021	2022	2023
Total number of individuals	1,225	1,219	1,279
Number of individuals covered by this system	1,225	1,219	1,279
Percentage of individuals covered by this system	100%	100%	100%
Number of individuals covered by this system, which has been internally audited	1,225	1,219	1,279
Percentage of individuals covered by an occupational health and safety management system based on legal requirements and/or recognized standards/guidelines, which has been internally audited	100%	100%	100%
Number of individuals covered by this system, which has been audited internally or certified by an external party	1,225	1,219	1,279
Percentage of individuals covered by this system, which has been internally audited or certified by an external party	100%	100%	100%

Note - Data from 2021, 2022 and 2023 refer to the total number of employees, since the total number of workers (non-employees) was 0 (zero) in the three years.

Occupational accidents

Steel industry GRI 403-9	2021	2022	2023
Number of hours worked	1,507,775	1,491,474	1,507,710
Base number of hours worked (200,000 or 1,000,000)	1,000,000	1,000,000	1,000,000
Number of deaths resulting from occupational accidents	0	0	0
Rate of deaths resulting from occupational accidents	0	0	0
Number of occupational accidents with serious consequences (except deaths)	2	4	3
Rate of occupational accidents with serious consequences (except deaths)	1.33	2.68	1.99
Number of occupational accidents subject to mandatory reporting (including deaths)	2	4	3
Rate of occupational accidents subject to mandatory reporting (including deaths)	1.33	2.68	1.99

Note 1 - Data from 2021, 2022 and 2023 refer to the total number of employees, since the total number of workers (non-employees) was 0 (zero) in the three years.
Note 2 - The 3 accidents with serious consequences in 2023 were: insect bite, sprained ankle and crushed finger without loss of the limb.

Mining GRI 403-9	2021	2022	2023
Number of hours worked	66,382	95,524	65,068
Base number of hours worked (200,000 or 1,000,000)	1,000,000	1,000,000	1,000,000
Number of deaths resulting from occupational accidents	0	0	0
Rate of deaths resulting from occupational accidents	0	0	0
Number of occupational accidents with serious consequences (except deaths)	0	0	0
Rate of occupational accidents with serious consequences (except deaths)	0	0	0
Number of occupational accidents subject to mandatory reporting (including deaths)	1	0	0
Rate of occupational accidents subject to mandatory reporting (including deaths)	3.01	0	0

Note - Data from 2021, 2022 and 2023 refer to the total number of employees, since the total number of workers (non-employees) was 0 (zero) in the three years.

Sugar-energy GRI 403-9 | 13.19.10	2021	2022	2023
Number of hours worked	2,571,846	2,303,754	2,358,688
Base number of hours worked (200,000 or 1,000,000)	1,000,000	1,000,000	1,000,000
Number of deaths resulting from occupational accidents	0	0	0
Rate of deaths resulting from occupational accidents	0	0	0
Number of occupational accidents with serious consequences (except deaths)	7	4	2
Rate of occupational accidents with serious consequences (except deaths)	2.72	1.74	0.85
Number of occupational accidents subject to mandatory reporting (including deaths)	7	4	2
Rate of occupational accidents subject to mandatory reporting (including deaths)	2.72	1.74	0.85

Note 1 - Data from 2021, 2022 and 2023 refer to the total number of employees, since the total number of workers (non-employees) was 0 (zero) in the three years.
Note 2 - The 2 accidents with serious consequences in 2023 were: fall of a heavy object on a toe without loss of the limb, and dislocated shoulder.

HEALTH PRESERVATION

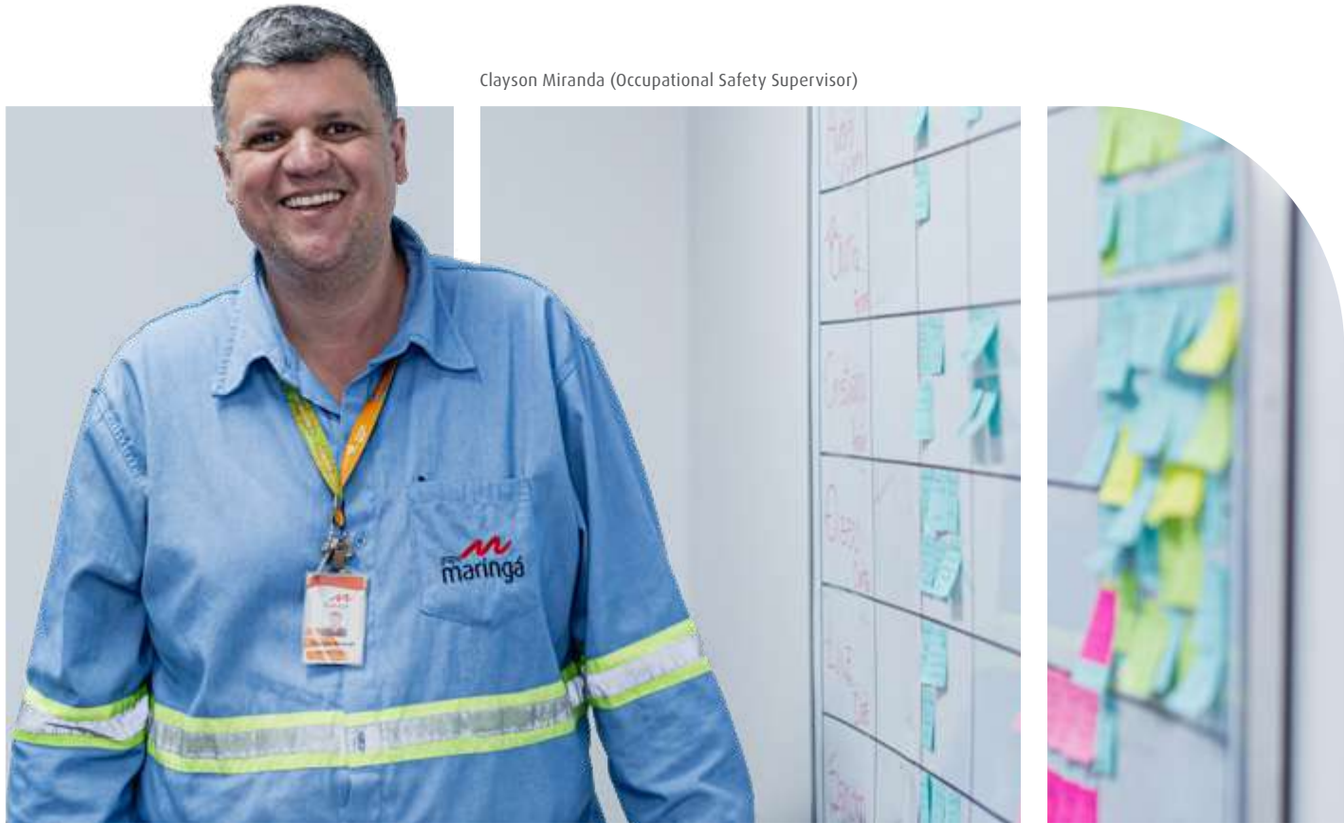
We comply with all legal requirements related to monitoring and protecting the health of our employees. Furthermore, we developed initiatives such as an anti-smoking program in Jacarezinho (PR). The program follows recommendations from the World Health Organization (WHO) and, in addition to guidance, it provides participants with free medication and psychological support. Since the beginning of the Covid-19 pandemic, we have provided all professionals with access to resources that promote the preservation of mental health. They and their family members can access the brief psychotherapy service, either online or in person. **GRI 403-3 | 13.19.4** In administrative areas in Itapeva (SP), weekly meditation sessions and systemic and auricular acupuncture sessions are held upon appointment.

At Maringá Ferro-Liga, we maintain the Emotiogram, a simple tool that gives employees the opportunity to express their physical and emotional situation on the day and state their self-perception on whether or not they are suitable for work. If it indicates that the professional does not meet favorable conditions, the fact is communicated to leadership to better understand the case and adopt the necessary measures.

In line with the WHO and Ministry of Health calendars, we promote lectures, disseminate videos and distribute thematic folders related to the importance of prevention and early diagnosis of physical and/or mental illnesses, such as during Yellow September (prevention of suicide), Pink October (alert for prevention and early diagnosis of breast cancer) and Blue November (combating prostate cancer). **GRI 403-7 | 13.19.8**

Daniel Souza (Ambulance driver)

We also encourage our professionals to keep their vaccination records and those of their dependents up to date, and we provide vaccinations against flu (all units) and tetanus (at Jacarezinho). In 2023, Itapeva employees had the opportunity to participate in Blood Donation Campaigns, which took place in June and November, for which we provided participants with breakfast and transportation to the city's blood bank. Additionally, we maintain the publication Sempre Alerta (Always Alert), which addresses topics related to health, safety and the environment, also covered in the Daily Safety Dialogues and on visible management bulletin boards/murals. **GRI 403-4 | 13.19.5**



Clayson Miranda (Occupational Safety Supervisor)

In the Steel industry, the professionals involved in risk minimization work (SESMT – Specialized Services in Occupational Safety and Medicine) are two safety engineers, five safety technicians, one occupational doctor and two occupational nursing technicians, in addition to a physiotherapist/ergonomist. **GRI 403-3** The team is broader than that established in legislation, since worker health and safety, for us, are intrinsic in our values. All our own employees are controlled by occupational examinations, biopsychosocial assessments, for critical risk activities, ergonomic studies and additional measures, such as blood pressure control for critical activities (work at heights, confined spaces, and work on board), and operation of mobile equipment. For third parties, blood pressure monitoring and biopsychosocial examination are carried out. **GRI 403-6 | 13.19.7**

At mining, because the number of employees is less than 50, an Occupational Safety Technician and an Environmental and Occupational Safety Analyst are maintained.

At sugar-energy, there is a Specialized Service for Safety and Health at Rural Work (SESTR) made up of an occupational doctor, an occupational nurse, two occupational nursing technicians, two occupational safety engineers and five occupational safety technicians. In addition, there are two ambulances available to transport employees.
GRI 403-3 | 13.19.4

Our customers

GRI 3-3 | 13.10.1 - Customer relationships and satisfaction

Attributes such as differentiated quality, punctual delivery, stability, transparency, responsibility and respect for commercial agreements and specifications, and transparency and responsibility in negotiations guarantee customers' preference for our companies and long-term relationships with them. This differentiation gives us better conditions to operate on commodities markets, with their cycles of rising and falling prices and demands.

