



SUSTAINABILITY REPORT

2023



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MESSAGE FROM THE CEO

(GRI 2-22)

Efficiency, planning and preparedness. These pillars, combined with the decision we made four years ago to integrate the ESG Agenda into our management and business strategy, will guide LIASA in 2023 and allow us to complete projects and investments that are key to ensuring our results in the present and advancing towards the future we want.

At our plant, we were able to complete the dedusting filters to contain particulate emissions, as well as the modernization and repowering of our furnaces, which will be able to generate gains in scale and efficiency. This means increased productivity and improvements in the sustainable use of natural resources.

We are committed to supporting the transition to a new energy model that contributes significantly to a more sustainable world. We are pioneers in the use of charcoal as a bioreducer for the production of silicon metal. This means opting for a renewable input from planted forests, which allows us to remove more CO₂ from the atmosphere than we emit.

The year 2023 was undoubtedly a milestone in this regard. We expanded our planted forest areas with the purchase of new forestry assets, in line with our goal of becoming self-sustainable in the production of wood and bioreducers. We have become 100% self-sufficient in the production of energy from renewable sources (solar).

This process guarantees that our product can carry the "Green Silicon" label, a seal that allows it to meet the demands that are already in place in the market and that should become increasingly stringent in view of the close relationship between sustainable practices and their role in tackling the challenges of climate

change.

On the economic front, our planning skills enabled us to predict a drop in commodity prices, including silicon metal. Although it has affected our turnover compared to 2022, the impact has been minimized by the efficient management of costs and inventories and by the permanent pursuit of the highest quality in our product.

At this point, I would like to thank the exemplary work of our internal team, which has been able to put one of our core values into practice with every challenge: preparedness. I can say that LIASA has only become the company it is today thanks to the people who work and have worked here.

We are confident that the strategy we are implementing, combined with our long-term vision, will help us to achieve ever better results. For 2024, the challenge is to continue reducing costs in order to become increasingly competitive on the world market. To this end, we expect to reach the full capacity of our furnaces and increase production volumes by the middle of the year. We will continue to invest in sustainability, in training our employees, in the continuous improvement of our production processes and in generating value for our communities and society, with initiatives such as the socio-educational program, "Ligas da Vida."

This is what we believe is necessary to build a viable future: one that is more sustainable, where the planet doesn't have to endure so many storms and where more people can find a fairer and better life.

Fernando Caram Patrus
CEO

***We don't see any other path,
that is our vision and we will
stick to it.***



ABOUT THE REPORT

(GRI 2-3)

For the second year running, LIASA is systematizing its economic, social, environmental and governance results through a structured annual report. The document, with a base year of 2023, includes the company's sustainability strategy, its performance, initiatives and challenges between January 1 and December 31, 2023.

The document adheres to the Global Reporting Initiative (GRI) standards to help the company enhance its ESG management in future cycles.

The material topics addressed in this report were selected based on their relevance to LIASA and its stakeholders. For further information on the process used to identify these topics, please refer to the **Material Topics** section. To enhance readability and understand-

ing, we have provided a glossary of technical terms and acronyms.

The financial data reported here was audited by KPMG Brazil, while the risk assessment was carried out by S&P. In presenting each piece of information in this report, we also relied on collaboration from the heads of the company's key areas and the ESG Committee, which was formed in 2022 and features the CEO, COO, Administrative and Financial Director and major internal stakeholders, with the aim of establishing the sustainability strategy, monitoring targets, deliberating on related matters, among others.



Questions and additional information regarding this report can be sent via email to ri@liasa.com.br.



GLOSSARY

ESG: ESG, which stands for Environmental, Social, and Governance, focuses on sustainability across these three primary axes. Through ESG criteria, businesses are analyzed based on their contribution and performance in relation to these axes, and the values that the company must deliver to society are established.

EcoVadis: EcoVadis' Corporate Social Responsibility (CSR) methodology assesses corporate management systems based on 21 criteria, categorized into four topics: environmental impact, labor practices and human rights, fair trade practices, and sustainable procurement. Inquiries conform to global standards such as the Global Compact Principles, International Labor Organization (ILO) conventions, the GRI standard, the ISO 26000 standard, and the CERES principles. [Learn more.](#)

GHG Protocol: a program that measures greenhouse gas (GHG) emissions and removals, enabling companies and governments to manage the emissions that cause global warming. By implementing a globally standardized model, GHG allows public and private entities to accurately report the climate impact of their activities, facilitating the planning of mitigation actions.

GPTW Brasil: Great Place To Work recognizes top-rated companies from the employees' viewpoint. The company conducts an internal survey that assesses several criteria pertaining to the work environment, organizational climate, and personnel management to accomplish this.

General Data Protection Law (GDPR): Law No. 13,709/2018 covers the processing of individuals' personal data, whether in physical or digital form, by both public and private legal entities. This encompasses a variety of operations that can occur manually or digitally.

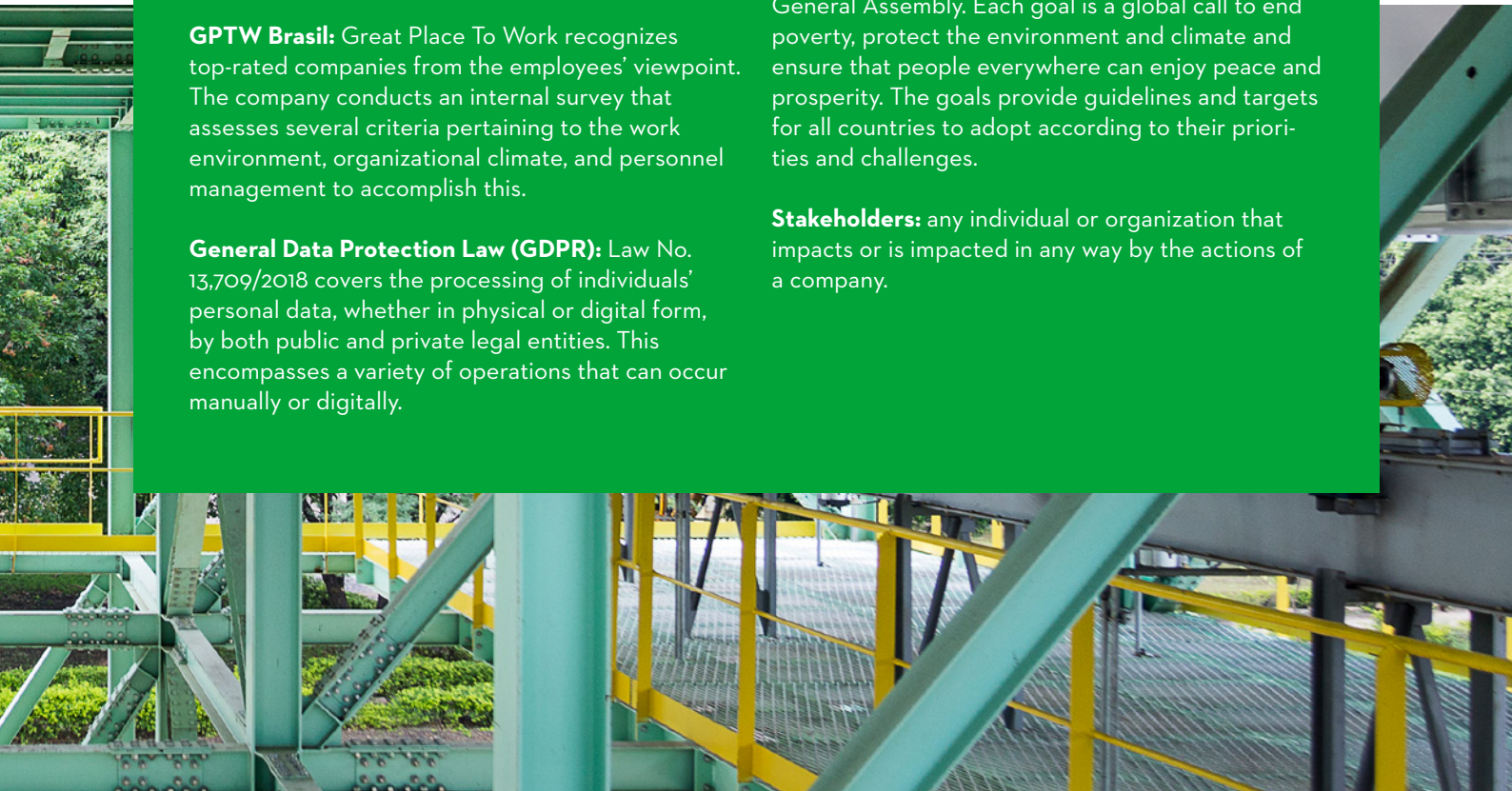
ISO 9001: international standard that establishes requirements for quality management systems (QMS), focusing on the efficiency of organizational processes to improve customer satisfaction. Applicable to any organization, the standard promotes a continuous improvement approach and compliance with applicable regulations. Its aim is to ensure the consistent delivery of high-quality products and services.

ISO 14001:2015: standard that specifies the requirements of Environmental Management Systems and allows organizations to develop strategies to protect the environment and quickly respond to changes in environmental conditions.

ISO 14064: international standard that establishes guidelines for quantifying, monitoring and reporting greenhouse gas (GHG) emissions. Divided into three parts, it covers GHG inventories, requirements for GHG reduction projects, and validation/verification of GHG declarations. It aims to standardize and guarantee the transparency of information on GHG emissions and reductions.

Sustainable Development Goals (SDGs): a set of 17 global goals established by the United Nations (UN) General Assembly. Each goal is a global call to end poverty, protect the environment and climate and ensure that people everywhere can enjoy peace and prosperity. The goals provide guidelines and targets for all countries to adopt according to their priorities and challenges.

Stakeholders: any individual or organization that impacts or is impacted in any way by the actions of a company.







ABOUT US

ABOUT US

(GRI 2-1; 2-2)

Ligas de Alumínio S.A- LIASA was founded in 1966 in Pirapora, Minas Gerais, Brazil, by José Patrus de Sousa, a civil engineer specializing in mining and metalworking, businessman and professor at the Federal University of Minas Gerais (UFMG), who developed an innovative method for reducing kyanite and quartz into aluminum and silicon alloys.

Today, LIASA is the largest manufacturer of silicon metal in South America, as well as the first in the sector to use charcoal in its production process.

In 2023, after upgrading its equipment and furnaces and investing in photovoltaic solar energy, LIASA took another big step in its decision to embrace the ESG agenda and joined a select group of companies that prioritize the widespread use of clean and renewable energy, fully self-sustainable, throughout its production process.

LIASA GROUP

Faced with future market challenges and in line with its long-term plans, LIASA has a project underway to expand its activities, which is also reflected in its organizational structure. The LIASA Group is made up of several companies, including:

LIASA - LIGAS DE ALUMÍNIO S.A.

LNA - LIASA NORTH AMERICA - Based in the USA, the company partners with LIASA to help sell its products.

COMEL - LIASA's energy trading company.

LIASA FLORESTAS - Holding company that unites forestry companies, wood producers and bio-reducers.





PURPOSE

To supply silicon metal

(Green Silicon) and its derivatives as vital products that aid in the advancement of

sustainable living.



VALUES

Appreciating life and the environment

Ensuring people's well-being and development

Maintaining integrity in relationships

Being a team that takes action

Operating with excellence

Delivering what we promise

Growing and evolving together

TIMELINE



1966

LIASA was established by **José Patrus de Sousa**, who is a civil, mining and metallurgical engineer, a professor at the Federal University of Minas Gerais (UFMG), a businessman, and an entrepreneur.



When Professor José Patrus visited Pirapora to select the site for LIASA's construction, he spent the night in the sole hotel in town. News of the forthcoming industry rapidly spread throughout the town. The following day, there was an extensive line of job seekers outside the hotel. As a father of five, the professor instructed his assistant to document the names and number of children of every potential employee interested in securing work. He recognized that the higher the number of children, the greater the need to work, and decided to make this one of the hiring criteria. As a result, it is accurate to assert that LIASA emerged with a concern for social work.



From that point forward, silicon metal production commenced and became the company's primary product.

1975

1972

Furnace I - production of ferrosilicon began, a product that was exported to Norway in the same year.

1980

Furnace II - construction of the second furnace with Norwegian technology. During their visit to LIASA to make a furnace delivery, the Norwegians expressed doubt about the feasibility of using charcoal as a bio-reducer in the process. Previously, the furnaces solely used mineral coal, a non-renewable and more expensive fossil fuel. To truly believe in the revolutionary system, the Norwegians needed to see it for themselves.

2008

Modernizing Furnace I to increase production capacity.

2005

Modernizing Furnace II to increase production capacity.

2004

Modernizing Furnace IV to increase production capacity.

2003

Modernizing Furnace III to increase production capacity.

1988

LIASA becomes the third-largest producer of silicon metal globally. The company also constructs Furnaces III and IV this same year.

2022

The year was marked by a number of events: the start of the plan to modernize LIASA's plant; the expansion of active involvement with renewable sources through the establishment of subsidiaries that promote forestry; the completion of projects for the production of renewable energy (solar); the registration in Europe of the concept of "**Green Silicon**", which is the identity of LIASA's product; and the achievement of new certifications and recognitions.

2023

Delivery of the factory modernization plan: installation of dedusting filters to contain particulate emissions, and modernization of the furnaces, which will increase production capacity.

In addition, LIASA has made progress in consolidating the ESG agenda and has become self-sustainable in energy and wood production.

The progress made in 2023 represents a major step forward for the company and will be described in this report.

THE BUSINESS

(GRI 2-6)

LIASA operates in the metallurgical sector, specializing in the transformation of milky quartz into silicon metal and ferrosilicon. This process yields active silica as a byproduct. The production process is comprehensive and yields favorable results on multiple fronts:



1) Operations:

LIASA's operations extend beyond silicon metal production. We have our own production and support strategic input vendors, such as bio-reducers, electricity, and quartz. We consistently invest in these areas.



2) Process Control:

management is conducted adhering to global quality standards and prioritizing employee safety, operational efficiency, environmental preservation, and product quality.



3) Quality Control:

upheld throughout all stages of the production process via laboratory facilities that guarantee the product meets all necessary technical parameters as per the customer's requirements.

