



LARGO

Continuous  
improvement  
for a  
**greener future**

2021 Sustainability Report

## About This Report

This is Largo Inc.'s (Largo or the Company) fourth annual sustainability report, which highlights our management of material ESG risks, opportunities, impacts and results at our Maracás Menchen Mine operations in Brazil. This report covers the period from January 1 through December 31, 2021, unless otherwise specified. It does not include sustainability data from our offices in Canada, the USA, Ireland and Switzerland. See specific information in the **Scope of This Report section**.

Largo changed its name from Largo Resources Ltd. to Largo Inc. in 2021. This change was reflected in the name of our main legal entity in Brazil, which is now Largo Vanádio de Maracás S.A. (LVMSA).

This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core option. GRI 4 Mining and Metals Sector Supplement disclosures are reported, as well as Value Reporting Foundation – Sustainability Accounting Standards Board (SASB) Metals & Mining Industry Standard requirements. A GRI/SASB Content Index is at the end of this report.

Financial figures are in U.S. Dollars (\$), using the conversion rates presented in the Annual Information Form (AIF) for the year ended 31 December 2021.

**Changes in reporting:** This report includes Scope 3 estimates for maritime transportation for the first time.

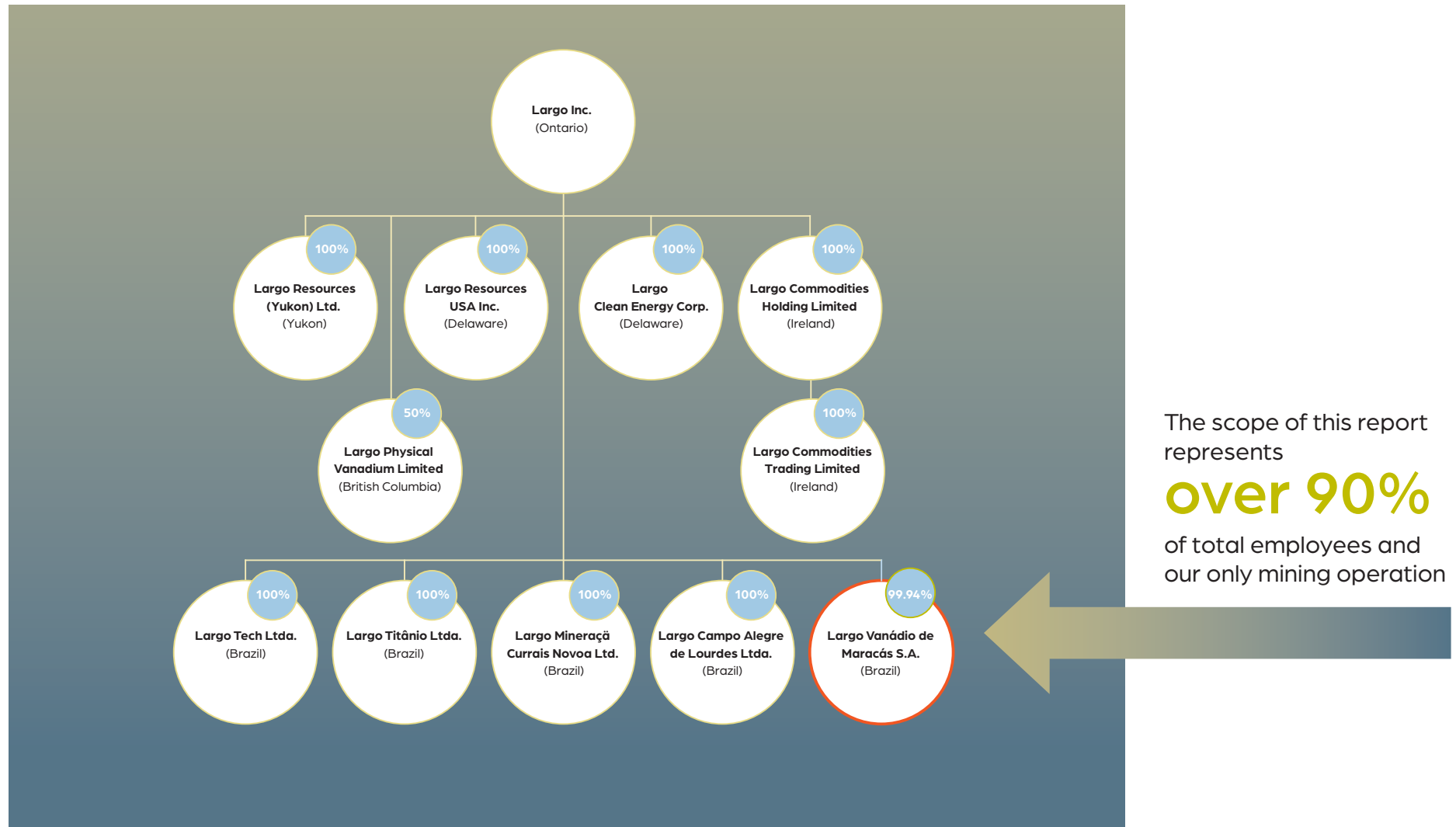
**Restatement of information:** Waste figures for 2020 were reported in kilograms instead of metric tonnes and were corrected in this report.

Taxes and royalties figures reported in 2020 include federal taxes and royalties only. Values reported in Brazilian Real (R\$) in the 2020 Sustainability Report have been converted to U.S. Dollars using the conversion rates presented in the AIF's for their respective year.

For any questions regarding this report or its contents, please contact us at [info@largoinc.com](mailto:info@largoinc.com).

## Scope of This Report

The scope of this report is limited to our subsidiary in Brazil, LVMSA and its operations at the Maracás Menchen Mine. The chart shows the alignment of our corporation, subsidiaries and financial reporting with this report.





# Table of Contents



## Our Business

Largo at a Glance 2021	6
About Largo	8
Our Operations	9
Our Products	10
Vanadium's Uses	11
Message From the CEO	12

## Governance

The Board of Directors	15
Ethics and Integrity	16
Our Strategy	18
Valorizing Mine Tailings	19
ESG Progress	20
Our Risk Management	23
Stakeholders	25
Materiality	26

## Economic Performance

2021 Benefit Footprint	28
Our Presence in Communities	29
Sustainable Procurement	30
Supply Chain	
Risk Management	31

## Our People

Engaging Our Talent	33
Inclusion and Diversity	35
Human Rights	37
Occupational Health and Safety	38

## Our Communities

Management Approach	44
Employment and Income Programs	46

Education Programs	47
Environment Programs	47
Culture, Sport and Leisure Programs	48
2021 Highlights	49

## Environment

Management Approach	53
Water as a Shared Resource	54
Energy	56
Emissions	57
Biodiversity	59
Waste	64
Tailings Facilities	65
Closure Plan	66
Performance Data	67
GRI/SASB Content Index	81



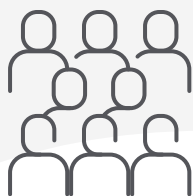
# Our Business

Largo at a Glance 2021	6
About Largo	8
Our Operations	9
Our Products	10
Vanadium's Uses	11
Message From the CEO	12

## Largo at a Glance 2021

Total number  
of employees

**406**



Total number  
of contractors

**732**

Total Market Cap<sup>2</sup>

**\$570** million

Revenues

**\$198.3**  
million

Total V<sub>2</sub>O<sub>5</sub>  
equivalent sales

**11,393**  
tonnes

Total Equity<sup>3</sup>

**\$266** million

Cash operating costs  
excluding royalties

**\$3.37**  
per lb V<sub>2</sub>O<sub>5</sub><sup>1</sup>

Total V<sub>2</sub>O<sub>5</sub>  
equivalent production

**10,319**  
tonnes

Top ownership<sup>4</sup>  
funds managed by

Arias Resources Capital  
Management LLP

**43%**

<sup>1</sup>Cash operating costs per pound and cash operating costs excluding royalties per pound are non-GAAP ratios with no standard meaning under IFRS, and may not be comparable to similar financial measures disclosed by other issuers. Refer to the "Non-GAAP Measures" section of the company's latest Management Discussion and Analysis.

<sup>2</sup>As of June 6, 2022 <sup>3</sup>As of December 31, 2021 <sup>4</sup>As of report date

## Largo's Global Reach

Largo is a publicly traded corporation, headquartered in Toronto, Canada, historically committed to the production and supply of high-quality vanadium products. The company's common shares are listed on the Toronto Stock Exchange and Nasdaq Stock Market under the symbol "LGO."





## About Largo

Our company has a long, successful history as one of the world's preferred vanadium suppliers. Our high-purity products are extracted and processed at our Maracás Menchen Mine in Brazil, one of the world's highest-grade vanadium deposits.

Vanadium is a strategic metal in the low-carbon 'green' economy. Its various applications help lower the carbon footprint of steel and increase the economic efficiency of the entire steel value chain. Moreover, as a critical component of vanadium redox flow batteries (VRFB), it plays a critical role in the integration of renewable energy. Long-duration vanadium batteries, in conjunction with wind and solar energy generation, are ideal for the replacement of fossil fuel use.

The World Bank predicts that by 2050, the demand for low-carbon technology will require that vanadium production increases by 173% over 2019 values. Largo's acquisition of VRFB technology from VionX Energy (USA) will leverage this demand.

**Our vision is to enable the planet's transition to a lower-carbon future using vanadium products and VRFB solutions.**

### Largo Clean Energy (LCE)

Largo created its Clean Energy division in 2021 to develop our VCHARGE batteries. LCE's headquarters and product development centre is located in Wilmington, Massachusetts, USA. It employs a workforce of approximately 40 people.

#### VCHARGE batteries

This technology is uniquely capable of supporting reliability and grid stability as electricity systems move away from fossil-fuel generation. VCHARGE batteries are unique because a variety of innovations have enabled an efficient, safe solution that is fully recyclable at the end of its 25-year-plus lifespan. They are designed specifically for long-duration, megawatt-scale energy storage for utility clients. When used "in front of the meter," they support the electricity network by smoothing peak/through energy flows. When used "behind the meter," VCHARGE supports microgrids with renewable energy generation.

Our proprietary innovations include a high-performance, flow-cell-stack design and a patented purification process. Fewer components reduce possible points of failure, increasing reliability and lowering operation-and-maintenance costs. The overall-reduced footprint is expected to lower site costs, and the novel cell design is independent of chemistry. We plan to continue leveraging this power-density capability in the future to explore further cost reductions.



## Our Operations

The Maracás Menchen Mine is a high-grade, open-pit vanadium mine located in the eastern Bahia State of Brazil, roughly 250 kilometres southwest of Salvador (capital of Bahia) and 813 kilometres northeast of Brasília (capital of Brazil).

The property consists of 18 concessions totalling 17,783 hectares (ha), with two mining permits of 1,000 ha each, and a third permit application (7,714 ha). The balance represents 15 mineral exploration permits. Largo owns 4,720 ha of surface land, for which the footprint of all operations is only 260 ha. To date 1,088 ha have been designated “protected” as part of the São Conrado Legal Reserve. The remaining 3,372 ha are maintained in their natural state. A detailed map is presented in the Environment section.