STEEL INDUSTRY

At Maringá Ferro-Liga, we served 22 customers in the year, nine of which were national and thirteen foreign, with 77% of our sales in the domestic market and 23% in exports to five countries. A series of movements helped us face the year, characterized by a drop in prices at the global level, a reduction in demand, the bankruptcy of raw material suppliers and increased competition. Actions include using market intelligence, reducing costs to maintain competitive prices, business prospecting and correct management of manganese ore and finished product inventories.

We maintain a specialized professional dedicated to assessing macroeconomic scenarios and commodities behavior to anticipate bottlenecks and possibilities, and constant relationships with customers and companies in the sector to capture impressions and projections about the market, foresee scenarios and outline and adopt commercial strategies. We continually monitor opportunities in the international market, and, in 2023, we sought to work with customers with specific demands. In view of a pressure on prices scenario, we also prioritized shorter-term spot contracts to avoid exposure to fluctuations in commodities prices and exchange rates.

The quality of our ferroalloys and the reliability of meeting contractual deadlines and conditions are factors that justify customers' preference for Maringá Ferro-Liga, even if, in some cases, the prices set are higher than the competitors'. Our products are also valued for their low carbon emissions compared to other players in Brazil or abroad. This differentiation is made possible especially by the use of charcoal as an energy reductant to supply approximately 61% of our furnaces demand, in addition to the use of 100% renewable electricity.

Another trait recognized by customers at Maringá Ferro-Liga is transparency in negotiations, which involves, among other aspects, assuming and resolving problems. We maintain an established flow for receiving and resolving claims, which includes registration by the commercial department team, with classification according to the topic (product, logistics, finance, etc.); product analysis, if applicable, to confirm non-conformity; communication with the customer about whether the demand is or not valid; submission of a non-compliance report and corrective action, if applicable; assessment regarding effectiveness of the solution presented; and closing the complaint. Events are monitored and assessed using key performance indicators.

This way of working reflects on customer satisfaction with Maringá Ferro-Liga, as annually assessed. It remained at high levels in 2023: 92% satisfaction. Measurements of this indicator consider product, packaging and documentation quality criteria, compliance with the schedule and delivery of volumes agreed in the contract, proper ferroalloy specifications, and performance regarding technical and commercial service.

Fernando Gabriel (Raw Material Assistant)

Maria Vitoria (Management and Integrated Systems Assistant)

SUGAR-ENERGY

GRI 3-3 | 13.10.1 - Customer relationships and satisfaction

All sugar and ethanol produced at Usina Jacarezinho is sold by Copersucar, the largest Brazilian agribusiness cooperative and one of the largest global exporters, of which we have been part since 1968. The partner organization has a unique business model, which combines large-scale high quality supply with an integrated logistics, transport, storage and trading platform, in Brazil and in the international market. The link provides us with marketing and production gains, such as information that supports our definitions of the mix of products to be created to obtain the best financial returns.

Copersucar also contributes to monitoring our excellence through its responses to the satisfaction survey, which assigns scores related to planning, sustainability, quality and revenue. When Copersucar's customers request audits at our facilities for approval processes, we respond promptly to ensure our good relationship.

In 2023, the indicator increased compared to the previous year, from 96% to 98% – the best score in recent years.

Regarding the sale of surplus energy generated by Maringá Energia, we have a contract only with Companhia Paranaense, Copel, to which we allocated 8MW in 2023. Regarding yeast, our customer Aleris, a company in the animal nutrition sector, absorbs 100% of our production. The year 2023 was the first full year in which we operated in this segment, and our production was 2.2 thousand tons. In this first year of dry yeast production, we invested in laboratory equipment (NIR - Near-Infrared Spectroscopy) to offer greater reliability and speed of results.

Our suppliers

GRI 3-3 | 13.23.1 – Sustainable supply chain

Maringá Ferro-Liga's suppliers are divided into: Materials for Repairs in the Operation – MRO, which includes spare parts; Raw Materials, used in the production of ferroalloys; capEx, referring to materials and services for expansion and maintenance of operations; services, with providers of different types of services; and Logistics, responsible for moving raw materials and delivering products to customers. In addition, we also purchase food for consumption in our cafeteria and units. At Usina Jacarezinho, the scope of supplies is limited to MRO purchases, services and capEx. **GRI 2-6**

More than 3 thousand suppliers registered on our database go through an approval process. They present documents that evidence their good standing and operational and financial conditions, and commit to contractual clauses relating to good economic, social, environmental practices, as well as to our Code of Conduct and applicable corporate policies. Whenever possible and economically reasonable, we give priority to contracting products and services from companies located in the cities or regions where our production units and offices are located.

The management of each negotiation is facilitated by our Supplier Portal, where the analysis of documents allows monitoring the payment of taxes and labor rights to service providers, among other aspects. We also use the Nimbi Portal to interact with business partners, which expands the integration of procurement processes, from quotation to payment, with speed, efficiency and traceability, in addition to expanding the base of companies with which we may enter into partnerships. The tool helps us with audits and, in 2024, it is expected to make questionnaires available to suppliers about their environmental, social and governance (ESG) practices.

We pay special attention to the group of suppliers made up of companies responsible for supplying our operations with essential raw materials. In the steel industry, there is a limited number of companies able to supply high-grade manganese ore, which is the main input in the composition of ferroalloys, and many of them face financial difficulties or difficulties related to environmental licensing. Our monitoring of their performance allowed us to anticipate the bankruptcy of one of them and adopt appropriate management to fill the gap without affecting industrial operations.

Carlos Almeida (Agricultural coordinator/suppliers)

Proportion of spending with local suppliers

GRI 204-1

Note - "Local suppliers" are those located in the cities of the three operations and adjacent cities.

Still in relation to ore suppliers: during the approval phase, we assess the documentation that supports the supply, and we visit the areas from where the ore is extracted, in order to guarantee that the product we purchase comes from places duly licensed and authorized by the relevant bodies. We send professionals to carry out this type of check on site, equipped with GPS devices. The validity of documents is also monitored, and visits are made to regular suppliers to ensure that there are no irregularities in the supply of materials.

In the sugar-energy area, suppliers are analyzed in relation to the risks of products and services in the approval process and, upon receipt, goods are inspected to verify their compliance with contracted quality standards. Partners who supply us with items considered critical are reassessed at each six months. For the relationship to be maintained, suppliers must comply with at least 70% of our requirements. Suppliers whose inputs relate to the production of white sugar are continuously monitored and subject to two comprehensive annual assessments, as this commodity is intended directly for human consumption.

The measure is in line with FSSC 22000 certification, which was renewed in 2023.

INTEGRATED SUGARCANE PRODUCERS (PICs)

GRI 2-6 I 3-3 | 13.23.1 – Sustainable supply chain

In 2023, 350 Integrated Sugarcane Producers (PICs), that is, farmers who have a supply contract with us, delivered 1.54 million tons of sugarcane to Usina Jacarezinho, representing 61% of the total processed by the unit in the period. The harvest dropped 5% against the previous year, while productivity per hectare reached 88.7, compared to 92.1 in 2022. The small decline is due to weather conditions, but denotes the ability of our partners to maintain good delivery levels even in adverse scenarios.

We offer support and technical advice to Integrated Sugarcane Producers, and encourage and/or enable the adoption of solutions to increase productivity, profitability and longevity of plantations, such as the use of telemetry, localized fertilization, organic products etc. Our close and transparent relationship with these partners is supported by the intense work of a team of technicians and professionals especially dedicated to this service.

In 2023, planting at our producers totaled 2,264 thousand hectares, 60% of which were long-term contracts. Some of them received planting incentives through two projects: *Muda Zero*, in which the beneficiary has free access to sugarcane seedlings, and *Plantio Total*, in which we pay for planting operations and seedlings. These actions were carried out to attract, retain and build the loyalty of PICs in our strategic regions.

Due to their importance to our business, all new sugarcane producers (100%) linked to us are also provenly aligned with the rule of not cultivating in legal preservation areas, which we monitor, as an environmental criterion, through the mandatory submission of the Rural Environmental Registry (CAR), contract and periodic technical visits. **GRI 308-1 | 13.4.3 | 13.4.5**

Sugarcane transport

Communities

GRI 3-3 | 13.12.1 | 13.22.1 - Local Development and Impact on the Community

We contribute to the development of the communities in which we are present by generating more than 1,900 direct jobs, in addition to indirect jobs with our suppliers and more than 300 Integrated Sugarcane Producers. We also sponsor, through incentive laws or with our own resources, projects in partnership with social organizations, and promote donation campaigns and actions that are voluntarily led by our employees. All of this contributes to economic, social and cultural development, although we do not have a formal study on the economic impact related to social responsibility. **GRI 203-2 I 13.22.4**

At the end of 2022, we established a multidisciplinary Social Responsibility Working Group (GT), made up especially of professionals who, in their daily lives, have more frequent contact with local populations, and know and recognize their needs and aspirations. The purpose is to increasingly qualify our social activities by improving the selection and monitoring of projects and expanding their positive impacts.

In Itapeva (SP), we promoted a blood donation campaign in the months of June and November, designed by the GT with the support of the Occupational Medicine area and the Internal Accident Prevention Commission (Cipa), which benefited the municipal Santa Casa de Misericórdia (charity hospital). The action also involved donor employees, and became recurrent.

We also started a campaign to collect aluminum can seals that will be sold to purchase wheelchairs to be donated to charitable institutions. The campaign and donations should be completed in 2024.

Other actions involving our employees took place on dates that celebrate the need for and importance of preserving natural resources. In these opportunities, we interacted, particularly, with students and teachers. On World Water Day, celebrated in March, we signed a partnership with Luiz Gonzaga Dias Monteiro Municipal School, in Itapeva (SP), in which the students created a booklet on the topic. The works chosen by the judging panel, which was made up of our employees, were awarded prizes. On Arbor Day, there was an action to raise awareness about the importance of the environment and preservation of tree species with 134 students from municipal schools Thereza Silveira Mello, Mauro Albano, Antônio Maisano and Ivis Piedade, with activities at *Instituto de Pesquisa e Educação Ambiental Planeta Terra* [Planet Earth Environmental Research and Education Institute].

In Paraná, Usina Jacarezinho developed an action that involved students from Sílvio Tavares State School, in Cambará (PR): a model competition on the theme “Conscientious Water Consumption.” 22 students participated, divided in groups, and the winning team received R$1,000. We also joined *Instituto Água e Terra* [Water and Earth Institute] of Paraná (IAT) for two days of environmental actions with students from State School Luiz Setti, which involved participation in a trail, distributing seeds as an incentive for home gardens and planting native seedlings in a Permanent Preservation Area (APP).