MARKET SHARE*

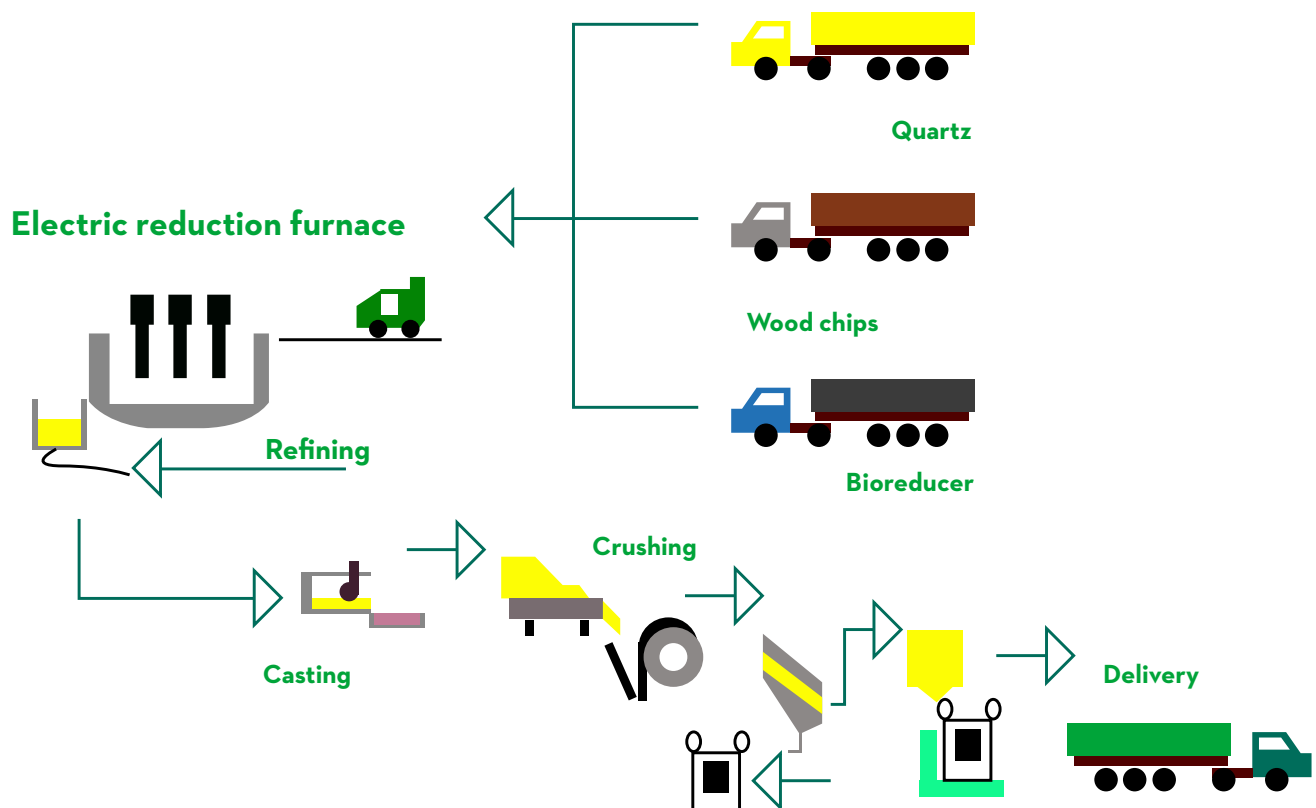


1.8%
global market share



7%
market share

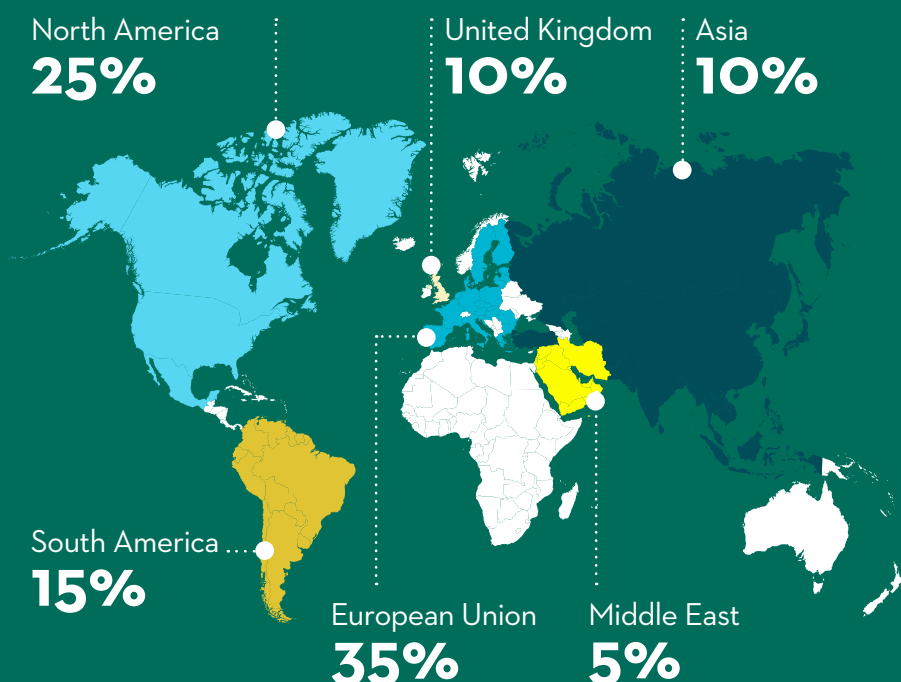
**Excluding China, which is not included in the company's analysis due to its global share.*



Silicon is employed in about 10,000 products, including those resulting from advanced technologies aimed at a sustainable economy. Such products include industrial and medical silicon, metal alloys, solar panels, electric car batteries, and microprocessors.

LIASA presently operates four electric reduction furnaces at its plant to produce Silicon Metal.

The company primarily operates in foreign markets, with approximately 85% of its production exported to Europe, North America, Asia, and the Middle East.



Within the domestic market, silicon is predominantly allocated to the states of São Paulo and Minas Gerais.

MODERNIZATION AND GROWTH

With a focus on expanding its economic growth, LIASA combines the tradition of a family business with the most advanced standards of technology and management, which allow for the sustainable evolution of its business.

LIASA is constantly investing in its plant in Pirapora (MG), with an estimated expenditure of half a billion Brazilian reais (R\$) on technology, especially aimed at environmental improvements. This process is essential to increase its competitiveness in a market where demand for silicon metal is growing.

Reinforcing its innovative profile, in 2023 LIASA modernized its furnaces and installed dedusting filters, incorporating pioneering technologies developed thanks to the company's know-how.

Everything is being executed according to the ESG principles, with a devoted focus on environmental and human safety.

Additionally, the investments are indicative of social benefits that lead to job generation and regional expansion. **Learn more.**



GREEN SILICON

With sustainability as one of its fundamental pillars for management and production, LIASA introduced the concept of “Green Silicon” in 2022. This was made possible by our investments in process efficiency, ensuring the sustainable utilization of resources. The term encompasses the company’s social and environmental responsibility throughout its production chain, from raw materials and renewable inputs to final product delivery. This includes managing vendors and employee hiring.

LIASA has designated Green Silicon as its product identity, representing a genuine symbol of sustainability. Green silicon has already been registered in Europe and is being sought after in other locations, including the United States.

LIASA:



- Electro-intensive industry fully powered by solar energy and renewable gearbox (bioreducer);



- It has a carbon footprint that is net negative, taking into account emissions, offsets, and stocks;



- It has expanded operations by developing its own planted forest areas and consistently increasing self-production of bioreducer.



- It provides continuous incentives for the circular economy by entirely reusing the waste produced during its manufacturing process. Most of the waste is recovered and sold again.

LIASA's eco-friendly Green Silicon serves as a raw material for other sustainable products and a true representation of an ESG pillar.

The resulting product feeds into a critical chain for sustainable development, including the solar panel industry, chips, microprocessors, and electric car batteries, among others.

The recent advancements in the company's ESG agenda have enabled the shift towards Green Silicon. In addition, the company has implemented new technologies that enhance productivity while reducing input consumption:



Carbon emissions lower than removals and stock.



100% self-sufficiency in energy from renewable sources.



Circular economy through the management of waste, tailings and by-products.



Use of bioreducers in the production process.



Compliance with international sustainability standards.

CERTIFICATIONS, AWARDS AND RECOGNITION

Commitment to sustainability is one of the main foundations of LIASA's management and production. This effort encompasses all stages of its production chain, from selecting raw materials and inputs from renewable sources to managing vendors and hiring staff. Responsibility for everything that is produced is attested to by various certifications, such as:

- **ISO 14001:** Since 2015, it certifies organizations dedicated to managing their environmental impact.

- **ISO 14.064 / Gold Seal in the Brazilian GHG Protocol Program:** demonstrates our practice of saving 0.95 tons of carbon per ton of silicon produced.

- **ISO 9001:** since 1996 - the main standard of excellence required by the national and global market.

- **EcoVadis:** gold medal, awarded in 2022 - one of the most trustworthy sustainability rating systems worldwide, placing LIASA among the top 3% highest rated companies within its industry.

- **GPTW (Great Place to Work Brasil):** certified in 2022, LIASA is considered a great place to work by 88% of employees.

PRODUCT QUALITY AND MANAGEMENT

(GRI 3-3 Own topic: Customer satisfaction and product quality)

One of LIASA's primary goals is to execute its operations with utmost excellence, meeting market and customer demands while delivering superior and sustainable products.

Thus, the company consistently nurtures long-standing relationships with commercial partners, continuously enhancing its processes to ensure peak product quality, efficiency, sustainability, and business continuity.

Last year, LIASA maintained its market performance, applying cost-cutting strategies, maintaining stocks and focusing on the quality and efficiency of its products.

The strategic purchase of necessary inputs and investments in the company's own production of inputs (solar energy) and vital raw material (planted wood and quartz) contributed to the company's positive results in the past year and the optimistic outlook for the future.

QUALITY CONTROL

Through our Quality Management System, LIASA ensures compliance with our customers' specified conditions through effective controls.

LIASA provides technical assistance and after-sales support in partnership with the industrial sector to ensure top-notch product quality with prompt problem-solving and continuous improvement.

The company generates Customer Complaints Reports to evaluate the effectiveness of its Management System and monitors measures creating positive impacts on both customer and company processes. These efforts generate noteworthy enhancements in efficiency, logistics, packaging, and beyond.

- Customer satisfaction rate in 2023: **98.60%**
- Performance rated as excellent and above the established target: **94%** (LS-O2).

In 2023, LIASA received no complaints from customers.

In instances of internal deviations resulting in customer complaints, LIASA carefully evaluates the process and follows non-compliance procedures.

LIASA's primary 2024 goal is to reformulate customer satisfaction research tools and parameters, with continuous improvement applied to the process.



INNOVATION IN PRODUCTION

(GRI 3-3 Own topic: Innovation and patents)

Committed to the development and improvement of the silicon metal production process, LIASA is at the forefront of technological innovation, having developed unprecedented industrial projects which, to date, total R\$365 million by 2023. The goal is, and always will be, to deliver the best product to its customers, safety for its employees and environmental suitability for the community. That is why innovation as a philosophy is embraced by all sectors of LIASA.





ESG STRATEGY

ESG STRATEGY

(GRI 2-14; 3-1)

LIASA's material topics are the foundation of its ESG strategy outlined in 2022 through a robust process conducted by the ESG Committee in partnership with a specialized consulting firm. This report's scope centers on these topics.

Throughout 2023, the company's Executive Committee and shareholders participated in defining the ESG strategy by attending workshops to set targets, conducting materiality interviews, and holding meetings to deliberate and monitor results.

Learn more in the **Governance chapter**.

KEY STEPS:



Interviews were conducted with seven company leaders, comprising of the CEO, COO, Managing, Finance and ESG Director, as well as managers from the Industrial, Procurement, Commercial, Forestry and Environment departments.



Analysis of sectoral and internal documents.



Identify and prioritize the actual and potential positive and negative impacts on the economy, environment, and individuals.



Analysis of LIASA's ESG maturity, risks and opportunities.



Defining and prioritizing material topics.

Fifteen material topics were identified and prioritized, grouped into three categories, as presented in the table.

STRATEGIC PILLAR	MATERIAL TOPICS (GRI 3-2)	RELATED SDG
RESPONSIBILITY	Air quality	
	Renewable energy	
	Climate change	
	Water and effluents	 
	Waste and tailings management	 
	Forest management	 
DIGNITY	Community relations and social responsibility	 
	Occupational health and safety	
	Workers' quality of life and dignity at work	  
	Responsible supply	  
	Diversity and equal opportunity	 
COMPETITIVENESS	Ethics and compliance	
	Governance	 
	Innovation and patents	
	Customer satisfaction and product quality	

At the conclusion of their efforts, LIASA created a set of commitments and a roadmap consisting of short-, medium-, and long-term goals for each of their focal areas. They also connected these goals to the United Nations (UN) 2030 Agenda, otherwise known as the **Sustainable Development Goals** (SDGs).

As outlined below, the goals established for 2023 were met while making progress towards the others within the projected timeline.

Material topic	Goal	Status
Overall management	ISO 14001 certification by 2022.	✓
	Integrated environmental policy by 2023.	✓
Air quality: eliminating sources and air pollution	Installing dedusting filters in all furnaces by 2023.	✓
Renewable energy	Self-production of renewable energy in 2030.	✓
	Increasing the production of our own bioreducers in the industrial process by 2030.	In progress.
Climate change	Promoting the reduction of CO2 emissions by 2021.	✓
	Disclosing GHG <i>Protocol</i> Brazil inventory by 2022.	✓
	Posting data in the CDP by 2025.	In progress.
	Achieving zero carbon balance by 2030.	✓
Water and effluents	Reducing water footprint per metric ton of product by 2025.	In progress.
Waste management and circular economy	100% circular economy with filters by 2025.	In progress.
	100% of all industrial waste reused by 2026.	In progress.
Forest management	Increasing certified forest charcoal production volume by 2024.	In progress.
	FSC Forest Certification for all eligible farms by 2030.	In progress.
Community relations and social responsibility	Private Social Investment Policy by 2022.	✓
	Implementing the “Ligas da Vida” project by 2023.	✓

A multidisciplinary team, managed by the ESG Committee, developed this sustainability report whereas its final version underwent review by the Managing, Finance and ESG Director with the CEO and COO.