All communications at Maracás Menchen are in Portuguese, which is the national language used by everyone. No artisanal mining takes place in the proximity of Largo’s operations and there are no conflict zones in the country.

Maracás Menchen benefits from a geological setting where the vanadium is associated with ilmenite (titanium oxide) mineralization without uranium or radium minerals in the rocks.

The vanadium-rich ore is processed on-site through crushing, grinding, two stages of magnetic separation, magnetic-concentrate roasting, vanadium leaching, ammonium meta-vanadate (AMV) precipitation, AMV filtration, AMV calcining, and fusing to  $V_2O_5$  flake. The mine began producing  $V_2O_5$  flake in 2014. Two expansions have subsequently taken place, one in 2019 and one in early 2021.

### Expansion and New Projects

Construction of the vanadium trioxide ( $V_2O_3$ ) processing plant began in 2020. It was completed at the end of 2021, including three more chimneys where we monitor non-GHG emissions.

Work has started on the construction of an ilmenite-concentration plant, bringing in an additional 300 contractors. We expect to realize ilmenite-concentrate production in the first half of 2023.



In 2021, Largo filed an updated National Instrument 43-101 technical report. The highlights include an updated life-of-mine (LOM) of 20 years. This is based on extensive drilling and engineering work performed at the Campbell Pit, and at the Novo Amparo Norte (NAN) and Gulçari A Norte (GAN) deposits. It also includes ilmenite resources in the non-magnetic tailings facilities, which is discussed in our Strategy section.

Largo is conducting exploration work to the north and south of our current operations through the use of exploration permits and concessions. These projects are not yet at the stage where public consultation is required. It should be noted that the geographic areas of these permits fall within Largo’s current areas of direct and indirect influence (ADI and AI) for community engagement.





## VPURE™, powering a low carbon future

Largo produces about 7% of the global vanadium supply and is one of only two large-scale producers of high-purity vanadium that supply the aerospace industry.

Largo produces and supplies vanadium products in the form of high purity and high-quality standard grades, in flakes and powder. The products are certified under the European Union's Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation. They are sold to clients worldwide (see section on Stakeholders) in four application sectors.

**VPURE+**  
Vanadium Pentoxide Flakes

**FERROVANADIUM**  
powered by  
**VPURE**  
Vanadium Pentoxide Flakes

**VPURE+**  
Vanadium Trioxide Powder

**VPURE+**  
Vanadium Pentoxide Powder

**VCHARGE**





## Vanadium's Uses

### Steels

High-strength steels containing vanadium are widely used in construction reinforcing bars (rebars) for buildings, tunnels and bridges. In the renewable-energy industry, wind-turbine towers are lighter and more weldable when vanadium micro-alloyed steel plate is used. In addition to strength, vanadium imparts toughness, wear resistance, and inhibits corrosion and oxidation.

### Master alloys for the aerospace industry

High-purity vanadium is used in master alloys, which are irreplaceable in aerospace applications, such as jet engines and high-speed airframes. These alloys have the best strength-to-weight ratio of any engineered material, essential for superior, fuel-efficient aircraft. Largo is one of only two large-scale high-purity vanadium producers in the world.

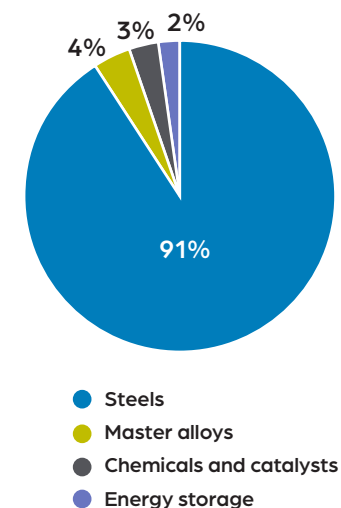
### Chemicals and catalysts

Vanadium compounds are used to produce sulfuric acid, glass coatings, pigmentation compounds, and for protecting steel against rust and corrosion.

### Batteries for long-duration energy storage

VRFBs are considered a true circular-economy technology, given their safety, carbon savings, low-carbon footprint, long life, and reusable electrolyte component. The electrolyte used in VRFBs never degrades, offering a recyclable and long-term solution for renewable energy partners. They are an ideal choice for large-scale energy storage, such as intermittent energy from renewable energy generators.

Global vanadium demand by application sector



## Message From Paulo Misk, President and CEO



It has been eight years since we began producing our signature, high-quality vanadium products at Largo. Then, as now, we wanted to be an agent for good in the world. We wanted to become global leaders in sustainability and green technology, providing the products, materials and solutions for a low-carbon future. That vision set the direction for what Largo has become today.

The journey has been challenging, but rewarding, too. To mark our evolution, we adopted a new brand in 2021, and changed our name from Largo Resources Ltd. to Largo Inc. Setting our direction for the future, we created our Clean Energy business to develop safe, long-lasting and most importantly, *sustainable*, vanadium-based batteries.

Largo's vanadium products have contributed to a reduction in greenhouse-gas (GHG) emissions throughout the steel-manufacturing process for many years. Vanadium strengthens the alloyed product so less steel is needed for strong, safe infrastructure. But we believe our remarkable VCHARGE vanadium-based battery technology can become a gamechanger. VCHARGE technology makes it possible to store energy from the intermittent sun and

wind sources for future use, and help modulate power surges and reduce transmission-line losses.

Reviewing Largo's performance in 2021, I am proud to see the genuine, considerable progress we have made in improving many important sustainability-related performance measures and priorities. These positive trends are reflected in improved ratings in several important areas described in this report.

First, we are committed to being a strong, positive partner to the communities in which Largo operates. The success of our signature operation, the Maracás Menchen Mine in Brazil, has led to optimistic socio-economic change for people of the Maracás municipality, which is now the second-largest source of tax revenues in the

region. The legal transfer of the Largo-constructed water-treatment plant to the village of Água Branca was completed in 2021, improving the lives of more than 75 families.

In partnership with the Municipality of Maracás and SENAI, the largest institution of trades and technological education in Latin America, we invested over \$35,000 to transform an old building into classrooms and laboratories for learning. Always focused on sustainability and improving economic self-reliance, we considered local values and vocations in the programs we offered, stressing skills, entrepreneurship and business experience that can be used anywhere.



In partnership with the Municipality of Maracás and SENAI, the largest institution of trades and technological education in Latin America, we established a new skills and trades school in Maracás.

Largo continued to pay for technical specialists to help family farmers and beekeepers so they can generate more income. Our Queen Bee program won second prize in a Bahia state sustainable practices competition. Three new women-owned businesses were started in the community in 2021. Taken together, the community projects Largo supported increased family income by an average of 14%.

Like the rest of the world, Largo's people and operations continued to be affected by the COVID-19 pandemic in 2021. We drew together to protect and care for our employees, contractors and their families, donating food, face masks and hygiene kits and helping with COVID prevention campaigns.

Our second employee satisfaction-and-engagement study was conducted, showing improvement in positive responses. Our renewed commitment to employee development is especially significant because, in the future, we will be able to draw more of our leadership from the regions where our operations are located. Largo also earned an "Advanced" ranking from the Women in Mining Brazil Action Plan, indicating that our gender-diversity theme carries over into most of the company's functional areas, including leadership.

We are focused on a lower-carbon future. Wherever possible, we are upgrading equipment to use electricity or cleaner fossil fuels. Always, we are looking for better technologies to replace our most serious GHG emitters.

Largo's sustainability practices speak for themselves. Greener solutions for our customers and the environment. Thriving communities where we operate. Employees, suppliers and host communities who are respected partners in our business. We're moving forward on a new and exciting path. By continuing to focus on sustainability and dedicating ourselves to the very best practices in our industries, I know Largo will always be a respected leader and a net contributor to the planet's low-carbon, sustainable future.

**Paulo Misk**

*President and Chief Executive Officer*





# Governance

The Board of Directors	15
Ethics and Integrity	16
Our Strategy	18
Valorizing Mine Tailings	19
ESG Progress	20
Our Risk Management	23
Stakeholders	25
Materiality	26



## The Board of Directors

The Largo Board of Directors believes that sound corporate governance practices are essential to the stewardship of the company. The Board supervises the management of the business and Largo's affairs, ensuring that it adheres to high ethical and legal standards.

Governance practices have been developed to assist the Board in fulfilling its supervisory role, both directly and through its committees and their charters: audit, compensation, governance, energy, sales and operations.

The Operations Committee has oversight of the health, safety, environment and social responsibility areas.

Largo's Safety, Environmental and Social Responsibility Policy communicates the company's vision for sustainable development, and details the policies for sustainable development, environment, and occupational health and safety.

The Board promotes and encourages fair and transparent disclosure to investors and other stakeholders through appropriate and practical systems of corporate governance and internal controls. As required, the Board receives information from management

and maintains an open communications channel with members of Largo's senior management team. The Board also holds frequent, scheduled meetings that keep directors informed of Largo's operations.

The Board of Directors is responsible for the final approval of Largo's Vision, Mission and Value statements and all corporate policies, including those related to sustainability. The Board periodically reviews existing policies and mandates in light of the company's progress and the changing legal and regulatory landscape. In 2022, the Board approved a Board and Executive Diversity Policy which recognizes the importance of diverse representation in the boardroom, in particular gender diversity.

The Board of Directors receives annual presentations on performance indicators for sustainability, and is responsible for the final approval of the annual sustainability report.



Each year, we engage a major accounting firm to assess and test the operating effectiveness of Largo's internal controls with respect to financial reporting. This is to support Largo's certificate under Ontario Securities Commission National Instrument NI 52-109. As part of this review, the accounting firm conducts walk-throughs of processes and advises management of any control weaknesses, such as gaps or in the procedures themselves. There have not been any significant findings to date.

## Ethics and Integrity

In 2021, Largo updated its corporate values to include the leveraging of innovation to enable the world's transition to a low-carbon future, and working with integrity, care, and commitment to quality. These were developed through a collaborative process involving senior leadership and management feedback, and were approved by the Board. The values were communicated to our employees and stakeholders through presentation materials and are included in the orientation sessions for new employees.

### Ethics Policies

Largo is committed to conducting its business and affairs with honesty, integrity and in accordance with high ethical and legal standards. The company's Code of Business Conduct and Ethics and other policies are developed for risk management, compliance with legislation and stakeholder expectations, or internal requirements. Drafts follow a rigorous approval process through the Disclosure Committee. Overall responsibility for the policies and the ethics hotline rest with the Board's Audit Committee. The anti-corruption compliance officer is available to answer any questions.

The Code of Business Conduct and Ethics defines the conduct expectations for directors, officers, employees, consultants and contractors, including

conflicts of interest and human-rights concerns. The code is supplemented by other policies, including:

- **Anti-Bribery and Corruption Policy**, which includes definitions for bribe, kickback or facilitation payment, or extortion. It addresses responsibilities, red-flags and unacceptable behaviours, including fraud and money-laundering.
- **Whistle-Blowing Policy**, which describes a clear process for handling any concerns reported, and guaranteeing "no reprisals." The hotline is managed by a third party.
- **Gift and Hospitality Policy**, which includes examples of insider trading, corporate disclosures and a travel standard.