Employees from Maringá Ferro-Liga, in turn, visited “Lar Vicentino,” a non-profit entity that houses 123 elderly people in Itapeva (SP). We have been contributing to the organization for years by donating food and clothing. In 2023, we supported the renovation of the organization’s facilities through the Elderly Incentive Law. During the visit, our employees interacted with those served, who told about their experiences and care received at the institution.

SOCIAL PROJECTS

GRI 203-1 | 13.22.3 | 413-1

In 2023, we allocated R$831,503, through incentive laws or with our own resources, to social entities and projects that positively impacted 1,488 people in the cities where we are present. They were:

"Projeto Guri" – Serves children and adolescents between 6 and 18 years old, in the municipalities of Ourinhos (SP) and Itapeva (SP), in after school hours, offering music courses, lutherie, choral singing, music technology, plucked strings, fretted strings and brass instruments, keyboards and percussion. We have supported the initiative since 2018, and, in 2023, 620 people were benefited with our own resources and funds from the Culture Incentive Law, totaling R$110 thousand.

***"Registros do Amanhã"* –** Partnership with "Goal Projetos" in the municipalities of Itapeva (SP) and Jacarezinho (PR). It offers 12-month audiovisual workshops to train young people between 13 and 17 years old to work in the sector. In addition to technical skills, the emotions, cognition and creativity are also covered. The project served 185 students.

"SuperAção" ("Blue" year) – At Apae Jacarezinho (PR), the initiative offers free swimming and badminton classes in after school hours. It is carried out by the Pro-Sports and Culture Association (Apec), with support from Goal Projetos. Our sponsorship (R$188.9 thousand per year) takes place through the Sports Incentive Law. The action benefited 46 people.

"Bom de Nota, Bom de Dança" – Project that promotes social and cultural development through ballet and urban dance classes, benefiting 92 young adults and adolescents with an investment of R$265 thousand through the Culture Incentive Law.

"Musicou" – This project continued in 2023 with 64 active students taking singing, guitar and percussion classes. Usina invested R$75,000 through the Culture Incentive Law, and the activities took place at the culture center of the Universidade Estadual do Norte Pioneiro.

"Bom de Nota, Bom de Bola" – Tennis classes for 75 young adults in Itapeva with investment of R$59 thousand through the Sports Incentive Law.

"Bom de Nota" – Futsal classes for 71 young adults from Jacarezinho, carried out at the José Richa Youth Center, with own resources of R$108 thousand.

"Usina da Dança" – Closed in August 2023, the activity benefited 140 young adults from Itapeva with hip hop and jazz classes, with investments made in 2022.

"Lar Vicentino" – Investment of R$35 thousand through the National Elderly Fund, for care homes in Itapeva (SP) and Jacarezinho (PR), benefiting 195 elderly persons.

Performance

- *Investments*
- *Steel*
- *Sugar-energy*
- *Mining*

Alessandro Moraes
(Industrial Mechanic)

Consolidated EBITDA was R$397.6 million, compared to R$620.9 million in 2022, mainly driven by the severity of the scenario in the steel sector, also reflecting on Net Income, which dropped from R$170.3 million to R$310.5 million in 2022. On the other hand, we maintained a robust operational cash generation of R$419.0 million in 2023, compared to R$530.0 million in 2022, representing an EBITDA-to-cash conversion capacity of 106% against 85% in 2022, mainly driven by the net realization of working capital need. This financial performance allowed us to maintain our investment plan, as well as the supporting CapEx, which is essential for maintaining and improving our business.

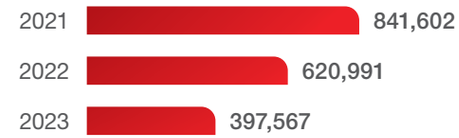
The aforementioned cash generation was positively impacted by gains obtained in foreign exchange derivatives, especially in the steel industry, whose price behavior tends to be more volatile, and by tax gains, in both businesses, mainly affecting the IR/CSLL effective tax rate, which closed at approximately 20%.

Regarding debt management, we maintained the Group's financial leverage at healthy levels, at 0.4x EBITDA. Furthermore, we continued our policy of diversifying financing sources, which, combined with stretched terms and strengthened minimum cash, constitutes an important instrument for us to face and overcome adversities.

ECONOMIC AND FINANCIAL PERFORMANCE OF GRUPO MARINGÁ

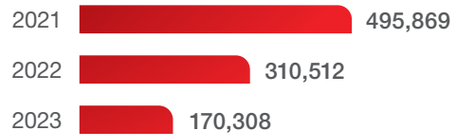
Net revenue (R$ thousand)

Adjusted EBITDA (R$ thousand)



Note - Data for 2021 was subject to review

Net income (R$ million)



Note - Data for 2021 was subject to review

Group products

	2021	2022	2023
Net debt (R$ thousand)	49,521	56,992	158,921
Net debt/Adjusted EBITDA	0.06	0.09	0.40
Net debt less inventories (R$ thousand)	-181,295	-285,573	-166,828
Net margin (%)	31.10	19.80	13.06
Cash and cash equivalents (R$ thousand)	430,904	414,021	325,885
Cash generation (R$ thousand)	687,169	530,387	419,912

Direct economic value generated and distributed

GRI 201-1 | 13.22.2

	2021	2022	2023
	R$ thousands	R$ thousands	R$ thousand
Revenue	**1,899,524**	**1,803,330**	**1,495,800**
Inputs purchased from third parties	(830,309)	(1,059,223)	(973,238)
Gross Value Added	**1,069,215**	**744,107**	**522,562**
Depreciation, amortization and depletion	(98,218)	(116,885)	(115,039)
Net value added produced by the Company	**970,997**	**627,222**	**407,523**
Value added received in transfer	66,648	122,574	127,117
Total value added to be distributed	**1,037,645**	**749,796**	**534,640**
Distribution of value added	**(1,037,645)**	**(749,796)**	**(534,640)**
Personnel	(125,051)	(140,136)	(131,332)
Taxes, fees and contributions	(309,102)	(146,261)	(73,143)
Remuneration of third-party capital	(107,624)	(152,887)	(159,857)
Remuneration of equity	(495,868)	(310,512)	(170,308)

Investments

GRI 3-3 Innovation and technology

The search for and commitment to sustainability in business are reflected in our investment plan. Furthermore, our conviction regarding the decisions made and their positive impacts led us to maintain the investments planned for the period, which totaled R$225.7 million. The amount represents 93% of the budget, which was not fully used due to external contingencies, such as delays in issuing environmental licenses by the responsible bodies. To eliminate this bottleneck, we adopted measures such as expanding dedicated teams, seeking support from external consultants and better anticipation of our needs.

We remain attentive to the performance of planned projects and new possibilities that may positively impact our operations and finance in the short, medium and long term. The main investments made in 2023 include:

Usina Jacarezinho – We invested in expanding sugar production capacity, with allocation of 25 million to purchase equipment and integrate new resources. This measure will allow the commodity to increase its share by up to 72% of the total mix of products originated by the plant in the 2024/25 crop. We have the flexibility to reach a 60%/40% ratio between sugar and ethanol. The investment also allows for better planning for sugarcane crushing at the appropriate time. The investment led to the repowering of the sugar dryer, and the addition of two pre-evaporators (5 thousand m² and 3.3 thousand m²), one 850-hectoliter vacuum pan, two Konti 14 spinners and one Mausa Mac 1.800. Such equipment items are planned to start operating in April 2024, when the crop begins.

Biofactory – Our purpose is to develop environmentally and economically advantageous solutions to fight agricultural pests and better fix nutrients in the soil. The project should be completed in 2024.

Fertilizers plant – Also in Jacarezinho, the unit will allow us to enrich, in our own operations, the vinasse, a by-product of ethanol production, which has been used for some years to fertilize the soil on our own lands and on those of integrated producers.

Sebastião da Costa
(General Services Assistant)

With this measure, we will be able to mix it with other nutrients and obtain a more complete version of fertilizer. The unit should be completed in 2024, at a cost of R$2.5 million.

Maringá Energia – In the year, we purchased new generators and one turbine to expand cogeneration capacity, which should increase from 25MW to approximately 50MW. The new device, which was already installed, totaled R$47.5 million already invested, and, by the end of the project, the estimated investment will be R$96.9 million.

Bio-reductants – In 2023, we completed the replacement of the last circular furnaces at UPR Maringá with new, rectangular, much more efficient ones. In addition, we invested R$11.02 million in works at two more UPRs, Tamanduá and São Sebastião. They will be equipped with 56 furnaces, 24 at UPR Tamanduá and 32 at UPR São Sebastião, whose operation will allow an increase in the supply of bio-reductants produced from eucalyptus grown on Maringá Ferro-Liga's own lands. The units are expected to start operating in the second half of 2024.

Sinter Plant – The process of renewing, qualifying and installing the sinter equipment purchased in 2021 is in progress, and will allow using fine particle sizes of manganese ore in Maringá Ferro-Liga furnaces. We invested R$19.3 million in the project in 2023, and its completion is scheduled for 2025.

Wet processing – We invested approximately R$2.2 million in equipment that will allow us to use wet processing in the manganese ore obtained by Moema Mineração, in the State of Pará.

Information Technology – To achieve the goals outlined in the strategic map, with a focus on "maximizing the use of systems and exploring new automation, management, data analysis and digital security solutions" in the Information Technology (IT) area, we developed essential internal policies regarding the quality management system. These policies cover the Computing Help Desk; Infrastructure, Software, Systems and Database Administration PSQ procedures; Network and Database Security Policy DA; Information Security Policy DA; Update and Testing of Management and Business Systems PO; and Development, Maintenance and Control of Specific Software PO – which were all updated throughout the year.

In addition to the Information Security Policy (IS), we have established a comprehensive set of regulations made up of 15 documents, among which the Personal Data Processing Policy stands out, with the main objective of complying with the requirements set forth in the General Data Protection Law (LGPD). We incorporated the best ITIL framework practices to ensure an efficient support and followed NIST framework principles to strengthen digital security controls.

Annually, in the meetings held with managers, the team captures the needs of each area and prepares the budget forecast for the next period. The criteria for prioritizing projects include financial and strategic, risks and IT operational aspects. The main achievements in the year included: launch of a training management platform together with HR; creation of a data analysis environment with cloud architecture; introduction of the IT service platform (service desk); and partial launch of the module for managing Integrated Sugarcane Producers (PICs) contracts. Our team permanently monitors innovations and solutions for process automation, artificial intelligence, data analysis and information security that may contribute to performance gains.