Material topic	Goal	Status
Occupational health and safety	Implementing a total safety culture by 2022.	✓
	ISO 45001 Occupational Health and Safety by 2024.	In progress.
Employee quality of life and dignity at work	<i>Great Place to Work</i> by 2023.	✓
Diversity and equal opportunity	Increasing the percentage of women in the workforce.	In progress.
Responsible supply	Implementing the responsible purchasing program by 2022.	✓
	Developing local suppliers by 2023.	✓
Customer satisfaction and product quality	Creating in-house survey based on ISO 9001 indicators: customer satisfaction and complaints, setting targets: all complaints handled by 2023.	In progress, rescheduled for 2024.
Ethics and compliance	All employees and third parties to complete Code of Ethics training by 2023.	✓
Governance	Adapting governance to the IBGC Best Practices Code by 2024.	In progress.
Innovation and patents	Allocating a percentage of our turnover to R&D (Research and Development) by 2024.	In progress.
	Number of innovation projects to be completed by 2025.	In progress.



LIASA's ESG Working Group, composed of representatives from Legal, Environmental, Management System, Communication and Social Responsibility, People, and Management areas, meets biweekly to discuss and monitor the actions and goals outlined in the strategic sustainability plan.

The company is also highly focused on the evolution of its governance policies, which are constantly being studied by the ESG Committee. The Managing, Finance and ESG Board reviews their implementation while monitoring the process alongside the CEO and COO.

STAKEHOLDER ENGAGEMENT

(GRI 2-29)

LIASA's approach to managing relationships with both internal and external *stakeholders* emphasizes transparency, open dialogue, and respect, which directly translates to effective collaboration in mitigating risks and solving problems.

Key stakeholders



Employees, their dependents and family members.



Local community.



Vendors.



Customers.



Government (in its most varied forms of organization).



Competitors.



Specialist media.

The Communication Committee, consisting of representatives from several company divisions (Health and Safety, Environment and Forestry, Production, HR, Raw Materials, Laboratory, and Warehouse), conducts the mapping of target speeches and determines appropriate dialogues and engagement strategies. Additionally, they engage in tactical communication planning, which includes defining goals and initiatives.

In 2023, the engagement process with the internal audience comprised communication, training, and recognition initiatives, including specific materiality-building actions. **Learn more.**

For external audiences, LIASA maintains channels including its website, LinkedIn profile, and the **Ombudsman Channel**. Additionally, it develops various cultural and social initiatives. **Learn more.**







**GOVERNANCE
GOVERNANCE**



Fernando Patrus, CEO, & Marcos Patrus, COO.

GOVERNANCE

(GRI 3-3: Own topic: Governance; GRI 2-9; 2-10)

To ensure the sustainability and expansion of the business, LIASA has improved its governance model by utilizing transparent, ethical, and structured actions to support its strategies and initiatives.

In 2023, LIASA continued the process of maturing and sustaining its corporate governance, a move that began in 2022 with a corporate restructuring and the creation of boards of directors. These positions were filled by a combination of career professionals and market colleagues with recognized technical skills, a practice that continued in 2023 and has been guiding the company's recruitment and selection process.

LIASA implemented internal control measures and collaborative decision-making. KPMG conducted a financial and accounting audit, and S&P completed a risk assessment for the company (both are world-renowned firms).

These milestones, which are published and assess LIASA's performance, contribute to its certifications and add more transparency and stability to its management.

GOVERNANCE STRUCTURE

Recognizing its social and environmental role in advancing the economy of northern Minas Gerais, the impact it has on the well-being of its workforce, and the contribution of its product (Green Silicon) to a sustainable production chain, LIASA has reassessed its internal structure and organization.

Given the transcendent importance of its business objectives, LIASA has commenced a transitional and successional initiative, set to undergo gradual implementation over the forthcoming years.

External consultants provided support for this work, aiding in the design of a novel management structure and the proposal of updated governance policies, which shall be revised periodically to suit company needs.



The company is carefully and deliberately enhancing its corporate governance while preserving its core values and business operations.

ORGANIZATIONAL STRUCTURE

Executive Committee:

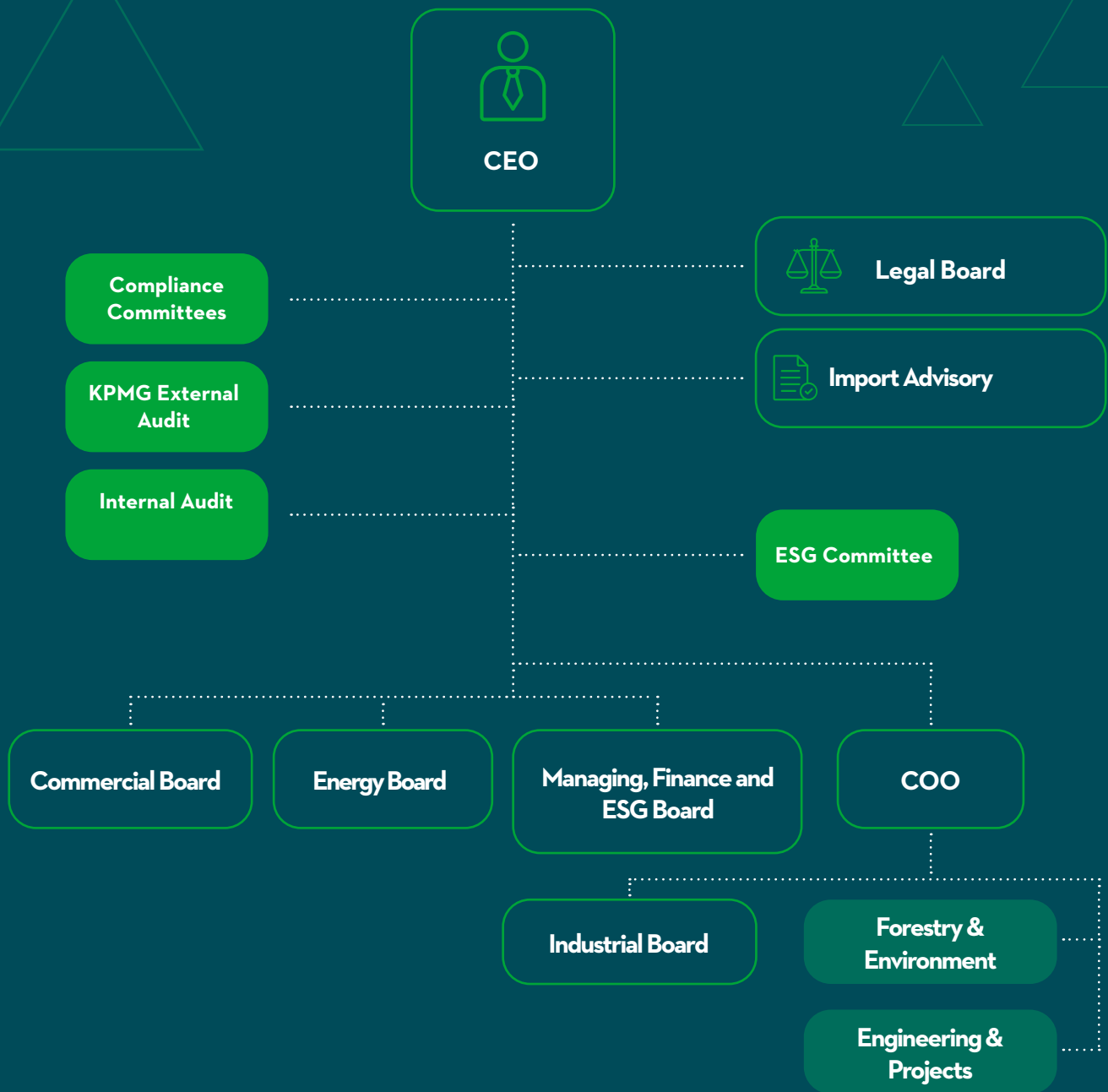
A committee convenes on a monthly basis to discuss strategic matters, including those pertaining to assets, budget, and risk management. The committee comprises internal leadership positions, including C-level executives, directors, and managers.

Currently, the partners serve as CEO and COO, but there is no Board of Directors established yet.

In addition to the partners, the Executive Committee comprises directors selected based on the organizational structure, career, skills, and the opinions of stakeholders, including internal and external customers and shareholders.

Five new boards were created to support the CEO and COO; two of these appointees came from outside the company with specialized expertise.

(GRI 2-9; 2-11)



Throughout 2023, ESG Committees were held to update and deliberate on the targets set for the year. For each item, specific knowledge was contributed by experts.

(GRI 2-17)



SHARED MANAGEMENT

(GRI 2-9; 2-13)

One of the company's main advantages is that management is carried out collaboratively, with leaders working directly with senior management to conduct activities in a more agile, close, and strategic manner.

Also as part of a more decentralized corporate governance model, in 2023 LIASA began to have committees that manage and define responsibility for actions related to the main impacts (economic, environmental and people) of the business.

The committees have a set meeting schedule and can be called upon whenever needed. The top governing body is consistently updated and, when appropriate, participates in strategic discussions.

• ESG Committee:

chaired by the CEO, the committee comprises the Managing, Finance and ESG Director, along with the Communication, Environment, Legal, Quality, and New Business departments. The committee convenes every 45 days to oversee and determine the necessary action plan and investments.

• People & Management Committee:

consists of HR employees and is led by the Managing, Finance and ESG Director. Meetings take place monthly within the Executive Committee and feature fixed topics and specific agendas focused on ongoing people management projects. Additionally, the committee convenes yearly to evaluate and calibrate company-wide performance reviews.

• OSH (Occupational Health and Safety) Committee:

led by the Managing, Finance, and ESG Director, with input from the Director of Industrial Operations and the OSH team, this committee convenes monthly to assess key performance indicators in the area, including incidents, hazards, actions, and investigations. Based on this analysis, the committee makes informed decisions regarding economic and managerial measures and investments required for permanent mitigation of associated risks..

• Comité de Compliance:

consisting of three members (Industrial Director, Accounting and Controllershship Manager, and Information Technology Manager), selected based on the company's ethical and compliance criteria. It deliberates on economic, environmental, informational security, and personnel-related issues, redirects complaint resolutions to the designated areas, and convenes when sought after by company channels or other corporate demands. **Learn More.**

• Communication Committee:

led by the Managing, Finance, and ESG Director and comprises employees from several departments. It convenes monthly with delegates from all areas of the organization. Its primary goal is to disclose institutional policies to employees and collect valuable information to support new initiatives, campaigns, and issue resolution.

REMUNERATION AND ASSESSMENT OF KEY MANAGERS

(GRI 2-18; 2-19; 2-20)

The partners determine the remuneration policy for members of the Executive Committee and the Executive Board. The committee is responsible for defining management and budget goals, evaluating them for development management, meritocracy, and bonuses.

The company considers sustainability performance when assessing directors and other managers. This assessment process factors in organizational positions, responsibilities, and remuneration and influences their careers.

The Executive Committee divides the ESG-related objectives outlined in the company's strategic plan into targets for the executives. The ESG Committee then tracks the progress towards these targets.

Among the targets being assessed are those pertaining to acquiring ISO 14001, ISO 45001 (work in progress), GPTW, GRI, GHG Protocol and EcoVadis.

RISK MANAGEMENT

(GRI 2-16)

LIASA's executive team receives real-time communication from strategic areas on business concerns, including their associated risks, levels of criticality, analysis, solutions, and key points.

Non-emergency issues or those requiring more detailed analysis are reported at Executive Committee meetings.

The table below lists the company's main concerns conveyed to its highest governance body in 2023:

Complexity of the international market	Geopolitical changes have affected the commercial channels for LIASA's products, potentially impacting the supply of strategic inputs. However, we have mitigated these risks by implementing regulatory stock. Furthermore, these changes have opened up new opportunities for international market demands.
Implementing the strategy	Strategic planning is a living instrument, built annually, with a multi-year vision and continually revisited. Its execution includes investments in the short-, medium-, and long-term. It focuses on organizational change, decision-making, and broad governance of opportunities and risks. The foundations of strategic planning are sustainable growth, governance and business ethics, people, customers, global presence and legal requirements.
Modernization plan	Continuous modernization is a crucial element of LIASA's sustainable growth strategy, along with the autonomy over strategic inputs such as energy, bioreducer, and quartz. Since this factor impacts LIASA's sustainability, senior management frequently monitors costs, deadlines, and quality, which are all factors requiring continuous attention.
Institutional landscape	Continuous monitoring of both foreign and domestic markets' political and economic conditions, particularly those relating to customers and primary competitors.
Capacity for innovation	The development of innovation capacity lies in executing diverse modernization projects, analyzing the comprehensive commercial strategy, and pursuing autonomy in strategic inputs.
Disruption of IT systems, including cyberattacks	International cases are monitored by LIASA, which uses human and technological resources to stay informed about blockchain solutions worldwide. Additionally, the organization implements strong internal risk mitigation processes.
Developing people and leaders	The process is structured around reviewing key positions and their successors, and is used as an opportunity to assess and develop talent throughout the company. Fluidity and oxygenation of the structure, seeking to transform the organizational culture, are the keynote of management. Working with multi-functional, high-performance teams, the aim is for the people development process to take place with excellence, in a fluid and continuous manner.
Legal, industry regulation and tax burden	The Legal department monitors legislative changes to excel in meeting our company's demands. Their work aligns with LIASA's business and works proactively, resulting in minimal litigation.
Financial market fluctuations	Permanent monitoring of global market changes is necessary to effectively manage financial resources, mitigate risks, and capitalize on opportunities. Making sound financial decisions requires a careful balancing of budgeting and long-term investments.
Supply chain and raw materials	LIASA aims for greater autonomy by investing in its production and cultivating long-term vendors, particularly for its strategic inputs like energy, planted forests, and quartz. Additionally, LIASA requires the same level of dedication and adherence to quality and legality from all vendors at every level, mirroring its commitment to customers.





ETHICS AND THE FIGHT AGAINST CORRUPTION

(GRI 3-3: 205 Anti-corruption; GRI 2-24)

The fight against corruption, respect, and integrity in relationships are commitments assumed by LIASA that guide the actions of its employees, service providers, and business partners. These principles are reinforced by the Code of Ethics, Conduct, and Responsibilities, as well as the Anti-Corruption Policy, which are widely distributed.

Click here to access.

LIASA's employees undergo regular internal training to better understand these commitments, which are clearly and concisely explained. Additionally, LIASA promotes its policies and commits to defending the Universal Declaration of Human Rights, the American Convention on Human Rights, and the UN Global Compact through internal communication and support of social, cultural, and sports initiatives.