In 2021, there were no confirmed incidents of corruption.

## Our Values

**We are committed to superior quality and innovation.**

We're constantly striving for the highest quality solutions and perpetually innovating to achieve a sustainable future.



**We promote integrity throughout our business.**

We define integrity as respecting people and communities, including prioritizing their safety. We are transparent, sincere and honest.



**We create value for all shareholders.**

We balance financial value for shareholders while not losing sight of social good and sustainability for all our stakeholders, earning their respect and trust.



**We care about people.**

We're global citizens focused on sustainability and ensuring that the untapped opportunities in the clean energy industry benefit all people around the world.



### Ethics and Anti-Corruption Training

Training on the Code of Business Conduct and Ethics is included in the orientation of new employees. A comprehensive handbook was developed on the code of conduct in Portuguese, and all employees received refresher training on the

code in January 2021. Employees are encouraged to seek advice from their supervisors and/or managers or call the hotline at any time if they have any questions.

Portuguese versions of all policies are available to suppliers through a Brazilian portal.



## Ethics Hotline

The ethics hotline provides an avenue for employees and others to anonymously report any concerns. There is no retaliation (this is noted on the hotline website and in the policy), and the hotline is managed by a third party in Canada. Monthly reports showing statistics and progress are received and reviewed. Concerns about fraud, theft or misappropriation are sent to the Audit Committee chair.

The hotline can be accessed in Portuguese and English, by website or toll-free telephone. Training on how to use the hotline is part of new employees' orientation. The hotline can be used anonymously.

The table below lists the nature and number of calls to the hotline in 2021.

## Political and Other Contributions

Largo does not make political contributions in any country where it operates. In 2021, there was a \$30,000 lobbying expenditure in the US related to issues around vanadium importation. Largo is a member of several industry organizations and pays undisclosed membership dues.

## Cybersecurity

At Largo, we understand the importance of securing our information systems against malicious attacks, and of protecting any confidential information we may have collected from our employees and stakeholders. Our Information Security Policy in Brazil defines our information-security

## Our Information Security Policy in Brazil defines our information-security strategy for protecting the integrity, availability and confidentiality of information.

strategy for protecting the integrity, availability and confidentiality of information. This strategy is based on detection, prevention, monitoring and incident response. It strengthens cybersecurity-risk management while building a robust foundation for the increasingly digital future of Largo. This policy is based on the International Organisation for Standardisation (ISO) 27001 and 27002 standards. Largo has a disaster recovery plan in place.

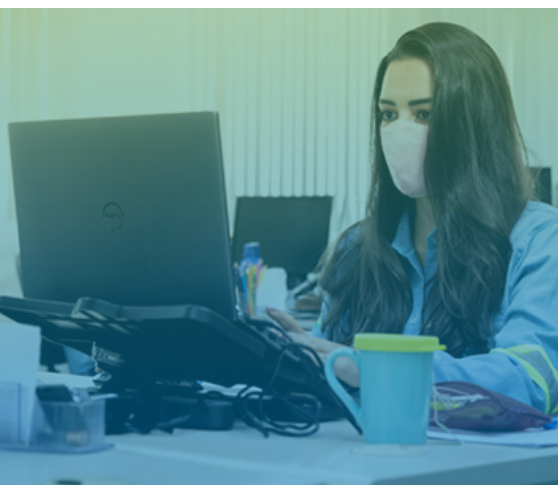
Activities in 2021 included implementing and providing training on Largo's program to conform with the Brazilian Protection of Personal Information Law and the implementation of an upgraded spam filter.

There is periodic training regarding cybersecurity principles, such as not sharing passwords and not clicking on unknown links.

## 2021 Concerns Reported

Type of misconduct reported	Total number of concerns reported	Supported	Partially supported	Founded	Unfounded	Consultation	Not applicable	Not investigated	Inconclusive	Insufficient data
Harassment	4						2			2
Conduct	19	2	7	1	1	1			4	3
Fraud	3				1		1	1		
Complaint	3	2			1					
Workplace safety	2		1				1			
Suggestion	1						1			
<b>Totals</b>	<b>32</b>	<b>4</b>	<b>8</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>4</b>	<b>5</b>

With a score of 38/100, Brazil ranks 96/180 in the Transparency International Corruption Perception Index in 2021.



## Our Strategy

Vanadium products help to lower the carbon footprint of steel. They provide an ideal solution for the integration of renewable energy through VRFBs in long-duration energy storage.

Largo prides itself on strategic priorities that include a proven history of community relations, stakeholder engagement and excellent environmental stewardship. We recognize that eventually, the direct economic impact we have on neighbouring communities around the Maracás Menchen Mine through jobs and taxes will end. That's why we are helping residents to develop economic independence. In the long term, Largo will have contributed to the sustainable development of communities in the areas of our operations with a minimal impact on the environment and its biodiversity.

We listen to our clients' requirements and follow through on our commitment to quality. In 2021, we obtained ISO 9001:2015 certification for our quality-control laboratory and shipping areas.

### Climate Change: Risks and Opportunities

We continue to monitor opportunities and further understand our climate-related risks in more detail. In December 2021, there was extreme and unusual

rainfall in the region of the mine operations in Brazil. This provided some early learning opportunities, as both our operations and local roads were impacted.

Chronic changes are possible. Severe droughts could impact the ability to continue withdrawing water from the Pedra reservoir if competition for water resources increases in the future.

Our Clean Energy business aims to become a leading supplier of safe, durable, long-duration grid-scale VRFBs for the fast-growing, global renewable-energy-storage market. Our VCHARGE batteries are expected to have a long lifespan and are anticipated to meet the ever-more-stringent regulatory requirements regarding repurposing or remanufacturing. Vanadium is currently the preferred electrolyte for flow batteries due to its stability. Demand for vanadium is likely to increase at the expense of battery metals used in lithium-ion (i.e., cobalt, nickel, manganese) technologies.



Largo expects to issue its first Task Force on Climate-Related Financial Disclosures (TCFD) report in 2022.



## Towards a Circular Economy – Valorizing Mine Tailings



Based on feasibility studies, we expect that by further processing the tailings to concentrate ilmenite, we will reduce the volume of our non-magnetic tailings by 20%.

### Ilmenite Concentration Plant

Over several years, Largo has explored the feasibility of extracting ilmenite from the initial non-magnetic tailings residue in our processing circuit. Ilmenite is a titanium-iron-oxide mineral with the idealized formula  $\text{FeTiO}_3$ . It is the main source of titanium dioxide ( $\text{TiO}_2$ ), which is used in paints, printing inks, fabrics, plastics, paper, sunscreen, food and cosmetics. The pilot plant for the processing was completed in 2020 and testing was successful. In 2021,

the Board approved the construction of the ilmenite concentration plant at the site, which is currently under construction. We anticipate producing ilmenite concentrate in the first half of 2023.

### TiO<sub>2</sub> Pigment Processing Plant

While there is a ready market for ilmenite concentrate, the next step in our valorization strategy is to build a  $\text{TiO}_2$  processing plant. The project is based on the sulfate processing method, common in the industry. To have a more

environmentally friendly impact, Largo plans to recycle spent sulfuric acid from hydrolysis, which avoids the production of acidic iron-sulfate waste. Iron sulfate generated throughout the process can be converted into fertilizer (ammonium sulfate) and hematite using well-known processing methods. The fertilizer produced could be sold in the Brazilian market.





In 2021, we continued to improve our ESG risk management through the implementation of new policies, procedures and innovative computer applications. Largo is planning to implement SAP software solutions throughout the organization, starting with our Clean Energy division.

In terms of governance, ESG reports are compiled and distributed to the executives on a monthly basis, and presented annually to the Board. In our Brazilian operations, a new human resources (HR) platform was implemented, which will facilitate collection and reporting of data with more granularity. Employees now have access to all their records through terminals available to them. Through the use of a Brazilian commercial platform called Bancodoc, we can verify the status of mandatory training and health exams for all contractors entering the site.

We also embarked on our Scope 3 journey, reporting on emissions for maritime transportation in this report.

Plans to continue to advance our transparency include issuing our first Taskforce on Climate-Related Financial Disclosures (TCFD) and reporting on CDP (formerly the Carbon Disclosure Project) in 2022.

## ESG Progress

Improvements to our ESG performance and disclosures are being reflected in the improved ratings and scores we received in 2021.



MSCI

improved from  
**BBB to A**

2021 S&P Global Corporate  
Sustainability Assessment

**32/100**

Score date: March 17, 2022

EcoVadis improved from

**44/100  
to 60/100**



Top **83%** of mining respondents



## Alignment With the United Nations Sustainable Development Goals (UN SDGs)

The 17 UN SDGs were adopted by all United Nations member states in 2015 as part of the 2030 Agenda for Sustainable Development. It provided a call for action for all countries—developed and developing—in a global partnership.

Each of the goals has clear targets and indicators, which are designed to be achieved at country-level. Companies across the globe have joined in the effort to achieve these goals, working within their areas of influence on prioritized SDGs that can have the greatest impact.

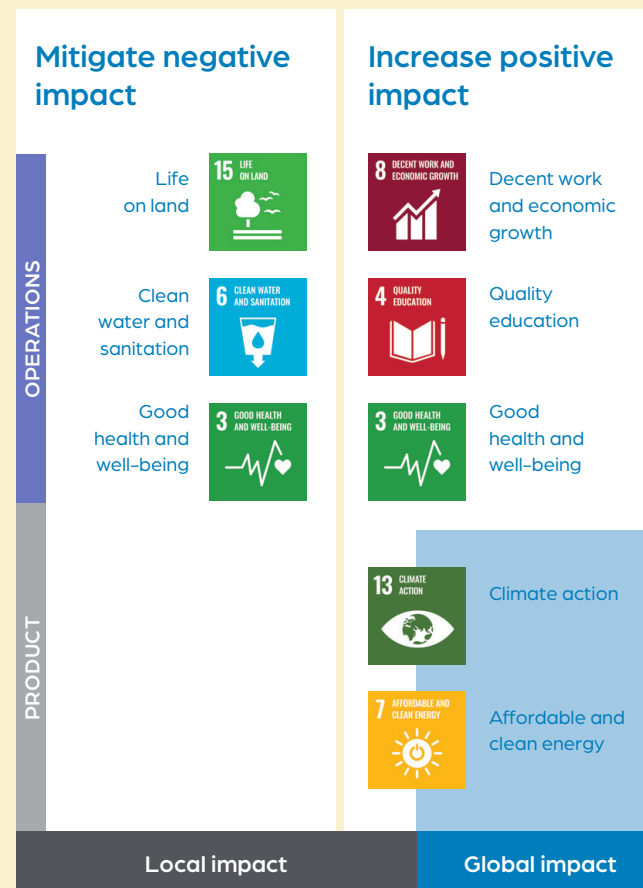
In 2020, we examined the impacts of our business activities—actual and potential; negative and positive—in relation to the SDGs. We looked at the impacts, both from our operations and our products, and considered whether they would be felt locally or globally.