Steel industry

In 2023, the marketable production of Ferro-Silico-Manganese and High-carbon Ferromanganese reached 89.2 thousand tons, which keeps us in the position of main producer of these inputs in South America, 8.7% below the volume planned for the period. The price of the alloy fell significantly in the period given the global outlook, which resulted in a drop in demand, especially in the domestic market, notably in the second half of the year. Our total sales were still preserved, 93.1 thousand tons – a result 3.6% lower compared to the previous year –, with gross revenue of R$703 million and adjusted EBITDA of R$92.6 million, or negative fluctuations of 36% and 71%, respectively, in 12 months.

Amid this adverse scenario, we activated several mechanisms that allowed us to significantly reduce production costs in the second half of the year, through adjustment of the melting bed, energy swap, renegotiation of contracts with raw material suppliers to adapt prices and with transport partners to adjust freight prices. We also renegotiated contracts with distributors to reduce consumption at peak times, when tariffs are higher. The action has already had some positive effects in the second half of the year, but are expected to have a more pronounced impact on the results for 2024.

We have structural competitive factors that allow us to remain competitive, such as the bio-reductants we produce (*see more on page 36*), which account for 61% of our furnace needs, since their alternatives have had substantial price increases. The use of the bio-reductants should be intensified at the end of 2024, with the replacement of circular furnaces by rectangular furnaces in the Tamanduá and São Sebastião UPRs. We also highlight our own energy generation, which accounts for 16.3% of our plant's consumption and comes from six Hydroelectric Powerplants (CGHs).

High-carbon Ferromanganese

Production of ferroalloys (tons)

Total sales (tons)

Bio-reductants production (tons)

Self-production of renewable energy (MWh)

ECONOMIC AND FINANCIAL PERFORMANCE – STEEL INDUSTRY

	2021	2022	2023
Net revenue (R$ thousands)	935,700	899,165	587,749
Adjusted EBITDA (R$ thousands)	492,587	317,596	92,557

Note - Data for 2021 was subject to review

Furnace V

Our ferroalloys have quality levels that are uncommon on the market, and we have the flexibility to produce them in a customized manner.
We maintain an inventory of high-quality raw materials – high-grade manganese ore –, ensuring the sustainability of our production.
This measure enabled breath and conditions for serving the most critical customers uninterruptedly. In 2023, our main external supplier of ore was declared bankrupt, but we were prepared for the contingency. In this sense, Mineração Moema plays an important role by supplying us with high quality inputs. In addition, there is ongoing prospecting and acquisition of areas for mining – there are already approximately 30 assets under licensing.

Another important action was a change in strategy for acquisition of raw materials. As a measure to reduce costs, we chose to use lower grade ores in the melting bed. Thus, we reduced the manufacturing process performance without compromising product quality. This measure can be reversed as soon as the market becomes more favorable. Still due to the drop in demand, in October we chose to shut down the smallest of our five furnaces.

Another measure to reduce production costs was the renegotiation of contracts with raw material suppliers for price adjustments, and with transport partners for freight price adjustments. We also renegotiated contracts with distributors to reduce consumption at peak times, when tariffs are higher. The action has already had some positive effects in the second half of the year, but they are expected to have a more pronounced impact on the results for 2024.

Gross production of ferroalloys (t)

EM-IS-000.A

	2021	2022	2023
Type of process	Production (t)	Production (t)	Production (t)
Electric Arc Furnace (EAF)	123,755	111,671	110,436

Note - Our operations use 100% Electric Arc Furnace (EAF))

Sugar-energy

We gave priority to sugar in the production mix, an important factor for preserving profitability for the year, which was very difficult for ethanol.

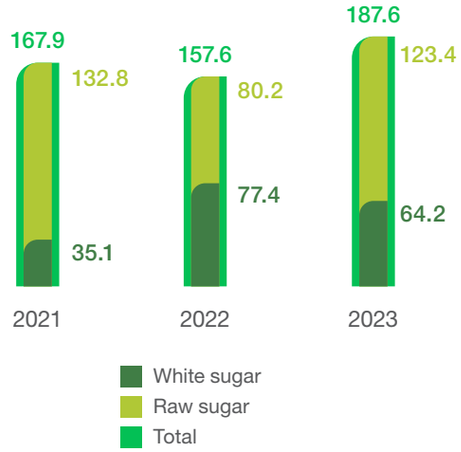
Sugar accounted for 54.7% of the volume sold in 2023. The expectation was to reach 2.6 million tons of crushing, but the indicator remained at 2.53 million tons, that is, 2.6% below, impacted by climate factors that interfered with productivity.

Thus, during the year, we delivered to Copersucar, which is responsible for marketing our products in Brazil and abroad, 187.6 thousand tons (34.2% of white sugar and 65.8% of raw sugar), an increase of 19% compared to 2022, and 83.2 thousand m³ of ethanol (97.6% anhydrous and 2.4% hydrous), a decrease of 18.1% in the same basis of comparison. Aware of the prospects for maintaining favorable sugar prices, we made investments that will allow us to make the product responsible for up to 72% of our mix already in 2024.

In relation to efficiency, the use of capacity was 97.3%, below the target of remaining above 99%, due to problems with the shredder, which required production to be interrupted for three days. This fact led us to purchase a spare engine for the turbine, which enables, if necessary, resumption of our activities within four hours.

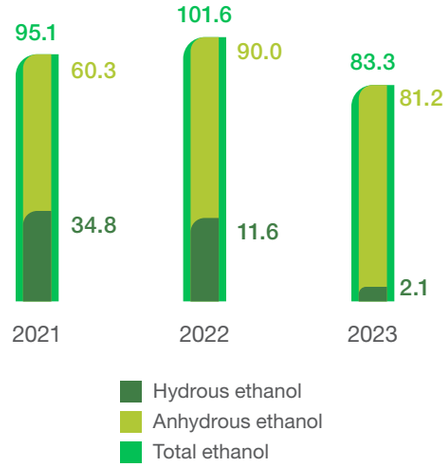
SUGAR-ENERGY OPERATIONAL PERFORMANCE

Sugar production (thousand tons)



Note - Data for 2021 was subject to review.

Ethanol production (thousand m³)
SASB RR-BI-000.B | RR-BI-430a.2



Note - Our ethanol production is 100% advanced biofuel and 94.39% is certified by RenovaBio.

We ended 2023 with a sugarcane crushing volume of **2.53 million tons**.

Sugarcane bagasse

We also introduced a Dry Cleaning System at the mill, which makes it possible to remove up to 20 kg of vegetable and mineral impurities per ton of sugarcane unloaded at the unit. This measure enables better use of the extracted juice and crushing of up to 800 tons more per day, in addition to reducing equipment wear and tear. The waste from the process is used in the composting of filter cakes for production of fertilizers (*read more on page 37*), and in Maringá Energia boiler, which, in the year, cogenerated 96.7 thousand MWh, of which 47.3 thousand MWh was exported. The performance of the unit, which uses sugarcane biomass for generation, was lower than in the previous period – 112.3 thousand MWh, resulting in a drop of 13.9%. Market input prices negatively impacted the expected financial results.

We had the first full year of production of inactive, autolyzed and cell wall yeast types, which are organic by-products of ethanol fermentation. Production began in November 2022. In 2023, we sold 1.8 thousand tons. There is room and capacity for growth in manufacturing, especially because we have reduced ethanol production. Regarding quality, our yeast reached the expected protein levels.

Given this operational performance, our adjusted EBITDA was R$313 million, which includes Maringá Energia, a result very close to that recorded in 2022. This result is mainly explained by the crop failure due to the weather, and the low yields from ethanol and energy, partially offset by the growth in sugar prices.

Electricity generation (MWh)
SASB IF-EU-000.D

Note - 100% of the energy is generated from sugarcane bagasse and sold on the free energy market, with bilateral contracts with all players in the sector.

Sugarcane tons per hectare (t/ha)

Vacuum pan and pre-evaporators, and, at the front, structure for new evaporators and vacuum pans for the 24/25 crop (Sugar Plant)

CONSOLIDATED ECONOMIC AND FINANCIAL PERFORMANCE OF SUGAR-ENERGY

	2021	2022	2023
Net revenue (R$ thousands)	643,766	666,577	713,647
Adjusted EBITDA (R$ thousands)	353,357	314,381	312,957

Note - Adjusted EBITDA data for 2022 was subject to review.

Quantity of raw material consumed in production
RR-BI-000.C

	2021	2022	2023
Consumption of sugarcane for ethanol production (thousand tons)	1,139.85	1,279.23	1,063.09
% Mix for Ethanol	0.47	0.50	0.42

Production by main crop
FB-AG-000.A

	2021	2022	2023
Sugarcane (thousand tons)	2,425	2,558	2,531

Mining

Mineração Moema explored and processed around 12.1 thousand tons of manganese ore in 2023. The total was extracted from M2 polygonal, one of the areas that we had the right to explore in the Marabá region (PA). Considering production since 2021, we totaled 81.5 thousand tons of manganese ore with a weighted grade above 40% of Mn, which were sold entirely to Maringá Ferro-Liga. Of this amount, 30 thousand tons were sent in 2022 to the plant in Itapeva (SP) by cabotage through the Port of Barcarena, and the remainder arrived at the unit in 2023, by road transport, passing through the Moema Storage in Marabá.

With the removal of this tonnage, we closed the operations at M2 polygonal and transferred the mining rights to the former holder in 2023, as research indicated that there would no longer be ore in the physical-chemical specifications, and economically feasible for use by the Grupo Maringá.

Thus, in the second half of the year, we moved the equipment from the area of M2 polygon to M1 polygon. However the time to issue the necessary licenses was longer than expected, preventing production from starting at the time planned.

In November, holding the necessary authorizations, we began operations in the M1 area and requested to the regulatory bodies the expansions of the usage form and operating license for a volume of 60 thousand tons/year, in addition to the authorization for wet ore processing. We understand that, in this way, we will increase our competitiveness (compared to the previously explored M2 area), with scale, reduced machine structure and a lean and qualified team.

In 2024, we intend to advance in the licensing process for a new warehousing area at Estrada do Rio Preto, which is an important action to reduce logistical costs for transporting production through highways to Itapeva.