When conducting business with partners, LIASA presents these policies as requirements for signing contracts and commercial agreements. LIASA complies with the due diligence principles outlined in national laws, specifically the Anti-Corruption Law (Law No. 12.846/13), Bidding Law (Law No. 8.666/93), and Administrative Misconduct Law (Law No. 8.429/92).

The company has established, implemented, and communicated policy commitments through structured mechanisms. These include defining objectives in a collaboratively, through internal groups with specific delegation, approval by the Executive Committee, and subsequent monitoring and management by corporate committees.



ANTI-CORRUPTION

(GRI 205-1; 205-3)

In 2023, LIASA did not identify any corruption risks or cases related to bribery, fraud, extortion, collusion, money laundering, offering or accepting gifts, loans, commissions, rewards, or any other advantages that may induce dishonest or illegal behavior, breach of trust, or misappropriation. Moreover, no cases of influence peddling, abuse of office, illicit enrichment, obstruction of justice, or concealment were detected.

All staff receive annual training on this topic. LIASA's anti-corruption processes and procedures conform to the highest industry standards.

Anti-corruption policies and procedures are communicated to all of LIASA's business partners and suppliers, who are contractually obligated to inform and train their employees on the rules of conduct that govern the company's operations.

Complying with the law is crucial for the company in all its business dealings and throughout the production chain. As such, any potential non-conformities must be approached with careful attention and seriousness.

Communication of policies and procedures and training by employee category (GRI 205-2)	2022				2023			
	Employees informed on anti-corruption policies.		Employees who received anti-corruption training		Employees informed on anti-corruption policies.		Employees who received anti-corruption training	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Executive President	6	100%	6	100%	6	100%	6	100%
Manager/general manager	16	100%	16	100%	16	100%	16	100%
Coordinator/consultant	22	100%	22	100%	22	100%	22	100%
Technician/analyst/supervisor	282	100%	282	100%	242	100%	242	100%
Trainee	5	100%	5	100%	4	100%	4	100%
Operational	480	100%	480	100%	630	100%	630	100%
Interns	6	100%	6	100%	7	100%	7	100%
Apprentices	23	68%	23	68%	40	100%	40	100%
Total	840	99%	840	99%	967	100%	967	100%

Note: the company operates solely in the Southeast region. We are currently exploring the possibility of providing training on our Code of Ethics and Conduct as well as our Anti-Corruption Policy.

ANTI-COMPETITIVE BEHAVIOR

(GRI 3-3: 206 Anti-competitive behavior; GRI 206-1)

In 2023, there were no instances of legal action for unfair competition, trust violations, or monopolistic practices.

The company ensures fairness in its purchasing and sales procedures to prevent unfair competition.



COMPLIANCE

(GRI 2-25)

LIASA has a Compliance Committee tasked with preventing, identifying, measuring, reporting, and monitoring corporate risks. Additionally, the committee offers recommendations during the Preliminary Investigation and Infraction Investigation procedures.

Given that it is the responsibility of all employees to identify concerns related to business conduct, area managers must report any suspected irregularities to the committee while adhering to LIASA's principles, values, and relevant sector regulations and procedures.

Furthermore, the company's internal audits are utilized to detect concerns and to provide thorough, impartial, and objective evaluations.

COMPLAINTS, GRIEVANCES AND REPORTS

(GRI 2-26)

For suspected violations of the Code of Ethics, Conduct and Responsibilities, the Anti-Corruption Policy, and LIASA's health and safety rules and policies, there are four options for reporting:

- Directly with the Human Resources (HR) area;
- During the Diálogos Diários de Segurança [Daily Safety Dialogues] (DDS);
- Directly with the Specialized Services in Occupational Health and Safety (SESMT);
- Through our Ethics Channel, a specialized platform for reporting suspected violations of conduct, standards, and internal policies, employees, vendors, customers, and third parties can take action.





LIASA listens to its employees through various channels to receive, identify, analyze, and respond to any complaints or grievances that may arise.

- **Directly with leaders**
- **Directly to the Compliance Committee**
- **During Communications Committee meeting**

The team participates in bi-monthly “Café com Prosa” meetings, where the Managing, Finance and ESG Director engages in casual conversations with selected employees from different plant areas about their experiences at the company.

OMBUDSMAN CHANNEL

For employees, we offer an Ombudsman Channel to report instances of non-compliance with the Code of Conduct, legislation, or internal LIASA rules.



<https://intranet.liasa.com.br/index.php/ouvidoria/>



ouvidoria@liasa.com.br

In 2023, LIASA did not have any cases registered with the Ombudsman Channel.

ETHICS CHANNEL



LIASA website

<https://www.liasa.com.br/canal-da-etica>

OMBUDSMAN CHANNEL



LIASA Intranet

<https://intranet.liasa.com.br/index.php/ouvidoria/>

Through the Ethics Channel, **the report can be made anonymously, or not.**

It is the responsibility of the Compliance Committee, utilizing its established procedures, to probe into every complaint and produce a report for the relevant department heads. They will scrutinize the information presented and, if necessary, covertly involve other departments, dependent on the nature of the concern, but always exercising utmost discretion.



In 2023, four cases were reported through the Ethics Channel and duly dealt with internally.





SOCIAL

SOCIAL

LIASA's people management policies seek to provide a continuous experience of developing employees' skills and behavior, as well as promoting the sharing of values in an environment of cooperation and teamwork.

The company seeks to offer fair working conditions, with jobs and local income generation, and drives the economy of the Pirapora micro-region, being essential to the entire **production chain**.

Aware of this responsibility and its social and economic impacts,

LIASA is committed to identifying and mitigating possible negative impacts on local development that may arise from the company's business.

The company also works in partnership with government bodies, meeting with institutions such as the Military Police to carry out training on community impact issues and exchange information, and with the Executive Branch, especially at state and municipal level, to discuss projects and ways of contributing to issues that are important to the community and the company.

Total number of employees by employment contract and gender (GRI 2-7; 2-30)	2021			2022			2023		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Own employees with indefinite term	634	44	678	712	69	781	856	85	941
Own temporary employees	58	11	69	23	7	30	0	0	0
Total	692	55	747	735	76	811	856	85	941

Note: All operations are located in the Southeast. Data source: headcount report, December 2022 and December 2023. Interns and apprentices are not included in the headcount. All employees are covered by collective bargaining agreements.



JOBS GENERATED

(GRI 2-8)

LIASA stands out in terms of job creation in the region, as it is responsible for more than 3,000 direct and indirect jobs, which correspond to around 20% of the workforce in Pirapora and its surroundings.

In activities that go beyond its know-how, LIASA hires third-party companies to provide services, mostly for maintenance and assembly work.

With the environmental modernization of the plant, hundreds of new jobs have been created indirectly:

2021:

225 people

2022:

799 people



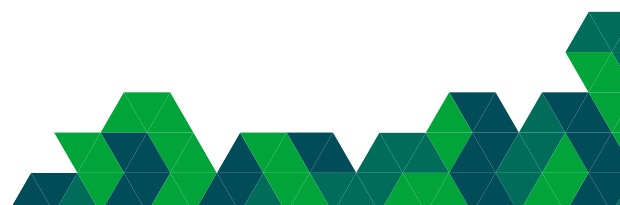
2023:

984
people



In 2023, LIASA received certification from the Great Place to Work Brazil methodology, earning a 88% satisfaction rating from its employees as an outstanding workplace.

[Learn more.](#)



NEW EMPLOYEES AND TURNOVER

(GRI 3-3 401: Employment)

One of LIASA's primary methods for fostering internal growth opportunities among its employees is through conducting performance appraisals and implementing internal recruitment programs, which cover the majority of open positions.

In people management, LIASA divides the employee journey into three primary stages:



LIASA is committed to eradicating forced labor and child labor, as well as all types of discrimination in the workplace, following the guidelines of the International Labor Organization (ILO) conventions numbers 29, 130, 138, 182, PO29 and R203.

The company also observes the parameters established by the World Health Organization for all its labor relations.

(GRI 2-23)

In 2023, LIASA's employee count remained relatively stable. The company maintained the same average for hiring and turnover rates as in 2022.

EMPLOYEE TURNOVER

(GRI 401-1)

2022							2023				
Geographical distribution	Gender	Age group				Turnover rate by gender and region	Age group				Turnover rate by gender and region
		<30	30-50	>50	Total		<30	30-50	>50	Total	
Southeast	Men	19	55	7	81	11%	22	71	17	110	19%
	Women	3	16	0	19	3%	2	14	2	18	3%
	Total	22	71	7	100	14%	24	85	19	128	22%
Turnover rate by age group		22%	71%	7%			19%	66%	15%		

Note: for the consolidation of this indicator, "total purchases" considers operating values (OPEX).

HIRING EMPLOYEES

(GRI 401-1)

2022						2023					
Geographical distribution	Gender	Age group				Hiring rate by gender and region	Age group				Hiring rate by gender and region
		<30	30-50	>50	Total		<30	30-50	>50	Total	
Southeast	Men	32	55	7	94	76%	59	125	7	191	86%
	Women	8	20	1	29	24%	6	21	3	30	14%
	Total	40	75	8	123	100%	65	146	10	221	100%
Hiring rate by age group		33%	61%	7%			29%	66%	5%		

Note: all workers are located in the Southeast region.

LIASA has made it a policy to prioritize the hiring of women in order to reach our target of 15% by 2025.



REMUNERATION AND BENEFITS

(GRI 401-2)

For LIASA, prioritizing employee care entails providing remuneration and benefits that align with the responsibilities and accomplishments of its professionals and are comparable with other businesses in the industry. As a result, LIASA frequently assesses itself against the top market practices.

The company strives to ensure equitable benefits for all its staff members, irrespective of their contract terms.

The company values seniority and adheres to collective bargaining rules by offering incentives to long-serving employees, aiming to help them retire comfortably.

Parental leave (GRI 401-3)		2021	2022	2023
Number of employees entitled to maternity/paternity leave	Men	24	32	21
	Women	4	0	0

Benefits:



Life insurance



Health and dental insurance



Agreement with gyms



Childcare allowance



Pension fund

EDUCATION AND TRAINING

(GRI 3-3: 404 Training and education, GRI 404-2)

At LIASA, we strategically prioritize training to ensure employee development, satisfaction, and personal growth, as well as the retention of qualified professionals with the necessary skills for business success.

To accomplish this goal, we have a dedicated department responsible for measuring, analyzing, and reducing operational gaps, while also maintaining an annual training program.

In 2023, LIASA provided its employees with technical, behavioral, and leadership training that respected their career levels and aimed to enhance operational sustainability and safety.

Main courses:

- Integrated Internal Assessment Program
- Internal Leadership Development
- Technical Training in Metalworking
- Operational Training (SOPs)
- Technical Training
- Trainee Program

Average annual training hours by employee (GR-404-1)		2021	2022	2023
Administrative/Technical	Men	53	7	30
	Women	11	8	9
Specialists	Men	13	3	4
	Women	18	11	1
Operational	Men	15	23	37
	Women	3	9	31
Strategic/Tactical	Men	33	17	9
	Women	12	6	2
Interns/Apprentices	Men	20	4	3
	Women	8	8	0
Total	Men	18	19	33
	Women	8	8	12

As a result of the projects completed in 2023, along with obtaining the GPTW certification, we have observed a considerable decrease in critical issues within our operations. This can be attributed to our emphasis on training for operational procedures as well as Occupational Health and Safety.

Moving forward, the company aims to prioritize the following areas for training in the upcoming cycle:

- Training to strengthen LIASA's culture, values and purpose.
- Recycling the entire team through training sessions that cover the Code of Ethics, Anti-Corruption Policy, Privacy and Information Security Policy, Compliance Program, and IN DLOO6's efforts to raise awareness, prevent and fight against harassment and discrimination.

With a focus on improving the skills of Pirapora workers, LIASA partnered with Senai to offer the Metallurgy Technician training program, with LIASA subsidizing 80% of the cost. Currently, 32 employees are enrolled in the course that commenced in August 2022 and is slated to conclude in April 2024.

Through this initiative, the company not only trains a competent workforce, contributing to the betterment of the community, but also secures qualified successors for its operational leaders.



LIASA actively contributes to job creation and income generation by implementing an enticing and distinctive remuneration policy that has a profound impact on the local economy and community quality of life..

PERFORMANCE EVALUATION

(GRI 404-3)

LIASA has been enhancing its team performance evaluation processes by establishing predefined criteria, objectives, and targets. We actively explore self-development tools to bolster the professional training of our team members and promote a culture of structured feedback.

ENGAGEMENT AND QUALITY OF LIFE

(GRI 2-29)

In order to bolster engagement among our internal audience and foster a closer connection between employees and the company, the following actions are undertaken:



Annual calendar:

LIASA upholds an annual schedule of internal events with a keen focus on various facets such as workplace health and safety, environmental initiatives, leisure, quality of life, culture, and sports. Some of the notable events on our calendar include the “Arraial da LIASA” June party, celebrations for occasions like Women’s Day, Mother’s Day, Father’s Day, Children’s Day, Labor Day, Environment Week, Arbor Day, World Water Day, as well as spirited competitions like truco and soccer championships. As the year draws to a close, employees are graciously provided with a Christmas kit and a symbolic sum as a gesture of goodwill from the company, fostering a warm atmosphere for them to celebrate alongside their teams, leaders, and family members.



Communication:

the company maintains robust and well-organized communication channels, guaranteeing swift and transparent dissemination of information to all employees. On a weekly basis, the People and Management team convenes to oversee a range of critical matters, including organizational climate, ethics, operational activities, internal and institutional communication, health and safety, the quality management system, and environmental concerns.



Recognition:

since 2021, LIASA has been hosting an annual gathering to acknowledge and express gratitude to its employees for their tenure with the company.



Educational campaigns:

to promote awareness of health and safety among employees, LIASA employs internal campaigns, lectures, educational raids, and the distribution of informative materials. These initiatives cover a range of topics, including vaccinations, disease prevention, blood donation, mental and emotional well-being, safe and responsible driving, and more.



Sports and leisure:

the company operates a Sports Center, complete with amenities like a soccer field, swimming pool, and various other recreational facilities. These facilities are accessible to affiliated employees and their families, including the option to extend invitations to third parties.