Not surprisingly, many SDGs overlap with work already being done as part of our sustainability risk management efforts. Throughout this report, those topics are marked with the corresponding SDG icon so progress and performance data are identified and can be followed.

Our negative impacts are felt locally only. These are changes to the landscape where we excavated an open pit to mine the vanadium, and the use of shared water resources. Potential impacts include possible injuries to our workers. These impacts are all mitigated.

We are proud of the positive impacts Largo is making to help our communities. A strong focus is on improving education quality and the local availability of skills training, which increase income generation and job opportunities. Additionally, we have been providing resources directly related to health, hospitals, and support during the COVID pandemic.

Largo has a positive impact globally on climate action and clean energy. Our vanadium alloys decrease the need for steel in buildings and infrastructure. This reduces steel's carbon footprint across the world, as we ship to Europe, Asia and North America. Our vanadium electrolyte batteries will make using renewable energy easier and cheaper.





## Membership in Associations

Our membership in national and international associations provides opportunities for sharing best practices, collaborating on innovations, and working together to support the world's transition to a lower-carbon future.

Largo President and CEO Paulo Misk is a director on the board of the Brazilian Mining Association (IBRAM).

### International Associations



U.S. Energy Storage Association



FLOW  
BATTERIES  
EUROPE  
A united voice for flow batteries

Flow Batteries Europe Association



The Brazilian Institute of Mining (IBRAM)



California Energy Storage Association



International research association for  
vanadium and vanadium-containing  
products

## External Initiatives

Largo is compliant with the Canadian Extractive Sector Transparency Measures Act (ESTMA), and publishes an annual ESTMA report relating to our Brazilian operations.

We have committed to the adoption and implementation of the Global Industry Standard on Tailings Management at the Maracás Menchen Mine by August 2025 and as a member of IBRAM, we endorse the IBRAM's Letter of Commitment to Society.





## Our Risk Management

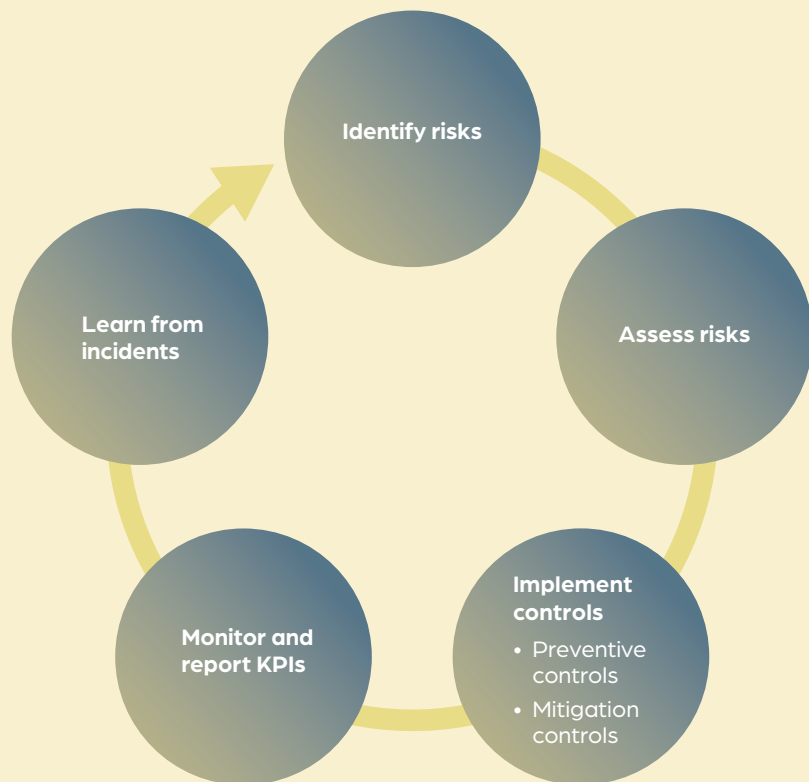
We use the precautionary approach in our business, supported by formal risk assessments to identify and minimize harm to people and the environment.

At the corporate level, our Enterprise Risk Management (ERM) Impact Matrix includes categories for environment, health and safety, and human rights and local communities. The corporate risk inventory includes several ESG-related risks, such as climate change. These are cascaded down for management at the appropriate levels and operations.

For the Maracás Menchen Mine operations, the risk management approach—based on identification, assessment, and implementation—and-monitoring of preventive and mitigative controls—started during the mine-project-permitting phase and continues through regular operations and any new expansions.

Our own policies, commitments and other processes are in place to ensure sustainable operations and are detailed throughout this report.

Our risk assessments include and comply with stringent Brazilian federal, state and municipal laws and regulations concerning health and safety, environmental impacts, human rights, ethics and labour codes.







The three most critical risk inventories in the scope of this report are those related to safety, occupational health, and environmental impacts.

### Licensing Process

The licensing process involves several steps, including the participation of the public and any non-government organization that wishes to be involved through public meetings. This began in 2009 in Maracás and the nearby community of Porto Alegre. In addition to the environmental impact assessment, various studies were completed, including a social impact, alternatives, and archaeological assessment. A detailed description of the proposed environmental management programs was submitted as the licensing process continued. Largo received the operating licence (LO) for the Maracás Menchen Mine in November 2014, indicating that the plant was built and operating according to its design specifications and environmental guidelines.

Following state regulations, Largo's operating licences are renewed periodically. These are extensive processes that take many months and involve inspections of the site. All new projects follow the same strict licensing processes, including environment and socio-economic risk assessments.

### Compliance With Legal and Other Requirements

In addition to complying with country, state and municipal legislations, we currently manage a total of 66 licences and permits. These often include conditions that must be met for compliance. We also need to be informed of new legislation that is being introduced and able to analyze it. To manage these, we use a third-party application (SOGI from Verde Ghaia) to receive notices about new legislations, confirm their applicability to the company, and keep track of all conditions, their management and renewal timelines.

### Risk Inventories and Controls

While ESG risks have been added to our corporate ERM at a high level, each operation is responsible for the management and control of its own risk inventories.

Preventive controls are identified and implemented based on the hierarchy of control, and we have an annual CAPEX budget to eliminate safety hazards.

We follow a Plan-Do-Check-Act management system, which includes clear roles and responsibilities; programs and operational procedures; training and evaluation; the monitoring of key performance indicators (KPIs); incidents (and near misses) investigations and corrective actions; emergency response plans and drills (simulations).

Largo doesn't operate in a vacuum. We understand that all of our activities can affect individuals or groups and their interests. Therefore, it is critical that we understand who these stakeholders are and what concerns them so we can engage with them in mutually beneficial relationships based on trust and transparency.

We identified our stakeholders considering direct and indirect relationships. Our work with communities addresses regional areas of direct and indirect influence, and we understand our responsibilities towards the contractors working at our site. Human rights are considered in all our interactions.



## Stakeholders

Stakeholder	Engagement	Key Concerns
Employees	<ul style="list-style-type: none"> <li>On-going</li> <li>Monthly <i>Coffee with the President</i></li> <li>2021 Employee Satisfaction Survey* (*discussed in Our People Section)</li> </ul>	<ul style="list-style-type: none"> <li>Safe work environment that promotes personal and professional development</li> <li>Job security, fair remuneration and benefits</li> <li>Recognition, evaluation and promotion</li> <li>Company strategy and performance</li> <li>Freedom of speech</li> </ul>
Labour union	<ul style="list-style-type: none"> <li>On-going as needed</li> <li>Formal meetings every two months</li> </ul>	<ul style="list-style-type: none"> <li>Safe work environment</li> <li>Compliance with labour laws</li> <li>Fair negotiation of a collective agreement</li> <li>Compliance with collective agreement</li> <li>Respect for human rights of employees</li> <li>Increased number of employees in the union</li> </ul>
On-site contractors	<ul style="list-style-type: none"> <li>On-going as needed</li> <li>Participation in daily safety dialogues, mining safety week, awareness campaigns</li> </ul>	<ul style="list-style-type: none"> <li>Clear specifications in request for proposal</li> <li>Clear criteria for work performance and measurement</li> <li>Fair evaluations</li> <li>Safe conditions to perform the work</li> <li>Payment by due date</li> <li>Long-term contracts</li> </ul>
Clients	<ul style="list-style-type: none"> <li>Key clients – yearly conference and customer visits</li> <li>2021 Customer Survey* (*discussed below)</li> </ul>	<ul style="list-style-type: none"> <li>Product quality control mechanisms (ISO 9001)</li> <li>Compliance with timeline and volume delivery</li> <li>Competitive cost</li> <li>REACH certification, ISO 14001</li> <li>Fluid and transparent communication</li> </ul>
Suppliers – Tier 1	Engagement through the supplier qualification process, contract negotiations and performance evaluations	<ul style="list-style-type: none"> <li>Fair qualification criteria</li> <li>Clear specs and criteria for the goods to be delivered</li> <li>Payment by due date</li> <li>Long-term contracts</li> </ul>
People in our communities and NGOs* (*discussed in Our Communities in more detail)	<ul style="list-style-type: none"> <li>Enterprise Monitoring Committee (EMC) – every two months</li> <li>Rural communities – monthly</li> <li>Town of Maracás – monthly</li> </ul>	<ul style="list-style-type: none"> <li>Transparent communication</li> <li>Projects, initiatives, support and actions for environmental, economic and social development</li> <li>Safe operations and provision of risk awareness</li> <li>Meetings are forums to discuss all issues affecting the communities (not just related to Largo)</li> </ul>
Regulatory agencies	On-going through inspections and permit renewals	<ul style="list-style-type: none"> <li>Compliance with applicable legislation and permit conditions</li> </ul>
Municipal government	<ul style="list-style-type: none"> <li>Informal through partnership in projects</li> <li>Representative participates in the PMC meetings every two months</li> </ul>	<ul style="list-style-type: none"> <li>Increased tax revenue</li> <li>Promotion of social, economic and environmental development</li> <li>Financial and/or logistical support of government programs</li> </ul>
Investment community	Quarterly earnings and adhoc webcasts, industry conferences, press releases, corporate communication strategies, on-going outreach by phone and e-mail	<ul style="list-style-type: none"> <li>Company strategy</li> <li>Financial results</li> </ul>
Industry associations	IBRAM – Formal virtual monthly meetings	<ul style="list-style-type: none"> <li>Enhancing the mining industry reputation</li> <li>Ensuring adherence to IBRAM Letter of Commitment</li> </ul>



## Materiality

Our positive impacts and value creation are described in the Strategy section. Here, this Materiality section focuses on potential or actual negative impacts and considers impacts that Largo either caused, contributed to, or is directly linked to. While there have been no changes to Largo's material topics since last year, we are clarifying some topic names and better explaining how they were determined.

### Largo has been identifying impacts since the early stages of our operation.

These impacts are assessed on severity (scale, scope, irremediable character) and likelihood. It is recognized that these actual or potential impacts will have a financial component that is not always easily evaluated.