Through our team of geologists and technicians, we continue looking for new manganese extraction areas. Our objective is to consolidate Moema's operation in the State of Pará and guarantee new sources of raw materials for Maringá Ferro-Liga.

OPERATIONAL PERFORMANCE - MINING

SASB EM-MM-000.A

	2021	2022	2023
Tons of manganese ore extracted (thousand)	6.3	63.1	12.1
Manganese ore quality (average grade, in %)	38.6%	40.4%	44.7%

In 2024, we intend to advance in the licensing process for a new warehousing area at Estrada do Rio Preto, which is an important action to reduce logistical costs for transporting production through highways to Itapeva.

Deisianne de Souza (Environment and Occupational Safety Analyst)

GRI and SASB Content Index

- *GRI Content Index*
- *SASB Content Index*

Layse Evaristo
(Maintenance
Control Analyst)

GRI Content Index

Declaration of use	Grupo Maringá reported in accordance with the GRI Standards for the period from January 1 to December 31, 2023.
GRI 1 used	GRI 1: Foundation 2021

GRI standard	Content	Page / Response	Omission			Reference number of the applicable GRI sector Standard	Applicable business unit
			Omitted requirement(s)	Reason	Explanation		
General Disclosures							
GRI 2: General Disclosures 2021	**2-1** Organization details	Page 11					All
	2-2 Entities included in the organization's sustainability report*	Page 3					All
	2-3 Reporting period, frequency and contact point	Page 3					All
	2-4 Restatements of information*	Page 3					All
	2-5 External assurance*	Page 3					All
	2-6 Activities, value chain and other business relationships	Pages 77 and 78					All
	2-7 Employees	Pages 59 and 60					All
	2-8 Workers who are not employees	Pages 59 and 60					All
	2-9 Governance structure and composition	Page 25					All
	2-10 Nomination and selection of the highest governance body	Page 25					All
	2-11 Chair of the highest governance body	Page 25					All
	2-12 Role of the highest governance body in overseeing the management of impacts	Page 25					All
	2-13 Delegation of responsibility for managing impacts	Page 26					All

Indicators assured by PwC

GRI standard	Content	Page / Response	Omission			Reference number of the applicable GRI sector Standard	Applicable business unit
			Omitted requirement(s)	Reason	Explanation		
GRI 2: General Disclosures 2021	**2-14** Role of the highest governance body in sustainability reporting	Pages 3 and 25					All
	2-15 Conflicts of interest	Page 27					All
	2-16 Communication Critical Concerns*	Pages 25 and 26					All
	2-17 Collective knowledge of the highest governance body	Page 25					All
	2-18 Evaluation of the performance of the highest governance body	For evaluation by the Board of Directors, there is no specific guideline in the Internal Regulations, and the criteria are defined by the Board of Directors itself. Based on the assessment carried out, the body observes the improvements necessary to enhance its obligations. These evaluations are confidential.					All
	2-19 Remuneration Policies	Pages 57 and 58					All
	2-20 Process to determine remuneration	Page 58					All
	2-21 Annual total compensation ratio*		All	Confidential information	Confidential restrictions specifically refer to the sensitivity related to salary data that can personally identify and expose company employees.		All
	2-22 Statement on sustainable development strategy	Page 8					All
	2-23 Policy Commitments	Pages 12, 25 and 30					All
	2-24 Embedding policy commitments	Pages 27, 30 and 31					All
	2-25 Processes to remediate negative impacts*	Pages 30, 31, 39, 58 and 68					All
	2-26 Mechanisms for seeking advice and raising concerns*	Page 30					All

**Indicators assured by PwC*

GRI standard	Content	Page / Response	Omission			Reference number of the applicable GRI sector Standard	Applicable business unit
			Omitted requirement(s)	Reason	Explanation		
GRI 2: General Disclosures 2021	**2-27** Compliance with laws and regulations*	Page 34 Grupo Maringá defines fines and sanctions applied in amounts exceeding R$100 thousand as significant. According to this criterion, in 2023 there were no cases of significant fines and sanctions applied. In the steel industry, we recorded two cases in which non-monetary sanctions were applied, and an initial fine of R$6,230, which was paid in 2023 in the final amount of R$4,361 after a discount obtained due to some negotiations. The amount paid refers to unauthorized removal of vegetation.					All
	2-28 Membership associations	Page 28					All
	2-29 Stakeholder engagement *	Page 4					All
	2-30 Collective bargaining agreements	Page 56					All
Material Topics							
GRI 3: Material Topics 2021	**3-1** Process to determine material topics*	Page 4					All
	3-2 List of material topics*	Page 5					All
Ethics, integrity and Human Rights							
GRI 3: Material Topics 2021	**3-3** Management of material topics	Pages 27, 28, 29 and 30				13.13.1; 13.16.1; 13.17.1; 13.24.1; 13.25.1*; 13.26.1*	All
GRI 205: Anti-corruption 2016	**205-1** Operations assessed for risks related to corruption*	Page 27				13.26.2*	All
	205-2 Communication and training about anti-corruption policies and procedures*	There was no communication and training about specific anti-corruption policies and procedures for members of the governance body, employees and business partners. However, the Code of Conduct is addressed upon onboarding, covering topics related to integrity and corruption.				13.26.3*	All
	205-3 Confirmed incidents of corruption and actions taken*	Page 27				13.26.4*	All

**Indicators assured by PwC*

GRI standard	Content	Page / Response	Omission			Reference number of the applicable GRI sector Standard	Applicable business unit
			Omitted requirement(s)	Reason	Explanation		
GRI 206: Anti-competitive behavior 2016	**206-1** Legal actions for anti-competitive behavior, anti-trust and monopoly practices*	Grupo Maringá values compliance with the law and good market practices in all its commercial operations. There are no legal actions for anti-competitive behavior, anti-trust practices and monopoly in any of its businesses.				13.25.2*	All
GRI 207: Tax 2019	**207-1** Approach to tax	Page 27					All
	207-2 Tax governance, control and management of concerns related to tax	Page 27					All
GRI 407: Freedom of Association and Collective Bargaining 2016	**407-1** Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	**Sugar-energy**: our service providers agree to our Code of Conduct practices, which ensures the right to exercise freedom of association. **Steel and Mining**: we monitor the Labor Agreements of employees providing internal services through the BexUp platform and the evaluation is carried out by a specialized third-party company. **Grupo Maringá employees**: all rights to freedom of association or collective bargaining are guaranteed to all workers and employees of Grupo Maringá. Furthermore, trade unions have free access to our facilities to defend workers' interests, such as holding collective bargaining meetings.				13.18.2	All
GRI 408: Child Labor 2016	**408-1** Operations and suppliers with significant risk for incidents of child labor*	There is no risk of child labor in the operations, since, under no circumstances, do we hire anyone under the age of 18, for safety risk classification reasons. There are also no risks of young workers being exposed to hazardous work. For suppliers, there is no mapping and monitoring of risks of child labor and young workers being exposed to hazardous work.				13.17.2*	All
GRI 409: Forced or Compulsory Labor 2016	**409-1** Operations and suppliers with significant risk for incidents cases of forced or compulsory labor*	In operations, there is no risk of forced or compulsory labor. For suppliers, there is no mapping and monitoring of risks involving forced violence or compulsory labor.				13.16.2*	All

**Indicators assured by PwC*

GRI standard	Content	Page / Response	Omission			Reference number of the applicable GRI sector Standard	Applicable business unit
			Omitted requirement(s)	Reason	Explanation		
People Development, Diversity and Inclusion							
GRI 3: Material Topics 2021	**3-3** Management of material topics	Pages 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67 and 68				13.15.1; 13.18.1; 13.20.1; 13.21.1	All
GRI 401: Employment 2016	**401-1** New employee hires and employee turnover	Page 61					All
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Page 58					All
	401-3 Parental leave	Page 62					All
GRI 404: Training and Education 2016	**404-1** Average hours of training per year per employee	Page 63					All
	404-2 Programs for upgrading employee skills and transition assistance programs	Pages 56 and 57					All
	404-3 Percentage of receiving regular performance and career development reviews	Page 64					All
GRI 405: Diversity and Equal Opportunity 2016	**405-1** Diversity of governance bodies and employees	Pages 66 and 67				13.15.2	All
	405-2 Ratio of basic salary and remuneration of women to men	Page 64				13.15.3	All
GRI 406: Non-Discrimination 2016	**406-1** Incidents of discrimination and corrective actions taken	Page 65				13.15.4	All
GRI 13: Agriculture, Aquaculture and Fishing Sectors 2022	**13-21** Living income and living wage	Pages 56, 57 and 58				13.21.2 e 13.21.3	All

**Indicators assured by PwC*

GRI standard	Content	Page / Response	Omission			Reference number of the applicable GRI sector Standard	Applicable business unit
			Omitted requirement(s)	Reason	Explanation		
Health and Safety							
GRI 3: Material Topics 2021	**3-3** Management of material topics	Pages 68, 69, 70, 71, 72, 73 and 74				13.19.1	All
GRI 403: Occupational Health and Safety 2018	**403-1** Occupational health and safety management system	Page 68				13.19.2	All
	403-2 Hazard identification, risk assessment and incident investigation	Page 68				13.19.3	All
	403-3 Occupational health services	Pages 73 and 74				13.19.4	All
	403-4 Worker participation, consultation and communication on occupational health and safety	Pages 69 and 74				13.19.5	All
	403-5 Worker training on occupational health and safety	Pages 68 and 69				13.19.6	All
	403-6 Promotion of worker health	Page 74				13.19.7	All
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Pages 68, 69 and 73				13.19.8	All
	403-8 Workers covered by an occupational health and safety management system	Pages 70 and 71				13.19.9	All
	403-9 Work-related injuries*	Pages 71 and 72				13.19.10*	All
	403-10 Work-related ill health*	There were no deaths during the year resulting from occupational diseases or reports of occupational illnesses in the sugar-energy, steel and mining activities				13.19.11*	All