DIVERSITY AND EQUAL OPPORTUNITY

(GRI 3-3: 405 Diversity and equal opportunity; 406 Discrimination)

At LIASA, valuing diversity and offering development opportunities to all professionals, regardless of race, creed, gender, age or sexual orientation, is a priority, and the company is a reference and an agent of change in the region in which it operates.

In its role as a signatory to the UN Sustainable Development Goals (SDGs), LIASA staunchly condemns all forms of discrimination, a stance that is clearly articulated in documents such as the Code of Ethics and Board Normative Instruction 06 (Addressing, Preventing, and Combatting Harassment and Discrimination). The Compliance Committee plays an active role in investigating and resolving complaints in this regard.

LIASA annually observes a week dedicated to combatting discrimination and harassment. It conducts targeted training on this subject, including onboarding sessions for all new employees and third parties.

LIASA's **Ethics Channel** is an important ally in dealing with this issue. In 2023 there was a complaint on the subject. The case was handled diligently, with the appropriate measures followed strictly as determined by compliance rules. (GRI 406-1)

In alignment with our commitment to diversity, including enhancing the representation of women in our workforce, 2023 marked our actively focus on aspects of equity and inclusion in a structured manner, outlining specific targets and crafting action plans to realize these objectives.



In 2023, LIASA experienced a 24% increase in the number of women in its permanent workforce¹.

¹Excluding interns and apprentices.

DIVERSITY IN GOVERNANCE BODIES AND EMPLOYEES

(GRI 405-1)

	2022				
	Age group			Gender	
	- 30 years	30 - 50	+ 50 years	Women	Men
Executive President	0	0	6	2	4
Manager/general manager	0	8	8	2	14
Coordinator/consultant	0	19	4	5	18
Technical/Analyst/Supervisor members	15	195	74	43	241
Trainee	1	0	0	0	1
Operational	51	354	76	24	457
Interns	5	1	0	5	1
Apprentices	34	0	0	19	15
Percentage	12%	68%	20%	12%	88%

	2023				
	Age group			Gender	
	- 30 years	30 - 50	+ 50 years	Women	Men
Executive President	0	0	6	2	4
Manager/general manager	0	10	6	2	14
Coordinator/consultant	0	15	7	7	15
Technical/Analyst/Supervisor members	34	167	41	48	194
Trainee	4	0	0	1	3
Operational	109	435	86	27	603
Interns	7	0	0	5	2
Apprentices	40	0	0	16	24
Percentage	20%	65%	15%	11%	89%

Note: this information is derived from the BI HR report. The data for the governance body is incorporated within the directors' information, given the overlap in roles.
Interns and apprentices are included in this calculation.



APPRECIATION FOR LIFE

(GRI 3-3: 403 Occupational health and safety)

For LIASA, the significance of positive results is contingent upon the health and safety of all employees, an inherent company value.

With this in mind, the company invests in training, procedures and equipment to reduce the risks related to routine and unscheduled tasks, preventing incidents that cause occupational injuries and illnesses. Policies and procedures are constantly re-evaluated to make them more optimized and effective.

The commitment to well-being starts from the upper echelons of management, guaranteeing the effective operation of the Occupational Health and Safety Management System. This comprehensive system encompasses all facets of the company's operations,

encompassing production areas such as Raw Materials, Furnaces, Crushing, and Shipping, as well as support areas like Maintenance, Laboratory, SEMR, Warehouse, and Administrative.

The Management System adheres to the following principles and regulations: MTb Ordinance No. 3,214, dated June 8, 1978 (NRs 01 to 37), ISO 45001 (Fundamentals), Technical Instructions of the Fire Department (Its 01 to 30) and NBR 14280/2001. The company adheres to all the human rights standards recommended by the International Labor Organization (ILO).

As part of LIASA's ongoing commitment to modernization, investments are directed toward maintenance and equipment upgrades aimed at ensuring

employee safety.

In 2021, 2022 and 2023, the Health and Safety Management System extended its coverage to encompass 100% of both the company's direct and indirect employees, audited internally.

SAFETY IS EVERYONE'S BUSINESS

(GRI 403-4; 403-5)

At LIASA, Occupational Safety is a collective responsibility, and all employees are represented by the Internal Accident Prevention Committee (CIPA).

The company invests in training, raising awareness and improving the safety skills of direct and indirect employees. They are trained in management tools to mitigate and prevent risks. The content of the training courses meets the regulatory requirements according to the equipment, machine or activities to be carried out.

LIASA offers channels for employees to report risk situations they encounter during their tasks. These channels include the Ombudsman Channel or direct communication with the responsible person in their respective department, as well as engagement with members of the Occupational Health and Safety (SEMST) and the HR department.

Notably, every single employee is informed of their right to refuse to perform a task when it poses an imminent risk.

RISK ASSESSMENT

(GRI 403-2; 403-7)

LIASA works preventively to identify risks and implement safety procedures, carrying out sector and cross-sector audits and scheduled inspections with specialists who map out possible risk situations.

To gauge the severity, frequency, and likelihood of these identified risks, the company employs a Risk Matrix and subsequently applies all necessary mitigation measures.

Upon scrutinizing the findings of these inspections and audits, the OSH Committee takes action to enhance working conditions, safety directives, equipment, and risk control mechanisms in full accordance with legal requirements.

Main risks

As a metalworking company, LIASA falls under the classification of risk level IV, in accordance with regulations from Brazil's Ministry of Labor and the National Classification of Economic Activities (CNAE). These risks are inherent to every company in this industry.

In addition to the legal obligations and risk mitigation measures intrinsic to its activities, occupational health and safety are non-negotiable for LIASA, which bases its activities on ensuring the well-being and development of its people, the preservation of its assets and the continuity of its processes.

The identification of all potential risks is an integral part of our work permit preparation and activity planning processes.

Ensuring the safety and well-being of employees is a fundamental commitment for LIASA. In the event of workplace accidents, the standard protocols for victim care are followed and the cause is then investigated by specialized technical staff, prioritizing corrective measures to prevent recurrences.

LIASA has established multiple channels for employees to report potential risk situations in their work areas or elsewhere. These channels include direct communication with the SESMT and HR, participation in Daily Safety Dialogues (DDS), engagement during regular CIPA meetings, or through their sector representative.

Employees who wish to keep their reporting confidential can do so through the ombudsman channel. Furthermore, LIASA employees are educated about their right to refuse an activity if they believe it poses an imminent risk. (GRI 403-4)

EMPLOYEE PROTECTION

For 2024, LIASA intends to promote actions aimed at adapting its processes, which are already showing positive results.

The purpose is, in addition to implementing new measures, to attest to them through the ISO 45001 certification.

The implementation of ISO 45001 is driven by the goal to minimize workplace injuries and illnesses, encompassing the promotion and safeguarding of both physical and mental health.





HEALTH MANAGEMENT

(GRI 403-3; 403-6)

LIASA has a roster of programs dedicated to actively enhancing the well-being of its employees, including:



Ergonomic Workplace Analysis (EWA)



Respiratory Protection Program (RPP)



Risk Management Program (RMP)



Occupational Health Medical Control Program (PCMSO)



Hearing Conservation Program (HCP)



Daily Safety Dialogues (DDS)



Occupational Risk Management (ORM)

The measures adopted by LIASA, with quick and easy access for employees during the workday, are a reflection of the programs and the team's commitment to health and safety standards at the plant:

- **An outpatient clinic staffed with an occupational doctor, nurses, and ergonomists is readily available to employees;**
- **Ambulance equipped with first aid items, ready to act in the event of an accident or other emergency;**
- **Workplace gymnastics activities at the workstations, helping to prepare employees physically before work**

During medical assessments, employees who require non-work-related medical assistance are provided with appropriate referrals to access the right type of medical care.

Notably, there were no reported cases of occupational diseases in 2021, 2022 and 2023. (GRI 403-10)

The Health Management System's documentation and legal requirements are managed through an external platform monitored by a specialized consulting firm. The company maintains all necessary updates and publications to comply with legal requirements related to health, safety, and ergonomics.

Access to workers' health information is restricted exclusively to the Occupational Medicine department. This information is securely stored, both electronically and in physical form, with stringent access control measures in full alignment with the Compliance program and the provisions of the General Data Protection Law (GDPR).

COMMUNITY EMPOWERMENT

(GRI 3-3: 203 Indirect economic impacts;
413 Local communities)

LIASA conducts ongoing social and environmental mapping of the Pirapora region, which includes all *stakeholder* groups it interacts with in the area. The collected data aids in the development of social interventions that cater more effectively to the region's needs, while also respecting local culture, environmental considerations, and people's safety.



Estimated population:

56,000 people



Municipal Human
Development Index (MHDI):

0.731



Municipality of
Pirapora/MG

Source: <https://cidades.ibge.gov.br/brasil/mg/pirapora/panorama>





Percentage of individuals with a monthly per capita income below half the minimum wage.

37.9%

The company maintains direct communication channels with the public and, when necessary, takes active part in local discussions, such as for the prevention of Covid and other diseases.



Average monthly salary of formal employees:

1.9 minimum wages

100% of LIASA's operations have enacted engagement initiatives, impact evaluations, and/or developmental programs targeted towards the local community.

(GRI 413-1)





FOCUS ON EDUCATION

(GRI 203-1; 203-2; 413-2)

Committed to regional development and recognized as a model company in the area, LIASA supports and executes social projects aimed at accelerating the local community's growth, ensuring its sustainability and autonomy.

One of the company's initiatives is the social project aimed at children's education, with assistance for the children of employees and the community. Ligas da Vida was born in 2022 and aims to focus on the overall

development of children and adolescents aged 7 to 17. The program provides a range of activities, including theater classes, capoeira, sports, dance, music, vegetable gardening, percussion, and literature.

The activities take place on the premises of the LIASA Sports Center and the children and young people also receive tutoring and food from the program's own vegetable garden. The educational plan is based on strengthening the

individual in the community. Participants have educational meetings with monitors and teachers, who help them with their schoolwork and reinforce their learning and interpretation of the texts.

In 2023, 72 children and adolescents took part in Ligas da Vida's multidisciplinary activities.

The company also has a project to build a head office for the program.

SPORTS, THEATER, LITERATURE, AND OTHER ARTS

Throughout 2023, Ligas da Vida students took part in cultural, environmental education and sports projects aimed at the community.

Such projects include:

- Sports project – Passos e Passes – free soccer, futsal, dance and capoeira classes.
- Storytellers – a book containing poems and short stories written by Ligas da Vida students in literature classes. Launch is scheduled for 2024.

VALUE GENERATION

LIASA's location in Pirapora has a purpose. Since it was founded, the company has acted as a vector for local development, with revenue for the public coffers, job creation, and programs and projects to support communities.

- LIASA creates both direct and indirect jobs in Pirapora, particularly through the modernization of its plant.
- Contribution to income generation in the local community through partnerships with the Association of Recyclable Materials Collectors (ASCARPI) and the Cooperative of Recyclable Materials Collectors (COPRARTE) in the Cidade Jardim neighborhood. COPRARTE collects paper and plastic for recycling from industry.

GROWING TOGETHER

LIASA's growth has a significant multiplier effect on the economy of Pirapora and Buritizeiro, impacting various sectors of the community and the lives of thousands of people.

The company actively contributes to the development of the regional supply chain in industrial, commercial, and service segments. A prime illustration would be the bioreducers and quartz producers, who, located up to 400 km from the operation, have a close association with the business.

There are also technological services that expand and maintain, favoring local operators, as a means of promoting growth within the silicon industry and economy of the region.

DONATIONS AND ACTIONS TO SUPPORT LOCAL INFRASTRUCTURE



- The company maintains the LIASA Sports Centre, a social and leisure space for employees and their families, revitalized in July 2019, which currently has 773 members. In 2023, the Passos e Passes sports school project took place, offering free capoeira, dance, soccer and futsal classes to 150 children and young people aged between 7 and 17 (children of employees and the community).

- Allocation of resources for the paving of rural roads near LIASA's farms and public roads surrounding the operation.

- Partnership with the city's Autonomous Water and Sewage Service (SAAE) through the "Don't stop, sort" environmental education campaign.

- Support for the Pirapora Association of Parents and Friends of the Handicapped (APAE) to renovate

the floor of the court built by LIASA in 2023.

- Support for the São Vicente de Paula Home for the Elderly for the second phase of the organization's refurbishment: changing the floors, painting the façade and refurbishing

the access entrance and the missing bathrooms.

Social and environmental projects are maintained to aid the community's economic advancement, including environmental education programs in collaboration with the City Council and monthly actions focused on health, safety, and the environment.

VOLUNTEERING

LIASA encourages and endorses volunteering. Employees are active in campaigns to collect food parcels, toys and books for the communities where the company operates. LIASA encourages volunteering and believes that volunteering is a transformative experience that makes a difference in the lives of employees and communities, reinforcing its commitment to work towards building a more equal and inclusive society.

LIASA has channels for dealing with the people of the communities and society, with forms available at the entrance to the plant in Pirapora, Contact Us, e-mail and telephone. No complaints have been reported in 2023.

RESPONSIBLE SUPPLY

(GRI 3-3: 204 Procurement practices; GRI 204-1)

One of the ways LIASA bolsters the local economy is by hiring local vendors, generating indirect jobs and encouraging entrepreneurship, boosting currency circulation and social transformation.

This impact is felt particularly by our partners in the towns of Pirapora, Buritizeiro and Várzea da Palma.



PROCUREMENT IN 2023

Local
purchases

R\$ 823 million

Local
purchases

R\$ 143 million (17%)

Note: for the consolidation of this indicator, "total purchases" considers operating values (OPEX).

In 2023, a large part of the consumption of firewood and charcoal came from our own forests, justifying the drop in percentage when compared to 2022.

We also achieved a great result with local vendors: 17% of total expenditures (R\$823 million) made by LIASA, involving R\$143 million.

In 2023, LIASA had a great result with local vendors: 17% of total expenditures (R\$823 million) made by LIASA.

SUPPLY CHAIN

(GRI 2-6)

LIASA is a pioneer in the production of silicon metal in Latin America, an activity that requires four main inputs:

Bioreducer

LIASA has forest plantations on properties in the North of Minas Gerais and has made new investments, acquiring properties in the Northwest, Central and Vale do Jequitinhonha regions, in order to become self-sustainable in timber production. The company currently buys a small amount of bioreducer from local sources.

Quartzo

source of silicon for silicon metal manufacturing. Any volume not obtained from the company's deposits is procured from local vendors with

verified legal and operational suitability. By 2024, the company aims to be 50% self-sustainable in its quartz consumption.