The actual and potential impacts of the mining industry are very well known, and are included in several industry frameworks and standards for risk management and disclosure. Some examples are the International Council on Mining and Metals (ICMM) Mining Principles, the Initiative for Responsible Mining Assurance (IRMA), the Mining Association of Canada's "Towards Sustainable Mining" (MAC TSM) initiative, as well as IBRAM's Letter of Commitment to Society. While the Global Reporting Initiative (GRI) is in the process of developing the exposure draft of its new Mining Sector Standard, we referred to the previous one. We also integrated the former Sustainability Accounting Standards Board

(SASB) Mining and Metals Standard. We tested our selection of material topics against all of these standards.

Some typical topics in the industry are not applicable to Largo. There are no indigenous or maroon communities in our region of operation; we don't operate in a conflict area; and there is no artisanal mining in our region.

#### Initial list of topics

- Human rights
- Supply chain
- Labour relations
- Talent attraction and retention
- Equity, inclusion and diversity (EID)
- Ethics and corruption
- Cybersecurity
- Supply chain risk
- Product stewardship
- Government relations
- Progressive reclamation
- Local economic impacts
- Procurement practices
- Occupational health & safety (OHS)
- Community relations & development
- Water
- Effluents
- Greenhouse gases (GHG) emissions
- Other air emissions
- Energy use
- Biodiversity
- Mining waste
- Processing waste
- Other waste
- Pressure on local infrastructure

The selected threshold for our prioritization of materiality is irreversibility.\*

#### Largo's list of material topics

- Occupational health & safety (OHS)
- Community relations & development
- Water & effluents
- Energy & air emissions (climate change)
- Biodiversity
- Waste
- Tailings facilities
- Mine closure

This list of material topics has been reviewed and approved by Largo's Board of Directors.

\*The selected threshold for our prioritization is irreversibility: impacts that are usually considered major and catastrophic. Our material topics are those that could cause fatalities, disabilities, chronic illnesses, and irreversible damage to the environment and/or communities and that could be prevented or mitigated by proper management of our operations.

## Customer Survey

In 2021, we conducted a customer survey, asking questions about their satisfaction with our products as well as questions concerning ESG. We surveyed 65 customers in 24 countries and received 34 responses. This response rate of 52% is far higher than the usual 10% to 30% and shows that our clients are engaged.

Our customers were asked to select their most relevant ESG topics from a list provided, and the results helped inform our materiality analysis.

### Largo customers' ranking of ESG topics by relevance

Topic	Times selected
Climate change, energy and greenhouse gases	22
Safety and occupational health	22
Environment – water, biodiversity, waste management, other emissions	21
Economic impact	18
Ethics	18
Corporate governance	16
Human rights	11
Equity, inclusion and diversity	8
Community relations	6
Management of tailings facilities	5

The survey results also indicated that in addition to the 24% of customers who already include ESG topics in their supplier qualification process, another 42% are considering it, with 10% planning to include it in the next two years.



# Economic Performance

2021 Benefit Footprint	28
Our Presence in Communities	29
Sustainable Procurement	30
Supply Chain Risk Management	31





## 2021 Benefit Footprint

Largo's operations began in late 2014. In these eight years, we have been providing direct and indirect economic and social benefits to people, their families and their communities through job creation, business opportunities for suppliers, and payments to governments in the form of taxes and royalties. The Municipality of Maracás is now the second-largest generator of tax revenues in the region.



Employee wages and benefits

**\$11.22M**



Community investments

**\$0.79M**



Expenditures with national suppliers

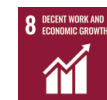
**\$94.27M**



Federal taxes and royalties paid in Brazil

**\$24M**

In 2021, our standard entry-level salary for women and men was approximately **31% above the minimum wage.**





## Our Presence in Communities

We hire locally. At 51%, fully half our operations workforce is from the town of Maracás, and another 29% is from elsewhere in the Bahia state.

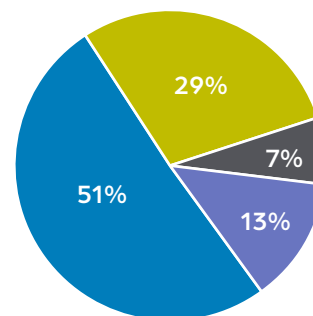


In 2021, our standard entry-level salary for women and men was approximately 31% above the minimum wage.

Senior management personnel are not hired from the immediate vicinity of our operations, generally because the necessary skills and experience are difficult to find in that area of Brazil. But Largo is investing in employee development, with the intention to create career paths to future management for local hires.

In 2021, the corporate executive management (C-suite) team was composed of approximately 50% Brazilian nationals. All senior positions in Brazil are occupied by Brazilians, including that of Largo's president and CEO.

### 2021 Local and Regional Employment

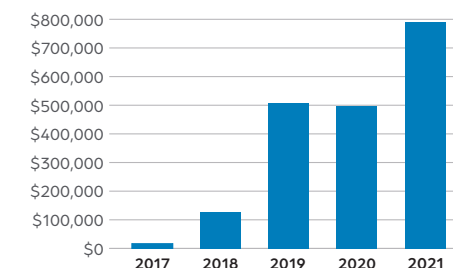


- Local - Maracás
- Regional - Bahia (excluding Maracás)
- Minas Gerais
- Other states in Brazil

### Indirect Economic Impacts

Largo generates direct and indirect jobs—as many as 13 additional downstream jobs for each direct job, according to the latest estimates for the mining industry. However, our main indirect economic impacts are the result of our community programs. The strategic pillars and programs that we have in place to support the sustainable development of our communities are fully described in the Communities section.

### Community Investments Table



### Infrastructure Investments and Services Supported

As part of the water-management risk mitigation plan, Largo donated a water treatment plant to the village of Água Branca in 2019. The legal transfer was completed in 2021, with an inauguration ceremony and the writing-off of the expenses from our books, which explains the much-increased 2021 investment. Water is provided continuously to around 76 families.

## Sustainable Procurement

As with most mining and processing operations, our supply chain requires specialized technologies and services. We rely on a wide range of suppliers and service providers, all of which are located in Brazil.

We ship to our customers across the globe mainly from the Port of Salvador, through international logistic services using container cargo ships of average size.

We have a robust business–procurement procedure in place, with a clear separation of communication between technical requirements and financial information during the quoting process. All suppliers must have a Brazilian registration number (CNPJ), which

indicates that they are a legitimate business organization in Brazil, registered with the government for taxation and legal purposes, and subject to government inspections for compliance with human rights, occupational health, safety and environmental legislations. Suppliers are also screened for reputation and

credit ratings. Our contracts include clauses regarding compliance with all applicable legislation. No negative environmental or social impacts have been reported in our supply chain.

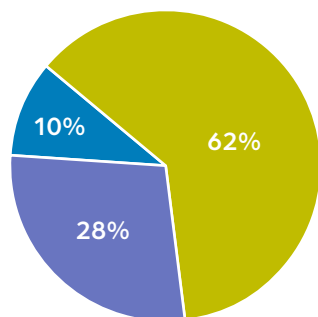
Since 2020, we have been introducing improvements in our procurement procedures. We started by identifying critical suppliers relevant to our quality management processes. The qualification questionnaire included questions about suppliers' certification under ISO 9001, ISO 14001 and ISO 45001. During this initial phase, which was completed in 2021, 78 suppliers were identified as critical. Of those, 63 (81%) were qualified without needing any additional accreditation, improvements to their processes or other modifications to their businesses.

Additionally in 2021, we shared our corporate policies and Code of Business Conduct and Ethics with all our active suppliers (1,121 in total) and asked them to acknowledge their understanding and commitment. Through extensive and dedicated follow-up efforts during the year, we received sign-off from 1,107 suppliers (98%).

In November 2021, the sustainable procurement program was expanded to include a qualification process for all suppliers. The definition of "critical suppliers" now includes those that could impact our production and shipments, as well as product quality. The questionnaire is completed through Microsoft Forms (which is trackable) and includes questions on ISO 9001, 14001, 45001, 50001, occupational health and safety, environment and energy use.

We believe in supporting local suppliers while ensuring that they share our broad sustainability commitments. A program will soon be offered to help our local small-businesses suppliers develop and formalize their business processes and conform to our requirements. This will include topics such as understanding our policies and commitments—like those regarding child labour, for example—at a level that makes sense to them.

2021 Spending on Local Suppliers



Local - Maracás	\$9,220,243
Regional - Bahia (excluding Maracás)	\$58,684,224
Other states in Brazil	\$26,373,494

We believe in supporting local suppliers while ensuring that they share our broad sustainability commitments.





## Our Top Suppliers Provide



### Products

Raw materials and chemical products for vanadium processing, fuel, explosives and spare parts.



### Services

Logistics; maritime shipping; transportation of employees; drilling; lab analysis; vehicle rentals; mining services, such as topography, explosives, open-pit mining and transportation of ore and rock waste; maintenance; construction and engineering services; restaurant; security services; electricity.



### Financial Services

Health plan and meal benefits.



### Other Services

Environmental services; packing materials; drums; administrative materials; IT services and computers; personal protective equipment (PPE); uniforms; etc.

## Supply Chain Risk Management

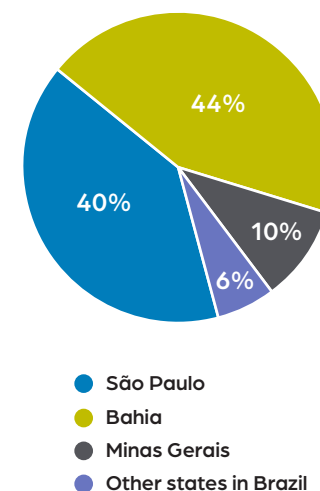
Of more than 1,120 suppliers, our top-52 suppliers by “spend” cover most of our activities and account for over 85% of our total expenditure. The balance, approximately 1,070 suppliers, accounts for less than 15% of the total.

Recent disruptions in global supply chains due to the COVID-19 pandemic have highlighted the need to understand and manage the risks in our supply chain. This work includes mapping the scope and details of our entire supply chain; identifying risk objects or nodes in all tiers of supply; assessing and mitigating the risks with controls; and monitoring the controls.

In Q4 2021, we started a preliminary mapping of our tier 1 suppliers. Included in this group are those we contracted for our maintenance period in January 2021, an activity that is not typical of our day-to-day operations. In the first phase, we identified suppliers by key categories based on our activities and geography. We have 25 on-site service providers and 30 suppliers of fuel and chemical products. Ninety-four percent of our suppliers are based in the states of São Paulo, Bahia

and Minas Gerais. These states have well-developed economies in mining, chemicals and manufacturing industries. They are also less exposed to human-rights violations related to indigenous peoples and deforestation. Their geographical locations in the proximity of our operations provide less risk from a logistical, transportation perspective.

2021 Suppliers by State



# Our People

Engaging Our Talent	33
Inclusion and Diversity	35
Human Rights	37
Occupational Health and Safety	38



## Engaging Our Talent

Our people make our business. So it is important that we attract staff members who not only understand our philosophy but share the commitments of our policies—the ones that we demonstrate through our daily actions.