**Indicators assured by PwC*

GRI standard	Content	Page / Response	Omission			Reference number of the applicable GRI sector Standard	Applicable business unit
			Omitted requirement(s)	Reason	Explanation		
Energy Efficiency							
GRI 3: Material Topics 2021	**3-3** Management of material topics	Pages 43 and 44					All
GRI 302: Energia 2016	**302-1** Energy consumption within the organization*	Page 44 Steam consumption is included in energy consumed and generated from sugarcane bagasse, only for Sugar Energy. For the other units, there is no consumption of steam. There is no consumption or sale of heating and cooling in any of our units.					All
	302-2 Energy consumption outside the organization	Page 45					All
	302-3 Energy intensity*	Page 45 Mining: there is no consumption of energy from renewable sources.					All
	302-4 Reduction of energy consumption*	Page 45					All
Customer Relationship and Satisfaction							
GRI 3: Material Topics 2021	**3-3** Management of material topics	Pages 75 and 76				13.9.1; 13.10.1	All
GRI 416: Customer Health and Safety 2016	**416-1** Assessment of the health and safety impacts of products and safety and service categories	Significant categories of products or services were evaluated in the year in relation to impacts on health and safety in search of improvements, which represents 100%.				13.10.2	Sugar-energy
	416-2 Incidents of non-compliance concerning the health and impacts of products and services	There are no records of complaints generating a fine or warning.				13.10.3	Sugar-energy
GRI 417: Marketing and Labeling 2016	**417-1** Requirements for product and service information and labeling	At both steel and sugar-energy units, only information on the safe use of the product or service is required. In both cases, we comply with 100% of the requirements related to labeling.					Steel and sugar-energy
	417-2 - Incidents of non-compliance concerning product and service information labeling	There were no incidents of non-compliance.					Steel and sugar-energy
	417-3 Incidents of non-compliance concerning marketing communication	There are no reports of non-compliance concerning advertising.					All

**Indicators assured by PwC*

GRI standard	Content	Page / Response	Omission			Reference number of the applicable GRI sector Standard	Applicable business unit
			Omitted requirement(s)	Reason	Explanation		
GRI 13: Agriculture, Aquaculture and Fishing Sectors 2022	**13-10** Food safety	100% of white crystal sugar is FSSC 22000, ISO 9001 and Halal certified. 100% of raw crystal sugar is ISO 9001 and Halal certified. There have been no recalls since sugar production began.				13.10.4 e 13.10.5	Sugar-energy
Climate change							
GRI 3: Material Topics 2021	**3-3** Management of material topics	Pages 40, 41 and 42				13.1.1; 13.2.1; 13.7.1; 13.8.1	All
GRI 201: Economic Performance 2016	**201-2** Financial implications and other risks and opportunities due to climate change		All	Information unavailable	In 2023 there was no mapping of financial implications and other risks and opportunities due to climate change. In 2024, work will be carried out to map climate risks and opportunities.	13.2.2	All
GRI 303: Water and Effluents 2018	**303-1** Interactions with water as a shared resource*	Pages 46 and 47 There is no analysis of impacts and goals related to the "water" topic.				13.7.2*	All
	303-2 Management of water discharge-related impacts*	Pages 46 and 47 For the three operating units, water used in the production process does not generate effluents, as the system is closed. Therefore, water is recirculated, and the only loss considered is through evaporation.				13.7.3*	All
	303-3 Water withdrawal*	Page 47	All for Mining	Information unavailable	At Mining in 2023, water was withdrawal from surface and underground sources for Moema II, but there was no monitoring of the volume withdrawn. Moema I was granted a dry ore processing operating license, and therefore it does not have a water withdrawal license.	13.7.4*	All
	303-4 Water discharge*	Page 48 There is no discharge of water in water stress areas. No analysis of discharged water is carried out	All for Mining	Not applicable	At Mining in 2023, no water from processing was discharged into water bodies, and for Moema I, the operation is halted due to legal procedures.	13.7.5*	All
	303-5 Water consumption*	Page 48 There are no changes in water storage				13.7.6*	All

Indicators assured by PwC

GRI standard	Content	Page / Response	Omission			Reference number of the applicable GRI sector Standard	Applicable business unit
			Omitted requirement(s)	Reason	Explanation		
GRI 305: Emissions 2016	**305-1** Direct (Scope 1) GHG emissions*	Pages 41 and 42				13.1.2*	All
	305-2 Energy indirect (Scope 2) GHG emissions*	Pages 41 and 42				13.1.3*	All
	305-3 Other indirect (Scope 3) GHG emissions	Pages 41 and 42				13.1.4	All
	305-4 GHG emissions intensity*	Pages 41 and 42				13.1.5*	All
	305-5 Reduction of GHG emissions*		All	Information unavailable	There is no mapping of reduction of GHG emissions in the units. In 2024, the GHG Emissions Mitigation Plan for steel and sugar-energy units will be finalized and, from then on, as the projects are implemented, this data will be available.	13.1.6*	All
	305-6 Emissions of ozone-depleting substances (ODS)		Todos	Information unavailable	There is no mapping of emissions of these substances in the units.	13.1.7	All
	305-7 Nitrogen oxides (NOx), sulfur oxides (Sox) and other significant	Page 42	All for Mining	Not applicable	These substances are not commonly emitted	13.1.8	All
GRI 306: Waste 2020	**306-1** Waste generation and significant waste-related impacts*	Page 50				13.8.2*	All
	306-2 Waste by type and disposal method*	Page 49 Waste management is not carried out by third parties.				13.8.3*	All
	306-3 Waste generated*	Page 51	All for Mining	Information unavailable	There is no data traceability and control	13.8.4*	All
	306-4 Waste diverted from disposal*	Page 52	All for Mining	Information unavailable	There is no data traceability and control	13.8.5*	All
	306-5 Waste directed to disposal*	Page 52	All for Mining	Information unavailable	There is no data traceability and control	13.8.6*	All

**Indicators assured by PwC*

GRI standard	Content	Page / Response	Omission			Reference number of the applicable GRI sector Standard	Applicable business unit
			Omitted requirement(s)	Reason	Explanation		
Innovation and Technology							
GRI 3: Material Topics 2021	**3-3** Management of material topics	Pages 83 and 84					All
GRI 418: Customer Privacy 2016	**418-1** Substantiated complaints concerning breaches of customer privacy and losses of customer data	We have not recorded any incidents of breaches of privacy or losses of customer data.					All
Sustainable Agricultural and Forestry Practices							
GRI 3: Material Topics 2021	**3-3** Management of material topic	Pages 35, 36, 37, 38 and 39				13.3.1; 13.4.1; 13.5.1; 13.6.1;	All
GRI 304: Biodiversity 2016	**304-1** Operational sites owned, leased, managed in or adjacent to protected areas and areas of high biodiversity value outside protected areas	Page 34				13.3.2	All
GRI 304: Biodiversity 2016	**304-2** Significant impacts of activities, products and services on biodiversity	There was no significant impact of activities, products and services on biodiversity				13.3.3	All
	304-3 Habitats protected or restored	**Sugar-energy:** there was no area restoration. In September, seedlings were planted to celebrate Arbor Day. We have Legal Preservation and Permanent Preservation Areas, duly preserved in accordance with environmental legislation, which, together, total 2,123.30 ha. **Steel:** we preserve an area of 5.8 thousand hectares on our properties, which are included in Legal Preservation (RL) and Permanent Preservation (APP) areas. **Mining:** On the rural property where the mine facilities are located (Moema I), there is an area of 61.54 ha of Legal Preservation Area (RL) and 9.27 ha of Permanent Preservation Area (APP). Mineração Moema is awaiting execution of a Consent Decree with the state environmental agency to carry out the Program for Restoration of Degraded and Altered Areas (PRADA). **All units:** Success of restoration measures was not analyzed by independent external experts.				13.3.4	All
	304-4 304-4 IUCN Red List species and National Conservation List species with habitats in areas affected by operations	Page 34 **Sugar-energy and mining:** In 2023, no study was carried out to characterize biodiversity and assess the real and potential impacts that our operations may cause.				13.3.5	All

Indicators assured by PwC

GRI standard	Content	Page / Response	Omission			Reference number of the applicable GRI sector Standard	Applicable business unit
			Omitted requirement(s)	Reason	Explanation		
GRI 13: Agriculture, Aquaculture and Fishing Sectors 2022	**13-4** Natural ecosystem conversion*	Pages 37 and 38				13.4.2*, 13.4.3*, 13.4.4*e 13.4.5*	Sugar-energy
	13-6 Pesticides use*	Page 38				13.6.2*	Sugar-energy
Local Development and Community Impact							
GRI 3: Material Topics 2021	**3-3** Management of material topics					13.12.1; 13.22.1	All
GRI 203: Indirect Economic Impacts 2016	**203-1** Infrastructure investments and services supported	Page 80				13.22.3	All
	203-2 Significant indirect economic impacts*	Pages 19 and 79				13.22.4*	All
GRI 413: Local Communities 2016	**413-1** Operations with local community engagement, impact assessments and development programs*	Engagement takes place through formal grievance and complaints from local communities, and in 2023 no complaints were registered at the units. Although we do not have programs based on mapping real and potential impacts on local communities, we maintain a social project management plan for each operating unit, prioritizing the most vulnerable communities and children and adolescents.				13.12.2*	All
GRI 413: Local Communities 2016	**413-2** Operations with significant actual and potential negative impacts on local communities *	In 2023, there was no mapping and monitoring of significant actual or potential negative impacts on local communities. In 2024, with the preparation of the Corporate Risk Matrix, these impacts will be defined.				13.12.3*	All

**Indicators assured by PwC*

GRI standard	Content	Page / Response	Omission			Reference number of the applicable GRI sector Standard	Applicable business unit
			Omitted requirement(s)	Reason	Explanation		
Sustainable Supply Chain							
GRI 3: Material Topics 2021	**3-3** Management of material topics	Pages 77 and 78				13.23.1*	All
GRI 204: Procurement Practices 2016	**204-1** Proportion of spending on local suppliers*	Page 77					All
GRI 308: Supplier Environmental Assessment 2016	**308-1** New suppliers that were screened using environmental criteria*	Page 78 For sugar-energy, the scope covers only integrated producers due to their relevance to the business. For steel and mining, we do not monitor suppliers based on environmental criteria.					All
	308-2 Negative environmental impacts in the supply chain and actions taken*		All	Information unavailable	There is no data traceability and control		All
	414-1 New suppliers that were screened based on social criteria*	There is no selection of suppliers based on social criteria.					All
	414-2 Negative social impacts in the supply chain and actions taken*	There is no monitoring of negative social impacts in the supply chain.					All
GRI 13: Agriculture, Aquaculture and Fishing Sectors 2022	**13-15** Non-discrimination and equal opportunities	There are no differences in terms of employment contract and approach to remuneration based on workers' nationality or migrant status.				13.15.5	Sugar-energy
	13-23 Supply chain traceability*	13.32.1* - Page 78 13.23.2* e 13.23.3* - Our sugarcane production (100%) follows the ISO 9001 standard, thus ensuring complete traceability of the product throughout production process stages. For production of crystal sugar, we follow the ISO 9001 and FSSC 22000 standards, guaranteeing unique traceability of the materials received, which include inputs and raw materials.	13.23.4*	Information unavailable	We do not have projects for improving the traceability of supplier purchases.		Sugar-energy