Electricity

LIASA is part of the largest solar energy park in Latin America. Thanks to the investments made, the company achieved complete self-sustainability in 2023 with its own solar energy generation.

Learn more in Renewable Energy.

Electrodes

a strategic input facilitates the conduction of energy necessary for chemical reactions in electric arc furnaces. The company maintains a regulating inventory to ensure greater production security and seeks long-term negotiations that align with the expectations of the business.



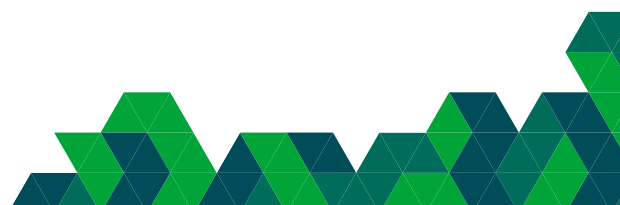
STRATEGIC VENDORS

(GRI 3-3: 308 and 141 Vendor social and environmental performance)

The management of LIASA's supply chain is critical to its competitiveness and sustainability, as the supply of materials and services can significantly impact the economy, environment, and society.

Procurement reviews prioritize not only the best cost, but also sustainable development criteria. The impacts considered include renewable energy sources, compliance with applicable legislation, quality assurance, waste reduction, environmental preservation and the level of development that the partner generates in the region.

To this end, the company seeks to concentrate the purchase of materials and services on qualified suppliers who meet the legal requirements applicable to the sale of inputs.



SUPPLY CRITERIA

(GRI 308-1; 308-2; 414-1; 414-2)

The main responsibilities between LIASA and its vendors are outlined in the Vendor's Manual, General Purchase Conditions, and the contracts agreed upon. These agreements prioritize commitments to conduct, labor relations, pertinent legislation, an anti-corruption policy, a code of ethics, community relations, confidentiality, and the health, safety, and environment.

The Supplier Quality Index (IQF) is applied to the procurement of the main raw materials, with dynamic goals and targets that are constantly reassessed in order to qualify commercial partners.

If the raw material is a bio reducer – firewood or chips – the supplier must be 100% compliant with Normative Instruction DAF-005, which sets out the procedures for qualifying potential suppliers of these inputs. Furthermore, it is imperative that the quartz vendor fully adheres to Normative Instruction DCOM-002, ensuring complete compliance with the procedures for qualifying quartz vendors and purchasing ore.

Moving forward, the company will implement a specialized system for approving, evaluating and managing suppliers, while also restructuring internal processes to effectively address any identified risks.

LIASA considers that, in 2021, 2022 and 2023, it selected all vendors based on social and environmental criteria.

For social aspects, specific criteria will validate the regularity of vendors during approval/qualification.

In 2023, the supplier approval/qualification process was expanded from two to 25 categories, in addition to the development of indexes to monitor the effectiveness of the actions. For 2024, LIASA intends to make further progress with its system in order to include all vendors that supply strategic inputs and services for the company.

In addition to submitting their regulatory documents, strategic vendors are asked to complete a self-assessment form on social and environmental issues.







ENVIRONMENTAL MANAGEMENT

ENVIRONMENTAL MANAGEMENT

(GRI 2-25)

LIASA's sustainable approach is reflected in its activities, especially its environmental preservation initiatives. To strengthen its values of operating with excellence and valuing life and the environment, the company is committed to promoting or collaborating with the mitigation of the possible negative impacts of its activities.

LIASA's dedication to sustainability sets it apart from competitors. It is the sole producer of Green Silicon worldwide. The company's process prioritizes reducing the impact on the planet and favoring renewable energy sources. Responsible management of the value chain is also emphasized, along

with promoting the circular economy and actively working to decrease greenhouse gas emissions and increase water savings.

Sustainable innovation has always been a driving force for the company, with the current investments in modernizing the plant an important practice in this regard.

The company promotes sustainability in the area surrounding its operations, believing that doing business in close partnership with the community helps to promote human and economic development and practices and actions aimed at local empowerment.

RENEWABLE ENERGY

(GRI 3-3: 302 Energy)

Energy management is a critical competitiveness and sustainability factor for LIASA, which is constantly seeking to reduce its operating costs, combined with the choice of renewable energy sources for the manufacture of silicon metal.

This is a material topic for the company, which is dealt strategically, with individual targets for managers in the areas responsible for the completion of solar energy generation and selfproduction of bioreducers.



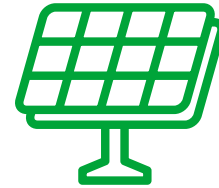
ELECTRICITY

Over the past two years, the majority of LIASA's electricity supply has been sourced from hydroelectric plants.

As a significant stride toward developing a more sustainable and less polluting global power grid, LIASA accomplished the prerequisite measures in 2022 to ensure the self-generation of solar-powered electricity starting in 2023. This bolsters the sustainability of silicon metal production.

The Pirapora region is currently one of the largest solar energy generating parks in Latin America, and the solar panels are produced with silicon metal, feeding back into the sustainability chain.

Choosing self-production of electricity from solar sources supports the economic and social development of the region by increasing local labor hiring and training.



***In 2023, LIASA became
100% self-sufficient in
energy production.***





BIOREDUCER

LIASA is a leader in utilizing 100% bioreducers in its production and is striving for increased autonomy in its consumption.

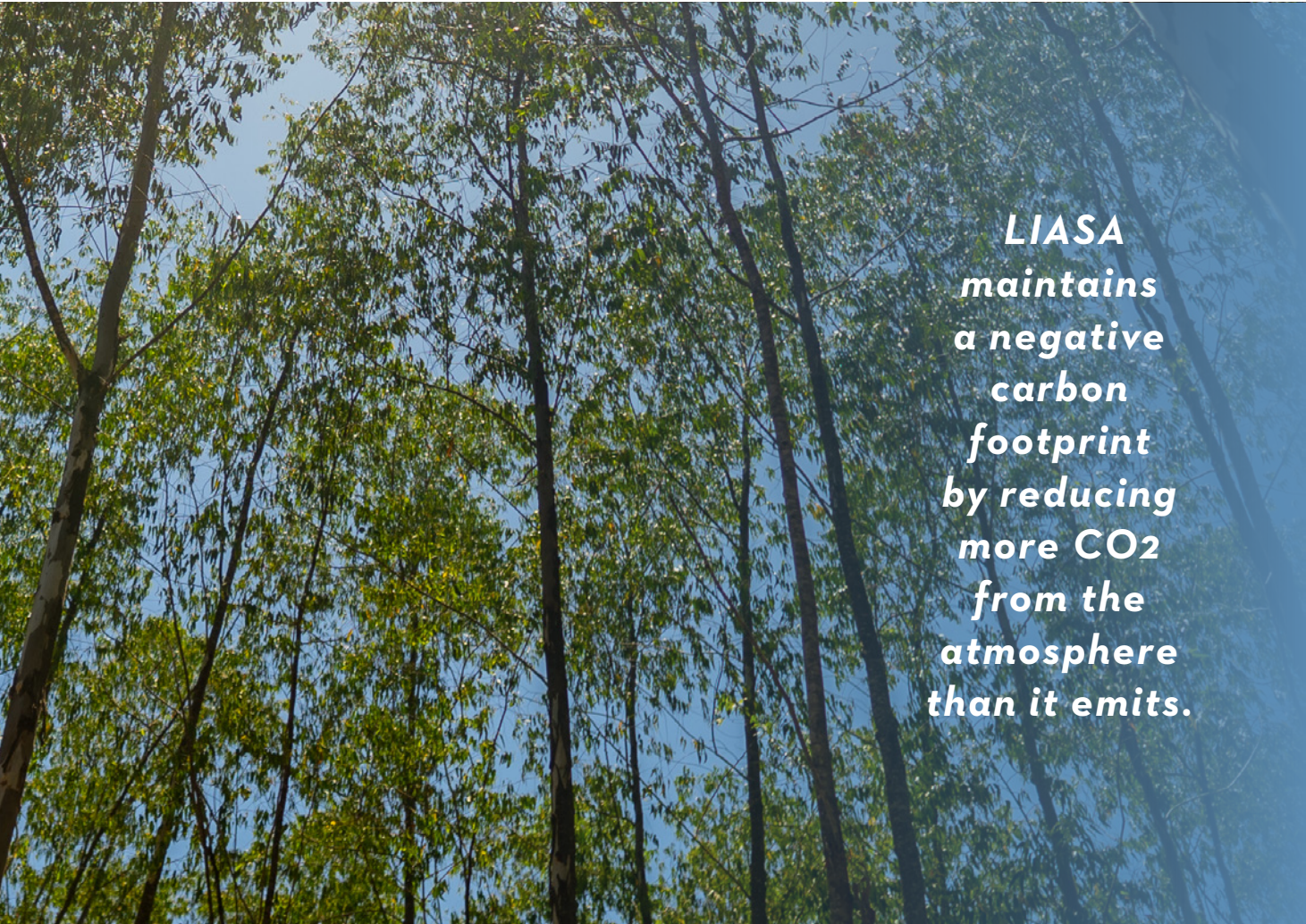
By expanding its self-production of charcoal, LIASA is taking a vital step towards securing the supply of raw materials for its operations while contributing to the economic and social deve-

lopment of the Pirapora area in northern Minas Gerais.

By choosing renewable energy sources for the production of silicon metal, the company contributes to reducing greenhouse gas emissions and, consequently, helps to preserve the environment.



LIASA exclusively uses 100% vegetable charcoal to produce Green Silicon.



**LIASA
maintains
a negative
carbon
footprint
by reducing
more CO₂
from the
atmosphere
than it emits.**

AIR QUALITY AND CLIMATE CHANGE

(GRI 3-3: 305 Emissions)

The company, cognizant of the potential impacts its industrial activities can have on the environment and committed to the global effort to combat climate change, has incorporated atmospheric emissions management into all levels of engagement with stakeholders.

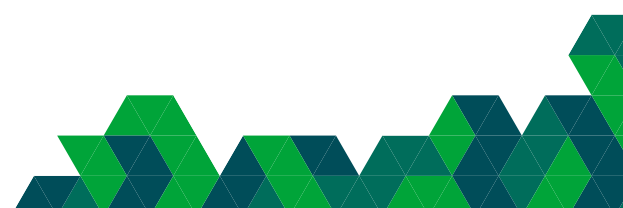
In 2023, LIASA made progress in implementing its ESG agenda, by completing the following actions:

- Installation of dedusting filters.
- GHG Protocol Silver Seal: achieved in 2022, base year 2021.

- GHG Protocol Gold Seal: achieved in 2023, base year 2022.

- Removals and storage of CO₂ greater than emission (negative CO₂ footprint).

Even the small quantities of greenhouse gases (GHG) emitted by LIASA's operations are offset by the removal and stockpiling of carbon, environmental services provided by the natural conservation reserves of native forests and its own plantations.



Direct greenhouse gas emissions (GHG), in tons of CO₂ eq
(GRI 305-1; 305-2; 305-3)

	Scope 1 (305-1)		
	2021	2022	2023
Stationary combustion	14,064.837	14,766.969	15,065.017
Mobile combustion	303.922	355.798	857.916
Fugitive emissions	97.896	194.496	460.354
Industrial processes	-	-	14,459.146
Agricultural	160.325	1,435.343	717.635
Changes in land use	0.000	0.000	0.000
Solid waste	0.000	0.000	0.000
Effluents	0.000	0.000	0.000
Scope 1 total	14,626.980	16,752.606	31,560.068
Non-Kyoto Emissions (Refrigerant Gases)	111.720	34.614	34.571
Biogenic CO ₂ emissions	283,573.456	286,759.231	291,742.883



In addition to the equivalent emissions presented, LIASA removed 447,029.500 tCO₂e in 2023, which resulted in a negative carbon balance.

The increased usage of renewable electricity led to a significant decrease in scope 2 emissions.

LIASA's planted forests, permanent preservation areas, and native cerrado and Atlantic forest contains a carbon stock of 18,365.59 tCO₂e.

Scope 2 (305-2)			
Indirect GHG emissions, in tons of CO ₂ eq	2021	2022	2023
Emissions – Based on location	34,455.055	27,839.444	26,677.653
Emissions – Based on purchase choice	4,126.002	1,141.417	0.000
Carbon Removal			
Removal from planting and native vegetation	211,566.230	323,712.906	447,029.500
Total Emissions			
Scope 1 + 2 (location)	49,082.035	44,592.050	58,237.721
Scope 1 + 2 (purchase choice)	18,752.982	17,894.023	31,560.068
Scope 1 + 2 (location) - Removals	-162,484.195	-279,120.856	-388,791.779
Scope 1 + 2 (Purchase Choice) - Removals	-192,813.248	-305,818.883	-415,469.432

Note 1: the figures for scope 3 emissions are not yet available. Gases included in the calculation: CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, HCFC-22. The parameters, emission factors, and reference sources can be located in the Brazilian GHG Protocol Program's calculation tool. Consolidation approach: Operational control.

Note 2: LIASA adheres to the GHG Protocol publication schedule. In 2023, LIASA earned the Silver Seal in the GHG Protocol after three years of greenhouse gas inventory preparation. This program encourages Brazilian companies to publish, quantify, and manage their GHG emissions utilizing a globally recognized methodology. Direct greenhouse gas (GHG) emissions, in tons of CO₂ eq (GRI 305-1; 305-2; 305-3)

Note 3: The increase in Scope 1 emissions is due to the progress made in mapping Stationary Combustion and Mobile Combustion sources. In 2023, we included the consumption of carbon electrodes that are used in the industrial process" and "We reduced 100% of electricity due to the adoption of solar energy consumption in 2023, reducing scope 2 emissions. If we look at emissions related to the localization approach, emissions total 26,668 GRI 305-2 305-5

GHG PROTOCOL GOLD SEAL

In 2023, LIASA was awarded the Gold seal in the PBGHGP (Brazilian GHG Protocol Program), which encourages companies to quantify, manage and publish GHG emissions using a validated and internationally recognized methodology.

WATER AND EFFLUENTS

(GRI 3-3: 303 Water and effluents; GRI 303-1)

LIASA's Integrated Management Policy promotes actions to preserve water resources, minimize their waste, optimize processes and make employees aware of the impact of the finiteness of these resources.