### Collective Agreements

Our workers are unionized. Successive collective agreements have been in place since 2012 when construction started.

In 2021, we conducted contract negotiations with our union and succeeded in signing the collective agreement for 2021–2023. The contract covers one-hundred percent of our employees. It includes a base-salary increase and maintains all the benefits included in the previous contract. A list of mandatory benefits under Brazilian labour laws and additional benefits provided by Largo can be found on our website. Contract renewals take place every two years, depending on the terms of the contract.

In addition, we organized a one-day workshop with union representatives that covered key topics such as Largo's strategy and challenges, future plans and current actions.

We provided an overview of human resources and health-and-safety topics, and the role of union representatives from Largo's perspective. Formal meetings between the union and management, complete with an agenda and minutes, take place every two months.

Social dialogue between employers and workers happens informally every day. This takes the form of daily safety dialogues; employees' access to safety representatives or union representatives; and union representatives' access to the human resources manager on an informal basis.

### Second Satisfaction and Engagement Survey

When employees are satisfied with their jobs and feel that they belong with their teams, they are more engaged and productive in their roles. So, it makes sense for us to measure our employees' opinions of our performance as managers periodically. It is also important for employees to make their voices heard and feel that they are important to the company.

In 2021, we conducted our second Satisfaction and Engagement Survey; our first took place in 2017. The survey was developed and analyzed by an independent consulting company and was advertised throughout the operations. Employees were asked to complete this survey anonymously during the period of April 12–30th using the computers available in the training room.

Respondents were asked to identify their role and functional area, their time with Largo and their work hours (shift work or not) so the results could be fully analyzed. Overall, the survey included 80 closed-ended questions and three open-ended questions. The topics addressed were: communication; leadership; remuneration and benefits; values and organizational consistency; satisfaction with the company and work; and health, safety and inclusion. The closed-ended questions were worded so that agreement equated with a positive-evolution trend. They did not provide a neutral option, forcing respondents to better consider their responses.

### 2021 Performance

Our website contains detailed information about many of our programs. Our 2021 performance highlights are presented below and more data is presented in the Performance Data section.

**We had an excellent rate of response of 94%.  
The results showed an overall improvement of  
8% in positive evolution responses—83% in 2021  
compared with 75% in the first survey.**

## We develop leaders who share and reflect our commitment to sustainable development.

### Promoting Equitable Recruitment and Promotions

We strive to remove gender labels from roles in our recruitment process and to establish transparent, clear communications to attract candidates. We try to ensure that there are both male and female candidates for any opening. Internal candidates are prioritized, and job openings are posted externally and internally.

#### Internal promotions

From a total of 417 employees, 70 people were promoted in 2021, with women representing 17% of the cases. Since women's overall representation at Largo is just 13%, it suggests that they were promoted at a slightly higher rate of frequency than men.

#### Training

Our training matrix was reviewed in 2021, and most gaps identified were addressed in the same year. Training initiatives such as the leadership development program were restarted post-pandemic. Overall, training totalled 22,094 hours in 2021, with an average of 53 hours per year, per employee, both women and men. This was an increase of 32% over 2020. More details about our robust orientation training can be found on our website.

### Professional Development

#### Leadership development program

Largo is committed to creating leaders who inspire others, create bonds, develop people and are committed to our principles. In our leadership development program, we witness the words, gestures, ideas and smiles that show the difference our connection, effort and team spirit make in all our business sectors. We are proud to have leaders who share and reflect our commitment to sustainable development.

In 2021, we conducted an extensive leadership development program. All our supervisors (3 women and 19 men) and coordinators (3 women and 11 men) were invited, as were two women and one man who aren't currently in a leadership role. A consulting company delivered the four-module program over several days, covering the role of the leader; the leader as a coach; vision, mission, values; and oversight of processes. Coordinators received 40 hours of training; supervisors received 40 and an additional 8 hours of training on the Code of Business Conduct and Ethics and conflict resolution.

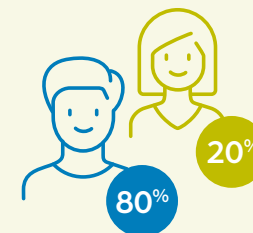
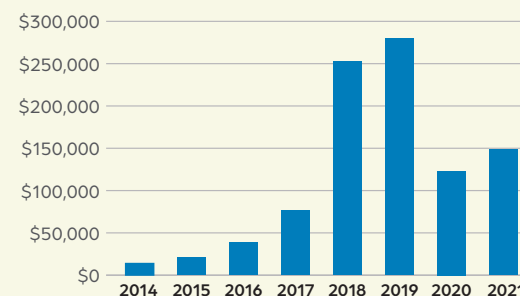


### Scholarships

To encourage professional development, Largo reimburses up to 70% of the cost of approved external courses at secondary and post-secondary levels. This includes training for mechanics and maintenance technicians, undergraduate engineering degrees and advanced degrees like masters and MBAs.

External training hours are not included in the training-hour totals reported here, but the reimbursement costs are included in the investment chart. The decline in investment in 2020 was due to COVID-19-pandemic restrictions and we are slowly rebuilding. Since 2018, 27 employees have graduated and at the end of 2021, 88 employees (21% of the workforce) participated in the program. At 20%, women are participating at a higher rate than their representation in the workforce (13%).

### Employee training and development investment



### Performance Reviews and Career Development

All of our employees receive performance reviews. These reviews serve many purposes, among which are to motivate and engage the team; identify any training gaps; understand our employees' career ambitions; improve performance; and create internal alignment between the employees and the company's goals. In 2021, we made two changes related to the competencies evaluated and the frequency of those evaluations.

Reviews are now annual, and the competencies are based on the relevant employee-function group.

Following a performance review, an individual development plan is created for each employee. These are based on the 70/20/10 model, where 70% of one's professional development is acquired naturally through day-to-day, on-the-job experiences; 20% through coaching, mentoring and other interactions; and 10% through education and training, workshops, technical visits, etc.





## Inclusion and Diversity

### Women in Mining

Largo continues its support of the Women in Mining (WIM) Brazil Action Plan, both as a signatory and a financial sponsor. WIM Brazil aims to transform the participation of women in the Brazilian mineral sector and is supported by academic, government and industry groups.

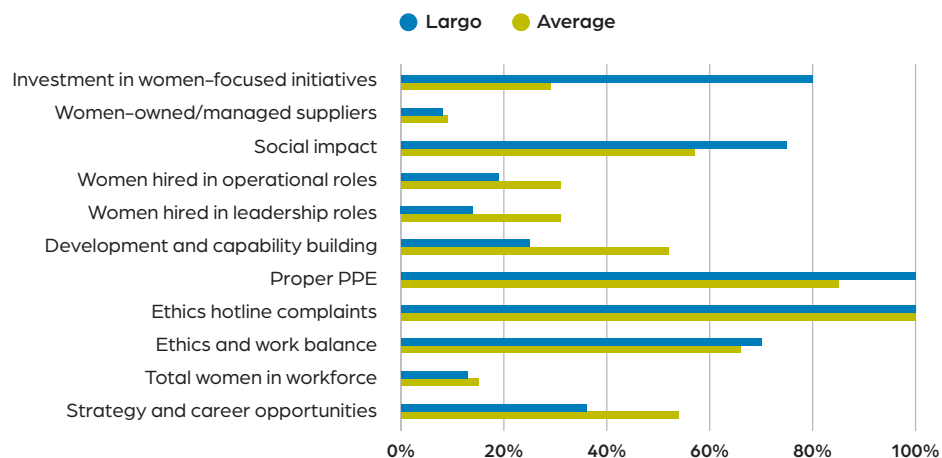
In 2021, WIM Brazil conducted a survey of its signatory members, using indicators for performance and for the maturity of the inclusion & diversity strategy they had in place. WIM published its first progress report with consolidated data, and also provided members with individual reports so they can benchmark their results and better plan for improvement.

The number of women in the roles of coordinator, specialist, supervisor and university-educated increased by **50% from 2020 to 2021.**

This assessment placed Largo in the “Advanced” progress category (61–80%), indicating that the gender diversity theme is included in the majority of the organization’s functional areas, including the leadership. The assessment shows that we have a significantly higher investment in community programs targeting women when compared to other WIM Brazil members. We have work to do in the categories of human resources development and capability building, among others.

Largo is also involved in the advancement of inclusion and diversity through the Brazilian Mining Association’s (IBRAM’s) Working Groups. The Working Groups (WG) had their origins in IBRAM’s 2019 Letter of Commitment to Society and were implemented in 2021. Our human resources manager is part of IBRAM’s Inclusion & Diversity WG, which is aligned with the WIM Brazil Action Plan.

### WIM Brazil Indicators First WIM Brazil Progress Report 2021



## This was exactly the purpose of the campaign: to raise awareness of LGBTQ+ issues and open dialogues, inside and outside of Largo.

### Awareness Campaigns

Social media is an effective way to communicate with our communities. Throughout the year we launch posts to celebrate together, raise awareness of difficult issues, and remind vulnerable populations of government services available to them. Examples of these communication initiatives include International Day to Eliminate Violence Against Women, Female Entrepreneur Day, Teacher's Day, Children's Day, Judo Day, Black Awareness Day, and Pride Month to name a few.

#### International Women's Day

In 2021, we continued to use the "Respect the Women at the Mine" theme. The day's events included a meet-and-greet with the CEO and the delivery of a letter from Koko Yamamoto, Largo director and chair of the Audit Committee. The letter supports and emphasizes the need for diversity and engagement at Largo. Pamphlets and posters were done in the colour blue and women received a small bottle of beer—both symbolic challenges to stereotypical male choices. The materials included a QR-code link to Largo's Code of Business Conduct

and Ethics Hotline, as well as Largo's commitment to the WIM Brazil program. Short testimonials and images were shared on social media. Overall, the message was that women belong in mining. This campaign won the prestigious Public Relations Jatobá Prize in Brazil.

#### LGBTQ + Pride Month

Largo's 2021 theme for Pride Month was, "If you don't respect another's love, you haven't yet understood love." The campaign's key event was a live, one-hour interview with Brazilian gay actor Sulivã Bispo. Held on Instagram with over 900 views, she talked about awareness, respect, self-esteem, being accepted, fighting against homophobia, and more. A seven-minute documentary with testimonials from individuals in our communities was shared on social media and shown on public screens in the town of Maracás. As in 2020, T-shirts were distributed internally (over 300) and externally (over 400) to community groups or individuals. Grupo Largadinho, a youth dance group, created a new dance and shared it on social media. And the Flores and Guardiões Cycling group supported the campaign by organizing a ride across Maracás wearing the T-shirts.

Internally, information materials with statistics were posted and distributed around our site. Managers were asked to raise the topic at the Daily Safety Dialogues during the month of June, and while some were a bit uncomfortable, many reported excellent feedback. This was exactly the purpose of the campaign: to raise awareness of LGBTQ+ issues and open dialogues, inside and outside of Largo.