**Indicators assured by PwC*

GRI standard	Content	Page / Response	Omission			Reference number of the applicable GRI sector Standard	Applicable business unit
			Omitted requirement(s)	Reason	Explanation		
Non-material topics							
GRI 13: Agriculture, Aquaculture and Fishing Sectors 2022	**13-9** Food security		All	Not applicable	This was not a topic prioritized by our stakeholders in the materiality matrix.	13.9.1; 13.9.2	Sugar-energy
	13-11 Animal health and welfare	This is not a material issue, as no activities involve animals in our operating units.	All	Not applicable	This is not a material issue, as there no activities involves animals in our operating units.	13.11.1; 13.11.2; 13.11.3	Sugar-energy
	13-24 Public policy	We do not participate in the development of public policies.					Sugar-energy
	13-13 Land and resources rights	Sugar-energy own lands are not subject to customary, collective or informal possession. In our privately owned or captive areas, there were no reports or allegations of violations of land or natural resources. We observe all current environmental laws.				13.13.1; 13.13.2; 13.13.3	Sugar-energy
	13-14 Rights of indigenous peoples	There are no indigenous peoples close to our operating units.	All	Not applicable	This is not a priority material topic	13.14.1; 13.14.2; 13.14.3; 13.14.4	Sugar-energy
GRI 201: Economic Performance 2016	**201-1** Direct economic value generated and distributed*	Page 83				13.22.2*	All
GRI 411: Rights of Indigenous Peoples 2016	**411-1** Incidents of violation involving rights of indigenous peoples*	There are no indigenous peoples close to our operating units.				13.14.2	All
GRI 415: Public Policy 2016	**415-1** Political Contributions	We do not make political contributions.				13.24.2	All

**Indicators assured by PwC*

SASB Disclosure Index

SASB Topic	Code	Accounting Metric	Page and/or content
Agricultural products			
Greenhouse gas emissions	FB-AG-110a.1*	Gross Global Scope 1 Emissions	Page 41
	FB-AG-110a.3*	Fleet fuel consumed percentage renewable	Page 45
Energy management	FB-AG- 130a.1*	(1) Operational energy consumed, (2) percentage grid electricity and (3) percentage renewable	Pages 44 and 45
Water management	FB-AG-140a.1*	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with high or extremely high baseline water stress	Page 48
Ingredient sourcing	FB-AG-440a.2*	Percentage of agricultural products sourced from regions with high or extremely high baseline water stress	Page 48
Activity Metrics	FB-AG-000.A	Production by principal crop	Page 88
	FB-AG-000.C	Total land area under active production	Page 38
Biofuels			
Air quality	RR-BI-120a.1	Air emissions of the following pollutants: NOx (excluding N2O), SOx, volatile organic compounds (VOCs), particulate matter (PM10) and hazardous air pollutants (HAPs)	Page 42
Total water withdrawn, total water consumed, percentage of each in regions with high or extremely high baseline water stress	RR-BI-140a.1*	Total water withdrawn, total water consumed, percentage of each in regions with high or extremely high baseline water stress	Page 42
Environmental sources and impacts on crop production	RR-BI-430a.2*	Percentage of third-party biofuel production certified to an environmental sustainability standard	Page 87
Activity Metrics	RR-BI-000.A	Biofuel production capacity	Page 15
	RR-BI-000.B*	Production of: (1) renewable fuel, (2) advanced biofuel, (3) biomass-based diesel, and (4) cellulosic biofuel	Page 87
	RR-BI-000.C	Quantity of raw material consumed in biofuel production	Page 88

Indicators assured by PwC

SASB Topic	Code	Accounting Metric	Page and/or content
Electric Utilities and Power Generators			
Air quality	**IF-EU-120a.1**	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) particulate matter (PM10), (4) lead (Pb) and (5) mercury (Hg); percentage of each in or near densely populated areas	Page 42
Water management	**IF-EU-140a.1***	(1) Total water withdrawn, (2) total water consumed; percentage of each in regions with high or extremely high baseline water stress	Pages 47 and 48
Activity Metrics	**IF-EU-000.A**	Number of: (1) residential, (2) commercial and (3) industrial customers served (Note: The number of customers served for each category will be the number of meters billed to residential, commercial and industrial customers).	Page 45
	IF-EU-000.B	Total electricity delivered to: (1) residential customers, (2) commercial customers, (3) industrial customers, (4) all other retail customers, and (5) wholesale customers	Page 45
	IF-EU-000.C	Length of transmission and distribution lines	The transmission line is approximately 33 thousand meters long.
	IF-EU-000.D*	Total electricity generated, percentage by major energy source, percentage in regulated markets	Page 88
	IF-EU-000.E	Total wholesale electricity purchased wholesale	37,795 GJ considering energy purchased for consumption and resale
Iron and Steel Producers			
Greenhouse gas emissions	**EM-IS-110a.1**	Gross global Scope 1 emissions, percentage covered by emissions-limiting regulations	No value of emissions data for the steel industry is covered by such regulations
Air quality	**EM-IS-120a.1**	Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N2O), (3) SOx, (4) particulate matter (PM10), (5) manganese (MnO), (6) lead (Pb), (7) volatile organic compounds (VOCs) and (8) polycyclic aromatic hydrocarbons (PAHs)	Page 42
Energy management	**EM-IS-130a.1***	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable energy	Pages 44 and 45
Water management	**EM-IS-140a.1***	(1) Total freshwater withdrawn, (2) percentage recycled, (3) percentage in regions with high or extremely high baseline water stress	Pages 46 and 47
Waste Management	**EM-IS-150a.1***	Amount of waste generated, percentage hazardous, percentage recycled	Pages 51, 52, 54
Activity metrics	**EM-IS-000.A**	Raw steel production, percentage from: (1) basic oxygen furnace processes, (2) electric arc furnace processes	Page 86
	EM-IS-000.C	Total coking coal production	The steel industry does not produce metallurgical coal, only charcoal (bio-reductant). In 2023, this production totaled waste 35.7 thousand tons.

**Indicators assured by PwC*

SASB Topic	Code	Accounting Metric	Page and/or content
Metals and Mining			
Greenhouse gas emissions	**EM-MM-110a.1**	Gross global Scope 1 emissions, percentage covered by emissions-limiting regulations	No value of mining emissions data is covered by such regulations
Energy management	**EM-MM-130a.1***	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable energy	Pages 44 and 45
Water management	**EM-MM-140a.1***	(1) Total freshwater withdrawn, (2) total freshwater consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Page 47
Impacts on biodiversity	**EM-MM-160a.3**	Percentage of (1) proven and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Page 34
Labor relations	**EM-MM-310a.1**	Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees	Page 57
Labor relations	**EM-MM-310a.2**	Number and duration of strikes and lockouts	There have been no strikes or lockouts in the history of mining.
Tailings Storage Facilities Management	**EM-MM-540a.1***	Tailings Storage Facility Inventory Table: (l) 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	At Moema I there is no tailings storage structure, and at Moema II, despite wet processing, there is no management of such information.
Tailings Storage Facilities Management	**EM-MM-540a.2***	Summary of tailings management systems and governance structure used to monitor and maintain the stability of tailings storage facilities	At Moema I there is no tailings storage facility, and at Moema II, despite wet processing, there is no management of such information.
Tailings Storage Facilities Management	**EM-MM-540a.3***	Approach to development of Emergency Preparedness and Response Plans (EPRPs) for tailings storage facilities	At Moema I there is no tailings storage facility, and at Moema II, despite wet processing, there is no management of such information
Activity Metrics	**EM-MM-000.A**	Production of (1) metal ores and (2) finished metal products	Page 89
Activity Metrics	**EM-MM-000.B**	Total number of employees, percentage contractors	Pages 59 and 60

**Indicators assured by PwC*

Independent auditor's limited assurance report on the non-financial information included in the Integrated Report 2023

To the Board of Directors and Stockholders
Grupo Maringá
São Paulo - SP

INTRODUCTION

We have been engaged by Grupo Maringá ("Company" or "Maringá") to present our limited assurance report on the non-financial information included in the Integrated Report 2023 of Grupo Maringá for the year ended December 31, 2023.

Our limited assurance does not cover prior-period information, or any other information disclosed together with the Integrated Report 2023, including any images, audio files or videos.

RESPONSIBILITIES OF MARINGÁ'S MANAGEMENT

The management of Maringá is responsible for:

- selecting or establishing adequate criteria for the preparation and presentation of the information included in the Integrated Report 2023;
- preparing the information in accordance with the GRI Standards, Agriculture Sector GRI, the Sustainability Accounting Standards Board (SASB), with the basis of preparation developed by the Company, and with Guidance CPC 09 - Integrated Report issued by the Brazilian Federal Accounting Council (CFC), related to the Basic Conceptual Framework for Integrated Reporting, prepared by the International Integrated Reporting Council (IIRC);
- designing, implementing and maintaining internal controls over the significant information used in the preparation of the Integrated Report 2023, which is free from material misstatement, whether due to fraud or error.

OUR INDEPENDENCE AND QUALITY CONTROL

We comply with the independence and other ethical requirements of the Federal Accounting Council (CFC) in NBCs PG 100 and 200 and NBC PA 291, which are based on the principles of integrity, objectivity and professional competence, and which also consider the confidentiality and behavior of professionals.

We apply the Brazilian and international quality control standards established in NBC PA 01, issued by the CFC, and thus maintain an appropriate quality control system that includes policies and procedures related to compliance with ethical requirements, professional standards, legal requirements and regulatory requirements.

INDEPENDENT AUDITOR'S RESPONSIBILITY

Our responsibility is to express a conclusion on the non-financial information included in the Integrated Report 2023, based on our limited assurance engagement carried out in accordance with the Technical Communication CTO 01, "Issuance of an Assurance Report related to Sustainability and Social Responsibility", issued by the Federal Accounting Council (CFC), based on the Brazilian standard NBC TO 3000, "Assurance Engagements Other than Audit and Review", also issued by the CFC, which is equivalent to the international standard ISAE 3000, "Assurance engagements other than audits or reviews of historical financial information", issued by the International Auditing and Assurance Standards Board (IAASB). Those standards require that we comply with ethical requirements, including independence requirements, and other responsibilities of these standards, including those regarding the application of the Brazilian Quality Control Standard (NBC PA 01) and, therefore, the maintenance of a comprehensive quality control system, including documented policies and procedures regarding the compliance with ethical requirements, professional standards and relevant legal and regulatory requirements.