Water is utilized and recycled in various company processes, including cooling silicon metal production furnaces, washing quartz, and other less intensive processes like washing bearing raceways and charcoal production.

Since 2015, LIASA has had a Water Resources Consumption Reduction Program (PRCRH), which

Water withdrawal (in megaliters) (GRI 303-3)		2022	2023
Surface water	Freshwater (total dissolved solids $\leq 1,000$ mg/L)	422.17	508.84
Water from third parties (supply companies)	Freshwater (total dissolved solids $\leq 1,000$ mg/L)	7.26	6.70
Total water withdrawn	Total	429.44	515.54

Note: only fresh water is withdrawn. Surface water from the São Francisco River is collected, and third-party water is provided by the Autonomous Water and Sewerage Service (SAAE) of Pirapora. There is no water withdrawal in areas that are experiencing water stress.

identifies and assesses the possible impacts related to water management and promotes the monthly monitoring and rational use of the resource in the company, in addition to having a series of actions to reduce waste, strengthen socio-environmental values among employees and promote behavioral changes.

According to LIASA's Environmental Development Indicator (IDA), which is monitored monthly by the industry and through procedure DRH-006 SGI Indicators, the company tracks and reports water usage to the appropriate entities.



Water consumption (in megaliters) (GRI 303-5)	2022	2023
Water abstraction	429.43	515.54
Water discharge	23.63	45.19
Water consumption	405.80	470.35



The result places LIASA among the best performers in terms of efficiency in the use of water resources in the ferroalloys industry. As per a study by the State Environmental Foundation (FEAM), the production of silicon metal requires specific water consumption between 14 and 16 m³ per ton of SILICON. LIASA's consumption is well below the industry benchmark.*

The company plans to modernize its sector-specific water consumption control next year, accelerating gap identification to develop waste reduction and elimination strategies.

The company emphasizes the following pillars to oversee crucial, strategic data for effective water use management:

- Implementing environmental control systems (WTP/WWTP), which enables the recirculation of industrial water.

- Verifying opportunities for improvement.

- Employee awareness.

- Monitoring the average consumption and comparing it to the ferroalloys sector's consumption.

*Source: Levantamento da situação ambiental energética do setor de ferroligas e silício metálico no estado de Minas Gerais. Prospecção de ações para o desenvolvimento sustentável da atividade/Gerência de Desenvolvimento e Apoio Técnico às Atividades Industriais. - Belo Horizonte: Fundação Estadual do Meio Ambiente, 2010. x, 182p.; il.

MINDFUL MANAGEMENT

(GRI 303-2)

After being used in the LIASA operation, the water is taken to the Water Treatment Plants (WTP) where industrial liquid effluents undergo treatment and are recirculated in a completely closed system. This ensures that the effluents are never discharged into streams, rivers or lakes.

The recirculated water is used to cool furnaces in the production system and is captured to compensate for any losses during the process.

Sanitary liquid effluents are sent to the sewage treatment plant located in the municipality of Pirapora.

**LIASA
recirculates
100% of the
effluents
generated in
its production
process.**

Water discharge (in megaliters) (GRI 303-4)	2022	2023
	All areas	All areas
Freshwater (total dissolved solids $\leq 1,000$ mg/L)	23.63	45.19
Total	23.63	45.19

Note: only fresh water is discharged. Effluents are not discharged in water-stressed areas. Only the sanitary liquid effluents produced by the enterprise are gathered and dispatched to the Municipal Sewage Treatment Plant under the Autonomous Water and Sewage Service of Pirapora (MG).

LIASA monitors the inputs and outputs of the ETAs and ETEs every six months, following the standards and norms established by the relevant legislation and the conditions of the industry's environmental license. The reputable company contracted to carry out analyses provides technical reports that prove compliance with established standards.

In addition to the Water Resources Consumption Reduction Program (PRCRH), a comprehensive document that covers the industry's activities and sectors, LIASA defines the characteristics of its industrial process, including water management.

The actions taken by the company to mitigate any impacts that might be caused by its operations and the controls put in place to correctly manage the issue are defined.

WASTE AND EFFLUENT

(GRI 3-3; 306 Waste; GRI 306-1; 306-2)

Reinforcing its commitment to the correct management of the waste generated in its operations, LIASA is a signatory to the UN Global Compact. The Solid Waste Management Program (PGRS) carries out a diagnosis, determines the environmentally appropriate destination for each waste and the guidelines for implementing a management plan, which includes:

- Minimize waste generation;
- Segregate correctly at the source of the waste;
- Mitigate risks to the environment;
- Ensure the correct handling and final disposal of the waste generated.

To this end, the company is dedicated to strengthening the circular economy, which aims to keep products, components and materials at their highest level of usefulness and value. In its process, all the fines extracted from production are sold or donated to the community, with full utilization: chip residues are used in agriculture, ceramics or recycling; coal fines in the cement and steel industry; and quartz for the production of blocks and slabs for rural and urban paving.

In the management of its value chain, the most significant impacts are related to downstream, since the possible incorrect practices of waste disposers have a potential impact on the environment.

As for the waste generated upstream (during the extraction of materials), the internal evaluation system makes it clear that vendors are responsible for their waste.



With effective waste management practices, LIASA aims to decrease water and soil contamination, prevent the spread of disease, and minimize environmental impacts.

Another PGRS action is waste sorting, where trash is segregated at source and can be put to good use. To increase awareness and reinforce the reduction, recycling, and reuse principles, LIASA conducts internal campaigns that educate employees on proper collector segregation.

The properly sorted waste is donated to ASCARPI, the Association of Recyclable Materials Collectors, and COOPRARTE, the Cooperative of Recyclable Materials Collectors, located in Pirapora.

LIASA constantly invests in improving production to reduce waste generation. The company also partners with specialized and certified firms to handle the treatment, recovery/recycling, marketing, and disposal of waste. Environmental criteria, based on current legislation, define the company's strict framework for waste management.

The waste is disposed of directly by the company in a specific space for temporary storage, for later disposal, according to type, to specialized companies.

100% of the industrial waste produced in 2023 was sold and transported to an environmentally appropriate facility.

Waste generated by waste composition in metric tons (GRI 306-3)	2022	2023	Breakdown of waste composition
Hazardous waste (Class I)	120.05	66.10	Waste contaminated with oil, medical waste, and chemicals.
Non-hazardous waste (Class II)	71,147.13	69,008.17	Waste from the production process.
Non-inert (Class II A)	45,524.30	33,785.45	Used big bags, slag, quartz fines, insulators, ordinary waste, recyclables and scrap metal.
Inert (Class II B)	25,622.83	35,222.72	Rubber, wood shavings, rubble, coal fines, chip fines, plastic and glass.
Total	71,267.18	69,074.27	

Note: data stems from the daily measurement of discarded materials throughout the advertising cycle. The indicator does not account for the waste generated on farms, which makes up less than 1% of the waste managed in the industry.

Waste that is not intended for disposal by waste composition and recovery operations. (GRI 306-4)	2022	2023
Recovery outside the organization	Recovery outside the organization	Recovery outside the organization
Hazardous waste (Class I)	20.12	64.12
Preparation for reuse	3.98	0.16
Recycling	16.14	-
Other recovery operations	-	63.97
Non-hazardous waste (Class II)	65,490.54	68,757.80
Preparation for reuse	62,098.04	21,300.98
Recycling	3,145.32	8,204.24
Other recovery operations	247.18	39,252.58
Total	65,510.65	68,821.92

Note: there are no forms of recovery within the company. Data stems from the daily measurement of discarded materials throughout the advertising cycle.

Waste destined for disposal by waste composition and disposal operations (GRI 306-5)	2022	2023
	Recovery outside the organization	Recovery outside the organization
Hazardous waste (Class I)	94.22	1.98
Incineration (with energy recovery)	69.74	1.94
Incineration (no energy recovery)	24.48	0.04
Landfill confinement	-	-
Other disposal operations	-	-
Non-hazardous waste (Class II)	1,701.13	250.37
Incineration (with energy recovery)	8.80	-
Incineration (no energy recovery)	-	-
Landfill confinement	1,691.31	250.37
Other disposal operations	1.02	-
Total	1,795.35	252.35

Note: there are no forms of destination within the company. Data stems from the daily measurement of discarded materials throughout the advertising cycle.



LIASA uses an internal control system to monitor the volume of waste coming from its plant, as defined in the internal document Normative Instruction DAF-001 - Solid Waste Management Program (PGRS). The data from the Environmental Performance Index affirms the effectiveness and advancements made in waste disposal and marketing, with the objective of surpassing the target of marketing most of the generated waste.

In 2023, some of this material was stored at the plant itself, as it was awaiting the ideal moment for reuse or better commercial sales conditions.

RESPONSIBLE FOREST MANAGEMENT

(GRI 3-3: 304 Biodiversity)

The conservation of native forests and the preservation of biodiversity are LIASA's permanent activities on its rural properties.

The company's forest management is accompanied by the documents Integrated Management Policy, Environmental Monitoring Program

and Environmental Control Plan, and guided by the principles of the UN Global Compact.

Managing planted forests is crucial for reducing impact on native forests and carbon recovery, as well as protecting biodiversity and local fauna and flora.

Mitigation and containment actions are carried out to maintain the environment, especially protected areas, to prevent contamination of rivers and soils, maintain the balance of natural ecosystems and conserve water resources.



Always focused on evolving its biodiversity conservation practices, LIASA has invested in research to generate Environmental Impact Studies and Environmental Control Reports to identify its quantitative and qualitative impacts on the environment. The work provided the basis for internal programs that are carried out routinely to boost positive impacts and mitigate possible negative ones:

- Flora Monitoring Program.
- Fauna Monitoring Program.
- Social Communication Program.
- Water Resources Monitoring Program.
- Solid Waste Management Program (PGRS).
- Soil and Water Conservation Program.
- Maintenance Program for Agricultural Vehicles and Equipment.
- Forest Fire Prevention and Combat Program.
- Environmental Education Program.

Operational sites owned, leased or managed in, or adjacent to, environmental protection areas and areas of high biodiversity value located outside environmental protection areas (GRI 304-1)							
	Geographic location	Surface and underground land that may be owned, leased or managed by the organization	Describe the position of the area in relation to designated environmental protection zones or areas of significant biodiversity located outside of those designated zones	Type of operation (office, manufacturing/production or extractive operation)	Size of operational unit in km2 (or other unit, if appropriate)	Biodiversity value characterized by the attributes of an environmentally protected area or an area of high biodiversity located outside of a protected area	Biodiversity value characterized by presence on protection lists (such as IUCN Protected Area Management Categories, Ramsar Convention, and national legislation)
1	Bocaiúva (MG)	Own	Area of high biodiversity value	Production	1,715.22 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
2	Bonito de Minas (MG)	Own	Area of high biodiversity value	Production	3,568.96 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
3	Buritzeiro (MG)	Own	Area of high biodiversity value	Production	22,487.70 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
4	Diamantina (MG)	Own	Area of high biodiversity value	Production	22,994 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
5	Gouveia (MG)	Own	Area of high biodiversity value	Production	1,400.88 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
6	Itacarambi (MG)	Own	Area of high biodiversity value	Production	448.10 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
7	Chapada do Norte - MG	Own	Area of high biodiversity value	Production	1,270.93 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
8	Curvelo - MG	Own	Area of high biodiversity value	Production	775.67 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
9	Grão Mogol - MG	Own	Area of high biodiversity value	Production	3,561.39 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
10	João Pinheiro - MG	Own	Area of high biodiversity value	Production	4,572.88 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
11	José Gonçalves de Minas - MG	Own	Area of high biodiversity value	Production	3,848.21 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
12	Minas Novas - MG	Own	Area of high biodiversity value	Production	406.16 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
13	São Gonçalo do Abaeté - MG	Own	Area of high biodiversity value	Production	2,030.56 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
14	Turmalina - MG	Own	Area of high biodiversity value	Production	153.65 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves
15	Serro (MG)	Own	Area of high biodiversity value	Production	324.18 ha	Terrestrial ecosystem	Permanent Preservation Areas (PPPs) and Legal Reserves

Habitats protected or restored (2023) (GRI 304-3)						
Area identification	State	Country	Biome	Protected/Restored	Habitat area (ha)	Restoration measures have been approved by external experts or adhere to external parameters/protocols
Legal Reserve/PPP	MG	Brazil	Cerrado	Protected	46,063.52	Yes
Legal Reserve/PPP	MG	Brazil	Atlantic Forest	Protected	730.91	Yes

Note: the environmental licenses for several properties have been included, based on the results of their respective environmental studies. Most of these properties are utilized for commercial eucalyptus plantation production and comply with legal regulations regarding legal reserve and permanent preservation areas.



Nature of direct and indirect impacts on biodiversity due to: (GRI 304-2)	2023
i. Construction or use of manufacturing plants, mines and transport infrastructure	Direct, permanent, long-term and reversible.
ii. Pollution (introduction of substances that do not naturally occur in the habitat from point and non-point sources)	Indirect, cyclical, long-term and reversible.
iii. Introduction of invasive species, pests and pathogens	Indirect, temporary, long-term and reversible.
iv. Reduction of species	Indirect, temporary, long-term and reversible.
v. Habitat conversion	Direct, permanent, long-term and reversible.
vi. Changes in ecological processes outside the natural range of variation (e.g. salinity or changes in groundwater level)	Indirect, temporary, long-term and reversible.

Note: as per the environmental impact studies for project environmental licensing, irreversible damages indicate significant direct and indirect impacts. Despite the company's best efforts to mitigate actions, it may not be possible to restore the situation to its original condition or close to it.

LIASA currently conducts social and environmental monitoring of its forestry operations. In addition, it monitors the water, flora and fauna, which demonstrate the good quality of the protected areas.

In industrial activities, evaluations are carried out to compose the Environmental Performance Index (IDA), which is carried out monthly by the industry and defined through procedure DRH-006 SGI Indicators. There are still no specific indicators for biodiversity due to the lack of elements related to industrial activities.

CERTIFICATIONS:

LIASA is seeking to obtain FSC® Forest Certification and, as part of this process, will create specific procedures for the maintenance of protected areas and to demonstrate the evolution of the environmental quality of the sites. The company adopts good biodiversity conservation practices and is in a constant process of evolving its sustainability strategy to be able to show the benefits of its operations with specific and measurable indicators.