## Human Rights

**We are seeking to improve, formalize and validate our risk assessments and due diligence with respect to human rights.**

An initial assessment was started in Q4 2021 as part of our responsibilities under the United Nations Guiding Principles and in alignment with the Organisation for Economic Co-operation and Development (OECD) guidelines. The assessment is being conducted in several phases.

The first phase identified Largo's actual and potential human-rights impacts at its Maracás Menchen Mine operation

in Bahia, Brazil. It included local communities, with a focus on any adverse impacts caused, contributed to, or linked to Largo. Further, it analysed the prevention and mitigation strategies already in place.

The work considered country and industry contexts, and relied on interviews with members of the local communities that had been conducted during other socio-economic

assessments. Rights related to the occupational health-and-safety of employees and contractors, and impacts to the environment that include water issues were excluded from the scope of the assessment, as these are managed on a daily basis through specific policies and management systems.

The preliminary results indicate that Largo does not cause any actual adverse impacts to rights-holders, and we have several programs in place to promote positive impacts. The next phase will look at any potential impacts and Largo's role in contributing or being linked to them. Part of this will be a formal assessment that considers severity (scale, scope, and irremediable character) and likelihood.

It should be noted that the closure of the mine operations in the future will have a direct economic impact on the local communities, and we already have several programs in place to mitigate that effect (see Communities section).

Largo's operations are rigidly controlled, with frequent inspections from government agencies. Employees and contractors must provide government documents showing proof of age, social security number, etc. All new employees receive training that includes Largo's values, commitment to safety and guarantee of a workplace free of discrimination and harassment, as well as the Code of Business Conduct and Ethics, which includes a commitment to human rights.

In January of 2021, we improved our training on the Code of Business Conduct and Ethics, providing all employees with refresher training and an easy-to-read code handbook in Portuguese.

Security personnel at Largo are contracted through a service provider and are unarmed. They are certified and have received at least 20 hours of human-rights training, and must pass psychological exams and renew their certification every two years.

We have a "whistle-blower" ethics hotline for reporting any concerns, and a remediation process for identified cases of discrimination and/or harassment or human rights issues (internal and external). In 2021, there were no human rights grievances.



## Occupational Health and Safety

Building and maintaining a safety culture is a continuous process. We employ financial, people and emotional-engagement resources to create a safe, healthy, working environment at our mine.

### Management Approach

We operate under the Safety, Environment and Social Responsibility Policy as well as other policies that were approved by the Board and that meet strict legal requirements.

Our Safety, Environment and Social Responsibility Policy states that our overarching commitments are to zero harm. We use best practices in our management of risk, and integrate health-and-safety strategies into our key business and planning processes.

Oversight of occupational health and safety (OHS) is the responsibility of the Operations Committee of the Board of Directors. The production director, who reports directly to the CEO, is responsible for ensuring that we adhere to our commitments and are compliant with all legislation. The director's team, which includes a health and safety, environment and quality manager, supports this effort.

Our OHS risk management is summarized below and described in detail on our website.

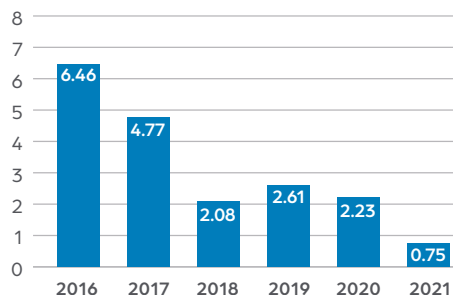
Our OHS team manages our programs, ensuring that the established prevention and mitigation controls are performing well. They check that we are in compliance with all legal requirements, including mandatory reporting to the relevant government agencies.

KPIs are constantly monitored and reviewed internally, both weekly and monthly. They are reported monthly to the executive team and Board of Directors. During the pandemic, these reports also included information on COVID infections. Any special matters arising are discussed at the weekly executive meetings and escalated to the Board as needed.

New employees receive extensive training on OHS and are set-up with a mentor (program described below). Specific training is given to workers tasked with performing higher-risk activities.

All of the mines' suppliers must also operate according to Brazilian regulations. In 2021, we were in compliance with all OHS regulations.

Lost Time Injury Frequency Rate (LTIFR)



Since ramp-up and operations commenced, Largo has had no fatalities or lost-time injuries of over six-months' duration. In 2021, our best year so far, there were two lost-time injuries, each of less than 15 days' duration.





In 2021, we completed the MAC TSM Safety and Health Assessment Protocol, and are proud to report that we achieved a level A in four areas and AAA in Training, Behaviour and Culture.

### Safety Risk Management

Our risk management system is described in detail and published for the public on our website. It is based on a Plan-Do-Check-Act management system—like the ISO 45001—while at the same time complying with Brazilian legislations. The latter includes, for example, the right of refusal, mandatory reporting of incidents, and the joint safety committee (CIPAMIN), as well as more than 35 regulatory norms (NR) covering a variety of topics and industries, including mining.

The foundations of our management system include risk identification and assessment; the implementation of controls following the hierarchy of controls; incident investigations; performance monitoring; and actions for improvement.

Procedures, training programs and PPE are all considered controls and each has a role in our system. Simulation drills of the emergency-response plan scenarios are conducted annually according to a schedule. Daily safety dialogues provide the best communication tool for engagement, clarification and building trust.

### Occupational Health Risk Management

Our occupational health risk-management plan is described in detail and publicly published on our website. We have an occupational health medical-control program in place, which prescribes the types and frequency of required medical exams.

We have an on-site primary care clinic, available to employees and contractors 24/7, and we run monthly educational and awareness campaigns on health topics.

### MAC TSM Self-Assessment

The Mining Association of Canada Towards Sustainable Mining Program (MAC TSM) has become a standard for its members in Canada. It has also been adopted by the industry in other countries, including IBRAM in Brazil. Through self-assessment protocols in key sustainability topics, organizations can understand the level of their implementation of best practices as part of the TSM initiative. The goal is for each operation to achieve a level A score or higher (AA or AAA) in all five performance areas.

In 2021, we completed the Safety and Health Protocol, and are proud to report that we achieved a level A in four areas and AAA in Training, Behaviour and Culture. The main gap identified was in failing to conduct a formalized, complete, internal audit and benchmarking exercise against our peers. We plan to address these gaps in conjunction with our ISO 45001 implementation preparations.

Indicator	Level of Self-Assessment
1. Commitment and Accountability	A
2. Planning and Implementation	A
3. Training, Behaviour and Culture	AAA
4. Monitoring and Reporting	A
5. Performance	A



During our annual week-long Safety in Mining event, all our employees and contractors engage in hands-on activities and workshops to build learning and engagement with safety at work, and at home and leisure.

Our capital investment  
to eliminate hazards in  
2021 was over  
**\$278,000**

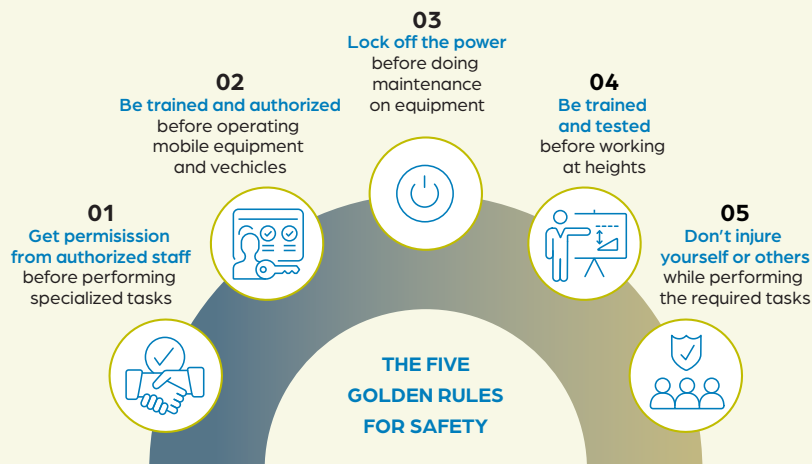


We present data on our 2020 and 2021 Performance in the Data section.



## Five Golden Rules for Safety

The Five Golden Rules for Safety is an integral part of our safety culture, addressing basic safety requirements and carrying prescribed consequences if not followed. Throughout the mine, campaigns reinforce the importance of the Five Golden Rules and the use of the required personal protective equipment (PPE).



## Control of Service Providers

Under Brazilian legislation, Largo must ensure that our on-site contractors, service providers and their employees are in compliance with a variety of requirements. To facilitate this oversight, Largo has implemented an innovative digital control provided by a commercial supplier called Bancodoc. Its platform acts as a "controller." Applicable requirements are identified for each supplier of services, who then uploads all the necessary documentation (for their company and employees) to the platform. These include several types of documents and social security numbers, valid medical exams and training, lists of mandatory PPE, etc. When a contractor enters the site at the start of their shift, the digital system reads their identity badge and confirms that all documents are currently valid. This tool ensures monitoring to uphold specific human rights such as those prohibiting child and forced labour.

## Mentoring Program

The occupational health-and-safety (OHS) mentoring program for new employees was formalized in late 2020. It defines the responsibilities of the mentor, human resources and safety functions and the employee's home department. The mentors are carefully selected and trained for the role. After going through the initial training, new employees have a designated mentor for a period of four months. During this period, the mentor is available to provide technical and general information about the company and procedures, and feedback on the employee's performance. The mentor is also responsible for conducting a formal evaluation related to 13 OHS topics every 15 days to monitor their mentee's progress. At the end, the employees "graduate" from the program by receiving a hardhat with a different colour.

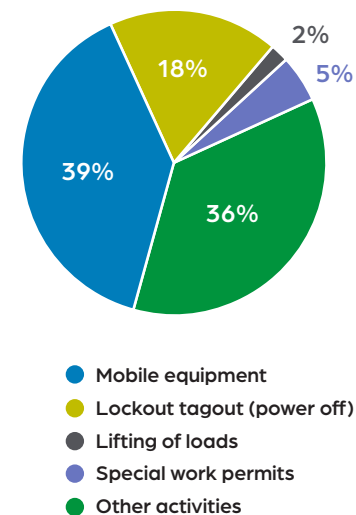
## Incident Reporting and Investigations

All incidents and near-misses are reported and investigated to determine the contributing causes. During our investigation, we note if there is a relationship to any of Largo's Five Golden Rules for Safety (see chart) so we can continue to focus on the most important and frequent root causes or activities.

We also track and analyse incidents, looking at the operational area; whether it involved an on-site contractor; and whom it was. Our system, SICLOPE, also records the incident's time of the day, so we can analyse the frequency of incidents by shift, etc.

Incidents with the potential to cause permanent harm are called "high-potential incidents," even if the actual incident was low in harm or damage, or a complete near-miss. In safety, they are considered "learning opportunities" and are key to identifying new hazards. These incidents are investigated in great detail. In the chart, the majority of high-potential incidents in 2021 were related to mobile machinery, followed by lockout/tag-out (power off) procedures. These are already identified as our Golden Rules 2 and 3, indicating that they continue to be the ones to focus on.