Moreover, the aforementioned standards require that the work be planned and performed to obtain limited assurance that the non-financial information included in the Integrated Report 2023, taken as a whole, is free from material misstatement.

A limited assurance engagement conducted in accordance with the Brazilian standard NBC TO 3000 and ISAE 3000 mainly consists of making inquiries of management and other professionals of Maringá involved in the preparation of the information, as well as applying analytical procedures to obtain evidence that allows us to issue a limited assurance conclusion on the information, taken as a whole. A limited assurance engagement also requires the performance of additional procedures when the independent auditor becomes aware of matters that lead him to believe that the information disclosed in the Integrated Report 2023 taken as a whole might present material misstatements.

The procedures selected are based on our understanding of the aspects related to the compilation, materiality, and presentation of the information included in the Integrated Report 2023, other circumstances of the engagement and our analysis of the activities and processes associated with the material information disclosed in the Integrated Report 2023 in which significant misstatements might exist. The procedures comprised:

(a) planning the work, taking into consideration the materiality and the volume of quantitative and qualitative information and the operating and internal control systems that were used to prepare the information included in the Integrated Report 2023;

(b) understanding the calculation methodology and the procedures adopted for the compilation of indicators through inquiries of the managers responsible for the preparation of the information;

(c) applying analytical procedures to quantitative information and making inquiries regarding the qualitative information and its correlation with the indicators disclosed in the Integrated Report 2023; and

(d) when non-financial data relate to financial indicators, comparing these indicators with the financial statements and/or accounting records.

The limited assurance engagement also included the analysis of the compliance with the GRI Standards, Agriculture Sector GRI, the Sustainability Accounting Standards Board (SASB), and with Guidance CPC 09 - Integrated Report and the criteria established in the basis of preparation developed by the Company.

Our procedures did not include assessing the adequacy of the design or operating effectiveness of the controls, testing the data on which the estimates are based or separately developing our own estimate to compare with Maringá's estimate.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our limited assurance conclusion.

SCOPE AND LIMITATIONS

The procedures applied in a limited assurance engagement vary in nature and timing, and are less detailed than those applied in a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the level that would be obtained in a reasonable assurance engagement. If we had performed a reasonable assurance engagement, we might have identified other matters and possible misstatements in the information included in the Integrated Report 2023. Therefore, we do not express an opinion on this information.

Non-financial data are subject to more inherent limitations than financial data, due to the nature and diversity of the methods used to determine, calculate and estimate these data. Qualitative interpretations of the relevance, materiality, and accuracy of the data are subject to individual assumptions and judgments. Furthermore, we did not consider in our engagement the data reported for prior periods, nor future projections and goals.

The preparation and presentation of non-financial information and indicators followed the definitions of the basis of preparation developed by the Company and the GRI Standards, Agriculture Sector GRI, the Sustainability Accounting Standards Board (SASB) and, therefore, the information included in the Integrated Report 2023 does not aim to provide assurance with regard to the compliance with social, economic, environmental or engineering laws and regulations. However, the aforementioned standards establish the presentation and disclosure of possible cases of non-compliance with such regulations when sanctions or significant fines are applied. Our assurance report should be read and understood in this context, inherent to the criteria selected and previously mentioned in this paragraph.

The absence of a significant set of established practices on which to base the evaluation and measurement of non-financial information allows for different but acceptable evaluation and measurement techniques, which can affect comparability between entities and over time.

The contents included in the scope of this assurance engagement are presented in the GRI Summary of the Integrated Report 2023.

CONCLUSION

Based on the procedures performed, described herein, and on the evidence obtained, no matter has come to our attention that causes us to believe that the non-financial information included in the Integrated Report 2023 of Maringá has not been prepared, in all material respects, in accordance with the criteria established in the basis of preparation and with the GRI Standards, Agriculture Sector GRI, the Sustainability Accounting Standards Board (SASB) and the Guidance CPC 09 - Integrated Report.

OTHER MATTERS

We did not provide assurance, nor did other independent auditors, regarding the non-financial information for the year ended December 31, 2022, presented for comparison purposes, consequently, our limited assurance does not include this information.

São Paulo, July 03, 2024

PricewaterhouseCoopers
Auditores Independentes Ltda.
CRC 2SP000160/O-5

Maurício Colombari
Accountant
CRC 1SP195838/O-3

Credits

COORDINATION | STRATEGY AND MANAGEMENT

Adriano Bertoldo, Denis Campos, Gabriele Rodrigues, Mayara Antoniolo, Sidnei Santos, Talita Velozo and Thamires Parra

CONTENT

Adriano Bertoldo, Alfredo Silva, André Nicoli, Antônio Bento, Camila Bettine, Carlos Almeida, Carlos Eduardo, Carolina Pauliv, Cláudia Calegari, Clayson Miranda, Condurme Aizzo, Danillo Peres, Dayane Santos, Deisianne de Souza, Eduardo Lambiasi, Elisangela Penha, Fabiano Calestini, Fernanda Roesler, Fernando Hiromitus, Gesiane Guimaraes, Hudson Matoso, Humberto Anghinoni, Janete Barcelos, Julia Lima, João Pantaleão, Leandro Bacon, Luis Pessoa, Márcia Gusi, Marcos Pessoa, Noedir Durrer, Raquel Coelho, Renato Ramos, Renatta Giraldi, Ricardo Zanata, Rodrigo Junqueira, Rogério Braga, Rogério Trizzotti, Sandro Hamilton, Sodário Rodrigues and Welliton Candido.

WRITING AND LAYOUT

KMZ Content, Adesign and Strategy and Management Office

PUBLICIZING

Renatta Giraldi, Luryan Silva, Maria Eduarda de Oliveira and RRPIX Digital Marketing

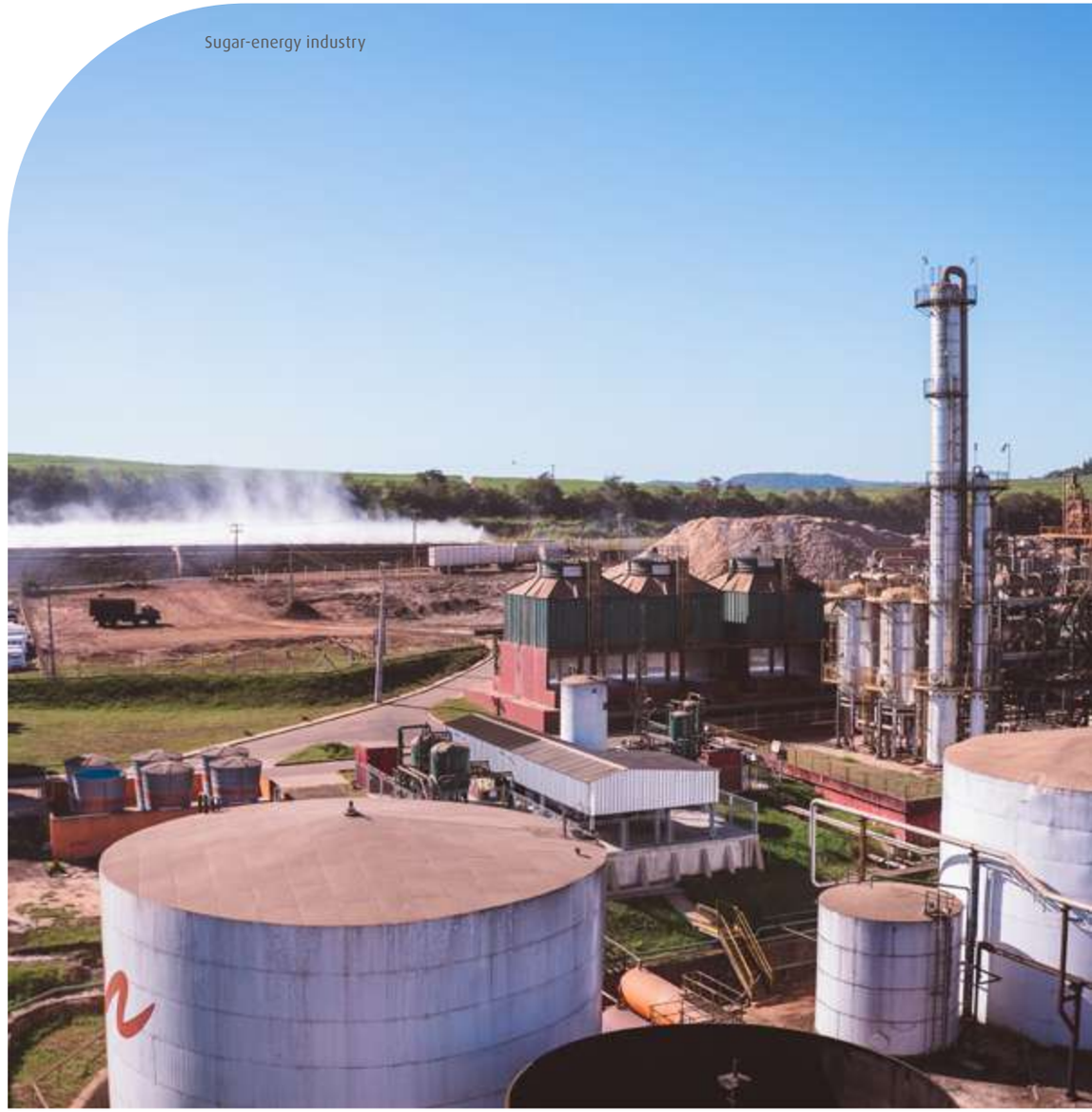
OTHER PARTNERS

Agência CravoJr, Daniel Moraes, GSS Carbono e Bioinovação, Bureau Veritas and PwC

COVER

Ronaldo Almeida, Sebastião Oliveira, Tatiana do Carmo and Cleiton dos Santos

Integrated Report approved by the Board of Directors on 07/01/2024.



Sugar-energy industry

Grupo Maringá
Rua Joaquim Floriano, 466
6º andar, cj. 601 – Itaim Bibi
04534-002 – São Paulo (SP)
Phone No.: 2114-0200

grupo maringá