GRI CONTENT INDEX

GRI Standard		Content	Page	Information and/or omission
General disclosures				
The organization and its reporting practices				
GRI 2: General disclosures 2021	2-1	Organizational details	10	Ligas de Aluminio S.A - LIASA - is a privately-held corporation.
GRI 2: General content 2021	2-2	Entities included in the sustainability reporting	10	LIASA has two subsidiaries, COMEL (Comercializadora de Energia LIASA), which sells energy, and Liasa North America (LNA), a United States-based subsidiary.
GRI 2: General content 2021	2-3	Reporting period, frequency and contact point	6	
GRI 2: General content 2021	2-4	Restatements of information		This is LIASA's inaugural report.
GRI 2: General content 2021	2-5	External assurance		LIASA is currently working on its second Sustainability Report, which is not subject to external verification
Activities and workers				
GRI 2: General content 2021	2-6	Activities, value chain and business relationships	14, 15, 16, 17 and 67	
GRI 2: General content 2021	2-7	Employees	44	
GRI 2: General content 2021	2-8	Workers who are not employees	45	
Governance				
GRI 2: General content 2021	2-9	Governance structure and composition	30, 31, 32, 33	
GRI 2: General content 2021	2-10	Nominating and selecting the highest governance body	30	
GRI 2: General content 2021	2-11	Chair of the highest governance body	32	
GRI 2: General content 2021	2-12	Role of the highest governance body in overseeing the management of impacts		All statements of values, mission, strategies, policies, and objectives of the company are proposed by respective technical areas. These proposals are then coordinated by the ESG Working Group, evaluated and approved by the ESG Committee, and finally reported to the Executive Committee. The Executive Committee oversees the functioning and impacts of these processes bi-weekly due to the fluid nature of decision-making at LIASA.
GRI 2: General content 2021	2-13	Delegation of responsibility for managing impacts	33	
GRI 2: General content 2021	2-14	Role of the highest governance body in sustainability reporting	22	

GRI Standard		Content	Page	Information and/or omission
Governance				
GRI 2: General content 2021	2-15	Conflicts of interest		The formalized instruments used to prevent and mitigate conflicts of interest include committees (decision-making and multidisciplinary bodies), management indicators (provided to all stakeholders and executives), external audits, and Delegation of Authority (a matrix distributed in an organizationally structured manner for self-monitoring possible deviations). At the intermediate and operational levels, we utilize the Ombudsman Channel and conduct annual training sessions on the Code of Ethics, Conduct, and Responsibilities. These instruments enable us to address conflicts of interest promptly and directly through senior management when evidence is detected.
GRI 2: General content 2021	2-16	Communication of crucial concerns	35	
GRI 2: General content 2021	2-17	Collective knowledge of highest governance body	32	
GRI 2: General content 2021	2-18	Evaluation of the performance of the highest governance body	34	The evaluation and remuneration process for the Board of Directors has not been disclosed, as there is currently no Board of Directors.
GRI 2: General content 2021	2-19	Remuneration policies	34	The evaluation and remuneration process for the Board of Directors has not been disclosed, as there is currently no Board of Directors.
GRI 2: General content 2021	2-20	Process for determining remuneration	34	The evaluation and remuneration process for the Board of Directors has not been disclosed, as there is currently no Board of Directors.
GRI 2: General content 2021	2-21	Annual total compensation ratio		It will not be disclosed as it is confidential information.

Strategy, policies and practices

GRI 2: General content 2021	2-22	Statement on sustainable development strategy	4, 5	
GRI 2: General content 2021	2-23	Policy commitments	46	
GRI 2: General content 2021	2-24	Embedding policy commitments	37	
GRI 2: General content 2021	2-25	Processes to repair negative impacts	40, 72	

GRI Standard		Content	Page	Information and/or omission
Strategy, policies and practices				
GRI 2: General disclosures 2021	2-26	Mechanisms for seeking advice and raising concerns	40	
GRI 2: General disclosures 2021	2-27	Compliance with laws and regulations		<p>In 2022, LIASA did not face any significant instances of non-compliance with laws and regulations that resulted in fines or monetary sanctions. Significant situations are considered those that have a substantial social impact, such as on the environment or working conditions, as well as those with penalties exceeding R\$500,000.00 or that pose high risk to the production process.</p> <p>In 2023, some of the other penalties have been challenged and are still pending, which means they are not yet final. While the fines that are disputed and result in higher costs than the actual payment, like traffic fines, have been resolved, they were not considered significant.</p>
GRI 2: General disclosures 2021	2-28	Membership of associations		<p>To enhance its engagement in the industry and relevant forums, LIASA is a member of the subsequent associations:</p> <ul style="list-style-type: none"> • ABRAFE: Associação Brasileira de Produtores de Ferro e Ligas de silício metálico [Brazilian Association of Producers of Iron and Silicon Metal Alloys]. • ABRACE: Associação Brasileira de Grandes Consumidores Industriais de Energia e de Consumidores Livre [Brazilian Association of Large Industrial Energy Consumers and Free Consumers]. • AMIF: Associação Mineira da Indústria Florestal [Minas Gerais Forestry Industry Association]. • FIEMG: Federação das Indústrias do Estado de Minas [Federation of Industries of the State of Minas Gerais]. • FIESP: Federação das Indústrias do Estado de São Paulo [Federation of Industries of the State of São Paulo].
Stakeholder engagement				
GRI 2: General disclosures 2021	2-29	Approach to stakeholder engagement	26, 50	
GRI 2: General disclosures 2021	2-30	Collective bargaining agreements	44	
Material topics				
GRI 3: Material Topics 2021	3-1	Process to determine material topics	22	
GRI 3: Material Topics 2021	3-2	List of material topics	23	
Community Relations and Social Responsibility				
GRI 3: Material Topics 2021	3-3	Management of material topics	61, 62, 63, 64, 65	
GRI 203: Indirect economic impacts 2016	203-1	Infrastructure investments and services supported	63, 64, 65	
GRI 203: Indirect economic impacts 2016	203-2	Significant indirect economic impacts	63, 64, 65	

GRI Standard		Content	Page	Information and/or omission
Community Relations and Social Responsibility/Responsible Sourcing				
GRI 3: Material Topics 2021	3-3	Management of material topics	66, 67	
GRI 204: Procurement practices 2016	204-1	Proportion of spending on local suppliers	66	
Ethics and Compliance				
GRI 3: Material Topics 2021	3-3	Management of material topics	37	
GRI 205: Anticorruption 2016	205-1	Operations assessed for risks related to corruption	38	
GRI 205: Anticorruption efforts 2016	205-2	Communication and training about anti-corruption policies and procedures	38	
GRI 205: Anticorruption efforts 2016	205-3	Confirmed incidents of corruption and actions taken	38	
Ethics and Compliance				
GRI 3: Material Topics 2021	3-3	Management of material topics	38	
GRI 206: Anti-competitive behavior 2016	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	38	
Energy				
GRI 3: Material Topics 2021	3-3	Management of material topics	72, 73, 74	
GRI 302: Energy 2016	302-1	Energy consumption within the organization		The amount is considered strategic for the company and will not be disclosed this year.
GRI 302: Energy 2016	302-2	Energy consumption outside of the organization		Not applicable.
GRI 302: Energy 2016	302-3	Energy intensity		he amount is considered strategic for the company and will not be disclosed this year.
GRI 302: Energy 2016	302-4	Reduction of energy consumption		The amount is considered strategic for the company and will not be disclosed this year.
GRI 302: Energy 2016	302-5	Reductions in energy requirements for products and services		The amount is considered strategic for the company and will not be disclosed this year.

GRI Standard		Content	Page	Information and/or omission
Water and effluents				
GRI 3: Material Topics 2021	3-3	Management of material topics	78, 79	
GRI 303: Water and effluents 2018	303-1	Interactions with water as a shared resource	78, 79	
GRI 303: Water and effluents 2018	303-2	Management of water discharge-related impacts	80	
GRI 303: Water and effluents 2018	303-3	Water abstraction	78	
GRI 303: Water and effluents 2018	303-4	Water discharge	80	
GRI 303: Water and effluents 2018	303-5	Water consumption	78	
Forest management				
GRI 3: Material Topics 2021	3-3	Management of material topics	84	
GRI 304: Biodiversity 2016	304-1	Operational sites owned, leased or managed in, or adjacent to, environmental protection areas and areas of high biodiversity value located outside environmental protection areas	84	
GRI 304: Biodiversity 2016	304-2	Significant impacts of activities, products and services on biodiversity	87	
GRI 304: Biodiversity 2016	304-3	Protected or restored habitats	85	
GRI 304: Biodiversity 2016	304-4	IUCN red list species and national conservation list species with habitats located in areas affected by the company's operations		The data has been identified during the monitoring of flora and fauna, but has not yet been categorized for the report. In the following years, we will gather the necessary information required to compile the indicator's data.
Emissions				
GRI 3: Material Topics 2021	3-3	Management of material topics	75	
GRI 305: Emissions 2016	305-1	Direct emissions (Scope 1) of greenhouse gases (GHG)	76	
GRI 305: Emissions 2016	305-2	Indirect emissions (Scope 2) of greenhouse gases (GHG) resulting from the acquisition of power	76	
GRI 305: Emissions 2016	305-3	Other indirect emissions (Scope 3) of greenhouse gases (GHG)	76	

GRI Standard		Content	Page	Information and/or omission
Emissions				
GRI 305: Emissions 2016	305-4	Intensity of greenhouse gas emissions (GHG)		This indicator is not currently monitored by the company but will be included in the next cycle.
GRI 305: Emissions 2016	305-5	Reduction of greenhouse gas emissions		This indicator is not currently monitored by the company but will be included in the next cycle.
GRI 305: Emissions 2016	305-6	Emissions of ozone-depleting substances (ODS)		Not applicable
GRI 305: Emissions 2016	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions		
Waste and tailings management				
GRI 3: Material Topics 2021	3-3	Management of material topics	81	
GRI 306: Waste 2020	306-1	Waste generation and significant waste-related impacts	81	
GRI 306: Waste 2020	306-2	Management of significant waste-related impacts	81	
GRI 306: Waste 2020	306-3	Waste generated	82	
GRI 306: Waste 2020	306-4	Waste not destined for final disposal	82	
GRI 306: Waste 2020	306-5	Waste destined for final disposal	83	
Responsible supply				
GRI 3: Material Topics 2021	3-3	Management of material topics	67, 68	
GRI 308: Supplier environmental assessment 2016	308-1	New suppliers that were screened using environmental criteria	68	
GRI 308: Supplier environmental assessment 2016	308-2	Negative environmental impacts in the supply chain and measures taken	68	
Employee quality of life and dignity at work				
GRI 3: Material Topics 2021	3-3	Management of material topics	46, 47	
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	46, 47	
GRI 401: Employment 2016	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	48	
GRI 401: Employment 2016	401-3	Parental leave	48	

GRI Standard		Content	Page	Information and/or omission
Occupational Health and Safety				
GRI 3: Material Topics 2021	3-3	Management of material topics	54, 55, 56, 57, 59	
GRI 403: Occupational health and safety 2018	403-1	Occupational health and safety management system	54	
GRI 403: Occupational health and safety 2018	403-2	Hazard identification, risk assessment, and incident investigation	55	
GRI 403: Occupational health and safety 2018	403-3	Occupational health services	59	
GRI 403: Occupational health and safety 2018	403-4	Participation of workers, consultation and communication to workers regarding health and safety at work	55, 56	
GRI 403: Occupational health and safety 2018	403-5	Worker training on occupational health and safety	55	
GRI 403: Occupational health and safety 2018	403-6	Promotion of worker health	59	
GRI 403: Occupational health and safety 2018	403-7	Prevention and mitigation of health and safety impacts directly linked to business relationships	55	
GRI 403: Occupational health and safety 2018	403-8	Workers covered by an occupational health and safety management system	54	
GRI 403: Occupational health and safety 2018	403-9	Workplace accidents		It will not be disclosed as it is confidential information.
GRI 403: Occupational health and safety 2018	403-10	Occupational diseases	59	

GRI Standard		Content	Page	Information and/or omission
Employee quality of life and dignity at work				
GRI 3: Material Topics 2021	3-3	Management of material topics	48, 49	
GRI 404: Training and education 2016	404-1	Average hours of training per year per employee	48	
GRI 404: Training and education 2016	404-2	Programs for upgrading employee skills and transition assistance programs	48, 49	
GRI 404: Training and education 2016	404-3	Percentage of employees receiving regular performance and career development reviews	50	
Diversity and equal opportunity				
GRI 3: Material Topics 2021	3-3	Management of material topics	52	
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity in governance bodies and employees	53	
GRI 405: Diversity and Equal Opportunity 2016	405-2	Ratio of basic salary and remuneration of women to men		It will not be disclosed as it is confidential information.
Diversity and equal opportunity				
GRI 3: Material Topics 2021	3-3	Management of material topics	52	
GRI 406: Non-discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	52	
Community Relations and Social Responsibility				
GRI 3: Material Topics 2021	3-3	Management of material topics	60	
GRI 413: Local communities 2016	413-1	Operations with engagement, impact assessments, and development programs focused on the local community	61	
GRI 413: Local communities 2016	413-2	Operations with significant – actual and potential – adverse impacts on local communities	63, 64, 65	



GRI Standard		Content	Page	Information and/or omission
Responsible supply				
GRI 3: Material Topics 2021	3-3	Management of material topics	67, 68	
GRI 414: Supplier social assessment 2016	414-1	New suppliers that were screened using social criteria	68	
GRI 414: Supplier social assessment 2016	414-2	Negative social impacts in the supply chain and measures taken	68	
Governance				
GRI 3: Material Topics 2021	3-3	Management of material topics	30	
Adapting governance to the IBGC Best Practices Code (2024)	LS-01	% of suitable items/total applicable items		By 2024, the indicator aims to measure the compliance of governance with the Code of Good Practices established by the Brazilian Institute of Corporate Governance (IBGC). This will be done by calculating the percentage of items that adhere to the code. Currently, this information is unavailable, but the aim is to obtain this figure for the next cycle.



Material topics without corresponding GRI indicators

Customer satisfaction and product quality

GRI 3: Material Topics 2021	3-3	Management of material topics	18
Customer satisfaction rate	LS-02	Customer satisfaction rate	18
Complaints responded to	LS-03	% of complaints responded to/total received	18

Innovation and patents

GRI 3: Material Topics 2021	3-3	Management of material topics	19
Investment in R&D	LS-04	% of revenue allocated to R&D	19



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