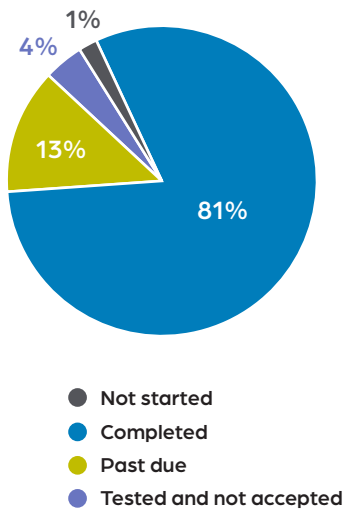
2021 High Potential Incidents in Relation to the Five Golden Rules



## Corrective Actions Arising From Incident Investigations

Following the completion of an investigation to identify all contributing causes, corrective actions follow the hierarchy of controls and are planned, implemented and verified. Due dates are assigned, depending on the time and resources needed for the actions being implemented. A key metric in our management system is the monitoring of the percentage of actions *not* implemented by the due date. The chart shows that at the end of December 2021, 13% of these actions were past due, and another 4% had been tested and not accepted. We are working to improve these results.

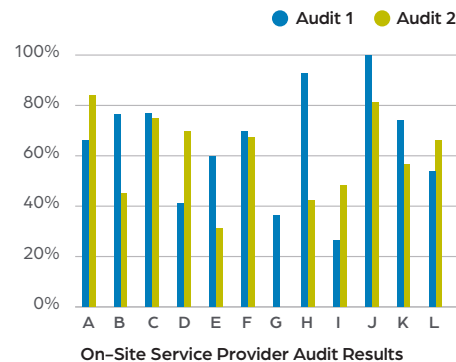
### Status of Actions Arising From High Potential Incident Investigations (December, 2021)



## On-Site Service Providers

Another key management tool is to conduct audits of service providers on-site. In 2021, 11 service providers were audited in Q1 and then again in Q3. One provider was hired in Q2. The results are shown in the chart. It should be noted that there was a change in a key piece of Brazilian legislation in 2021. The results show that we are paying attention and service providers need to do more to ensure compliance with the new legislation. We will continue to work with our service providers to monitor and drive their improvements.

### 2021 Audits of On-Site Service Providers



**In 2021, we continued to make COVID prevention a priority for our workers and the community.**

## COVID-19 Pandemic

We maintain a range of strict protocols in place, in line with government (federal, state and municipal) guidance and directives. Examples include such measures as rapid screening tests, social distancing, masks and other PPEs, and plastic barriers. Regular meetings with state and municipal health representatives occurred during 2021.

We have supported local-government vaccination campaigns with our own communication campaigns. Vaccinations were offered to our employees and contractors at our on-site primary care clinic, and to encourage families and community members to get vaccinated as well. Additionally, we are providing flexible work arrangements to support our employees and their families, and asking our employees and contractors to avoid physical meetings and training sessions.

Most of our employees and contractors live in the town of Maracás and travel daily to our site by bus (45 minutes each way). So we created a partnership with a local health clinic and with the support of the municipal health department. This enabled any of our workers with suspected symptoms of COVID or flu to be tested and evaluated close to their residences and avoid travelling to the site.

The pandemic is ongoing and we are constantly evaluating the situation and addressing actions to minimize and reduce COVID's effects.

From the start of the pandemic, we have supported local communities with educational campaigns, the donation of PPEs, hospital equipment and more. Refer to our Community Programs section for more details.





# Our Communities

Management Approach	44
Employment and Income Programs	46
Education Programs	47
Environment Programs	47
Culture, Sport and Leisure Programs	48
2021 Highlights	49





## Management Approach

Our Safety, Environmental and Sustainable Responsibility Policy states our commitments to responsible mining and sustainable development.

Largo's production director, who reports directly to the CEO, is responsible for ensuring that we adhere to our commitments and are compliant with all legislation. The human resources manager, who reports to the production director, has a community relations team to support that effort.

As part of the mine's permitting process, there have been several assessments since 2008 to identify potential positive and negative impacts to nearby communities. These included socio-economic analyses, identification of stakeholders, and potential impacts and mitigations. Vulnerable groups that were identified include family farmers, women and youth. More details are provided in the Licensing Process Section.

Largo's areas of influence are differentiated between a direct influence area (DIA) and an indirect influence area (IDA), the town of Maracás. This is where the main office is located and where most of the employees and contractors live. Largo has no development projects at the stage where consultation is required.

There are no indigenous groups or communities with characteristic African cultures (Comunidades Quilombolas, meaning "maroon communities") in Largo's areas of direct and indirect influence. There is no lodging at the mine site. Most employees (400) and contractors (700) live in Maracás (population 20,000) and commute every day (45 minutes each way) by a bus provided by Largo. We also provide transportation to-and-from some of the rural communities.

The mine's community relations team manages community programs and projects, organizes meetings with stakeholder groups (virtually when necessary), and visit projects for oversight.

KPIs are monitored and reviewed at least monthly internally, and reported monthly to the executive team and Board of Directors. Any special matters arising are discussed at the weekly executive meetings and escalated to the Board as needed.

We connect with our communities through the three main engagement networks listed in the left-hand column:

Engagement Network	Influence Area	Estimated Population	Frequency of Meetings
Enterprise Monitoring Committee (CAE)	Direct and indirect		Every two months
Grupo de Fortalecimento Social	Direct area: communities of Porto Alegre, Assentamento Pindobeira, Pindobeira, Jacaré, Água Branca and Pé de Serra	2,000 people	Every month
Rede Comunitária Flor do Maracá	Indirect area: Town of Maracás	20,000 people	Every month



The communities are characterized by high levels of poverty and poor education. There are limited opportunities for acquiring the necessary skills to generate income and few job opportunities. There is a high degree of dependence on agriculture, cattle-raising and dairy, incipient commerce and government benefits. Largo's operations started in 2014, generating a socio-economic change in Maracás, which is now the second largest municipality in tax revenues in the region. Largo is already preparing and investing to minimize the negative impact that the eventual mine closure will have on these communities.

## Continuing the work conducted in 2020, Largo has implemented a clear, long-term strategy to guide the community programs in place.

The strategy is aligned with the UN SDGs and our business drivers. These programs have been developed through extensive consultation with community representative groups, including identified vulnerable groups, as well as government institutions at the municipal and state levels. They consider the local conditions (cultural,

socio-economic, educational) within the cultural and geographical context of the region. This approach maximizes the outcomes for the individual beneficiaries and communities.

Largo's strategy is based on four long-term strategic pillars, while maintaining the flexibility to address other very short-term or emergency needs that may arise. We will define improvement targets once baselines have been established.

Alignment with Largo's business drivers can be seen in both short- and long-term objectives. In the short-term, improving educational outcomes and skills training helps Largo hire locally. Good schools are also important for our employees who are raising families in our communities. Quality of life—through our Culture, Sport and Leisure pillar—benefits our workers as well, both directly and indirectly, by making the communities safer. The Employment

and Income pillar has a longer-term alignment, working now to minimize negative impacts when the mine closes in the future. The Environment pillar supports our environmental policy of minimizing impacts to biodiversity and the biome, including the effect of hunting on vulnerable species. Overall, it is critical for the operation of our business to have a positive relationship with our communities, and for community leaders to understand the responsibilities of the different levels of government.

### Corporate Citizenship Strategy

Strategic Pillar	Challenges Identified	Objectives	KPIs
Employment and Income	<ul style="list-style-type: none"> <li>39% of the population below the poverty line.</li> <li>Lack of job opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>To promote income generation and access to employment through professional development/skills training and entrepreneurship, considering and valuing local vocations.</li> <li>To improve economic self-reliance by opening new small businesses.</li> </ul>	<ul style="list-style-type: none"> <li>Number of beneficiaries (by gender).</li> <li>Hours of skill development/training (when applicable).</li> <li>Increase in family income (%).</li> </ul>
Education	<ul style="list-style-type: none"> <li>Poor educational indices (as measured in Grade 5 Portuguese and math).</li> <li>Poor results in university entrance exams.</li> <li>Poor knowledge of the institutions and responsibilities of the different levels of government in the adult population.</li> </ul>	<ul style="list-style-type: none"> <li>To improve the quality of education in the municipality with continuing education for teachers and support for new technologies and teaching methodologies that aim to improve educational indices.</li> <li>Citizenship training for community representatives, including funding opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>Number of beneficiaries (by gender).</li> <li>Total hours of training.</li> </ul>
Environment (this is a permit requirement)	<ul style="list-style-type: none"> <li>Little knowledge of the local biome, particularly about the use of water and soil.</li> <li>Desertification of the local vegetation (<i>caatinga</i>).</li> </ul>	<ul style="list-style-type: none"> <li>To provide awareness training to employees, contractors and community residents about the local biome.</li> <li>To communicate Largo's sustainability efforts, developing a sense of ethical, social and environmental responsibility.</li> </ul>	<ul style="list-style-type: none"> <li>Number of events.</li> <li>Number of beneficiaries (by gender).</li> <li>Total hours of training.</li> </ul>
Culture, Sport and Leisure	<ul style="list-style-type: none"> <li>Lack of recreational and leisure facilities in the municipality.</li> <li>Social vulnerability of youth and adults.</li> </ul>	<ul style="list-style-type: none"> <li>Promote activities of leisure, sports and culture that are locally valued, aiming at better quality of life in general.</li> <li>Reduce the risks associated with inactivity in vulnerable populations.</li> </ul>	<ul style="list-style-type: none"> <li>Number of beneficiaries (by gender).</li> </ul>
Other Projects	<ul style="list-style-type: none"> <li>Challenges brought up by the community reps.</li> </ul>	<ul style="list-style-type: none"> <li>To contribute in the very short term or in emergency situations like COVID.</li> <li>To engage Largo's workforce and build a spirit of volunteerism.</li> </ul>	

## Employment and Income Strategic Pillar Programs

### Liga do Campo

This program focuses on strengthening agricultural chains of production (e.g., beekeeping; watermelon, okra or passion fruit farming) and consolidating social and production organizations like cooperatives that target family farmers who survive on what they grow and sell. Liga do Campo provides technical assistance to individuals and/or groups by giving them access to consulting agriculture engineers, technicians and economists. The main objectives are to increase farmers' output and use modern techniques. In addition, cooperatives and associations help lower farmers' costs through group purchases, and promote their competitiveness in local markets where they can often demand higher prices.

This increases family farmers' income and builds long-term sustainability among the co-ops and associations. The program follows best practices in responsible agriculture, emphasizing the balance between food production and impacts to the local biome.

### Mulheres Ativas

This program supports cooperatives formed by women who are trying to develop local vocations into income-generating activities. The program promotes entrepreneurship, which provides women with economic

independence and makes them feel valuable. The program is structured on a three-year basis.

**Year 1:** Identify and analyze the local business market and the socio-economic profile of the beneficiaries and their potential skills. Determine themes for the professional development of the target public.

**Year 2:** Provide skills training to the beneficiaries with courses in sewing, soap-making and confectionery, for example. Teach professional development for business owners, such as how to create and/or strengthen small businesses; and skills for business managers, like developing business plans and timelines, pricing their products, and managing cash flow and inventory.

**Year 3:** Develop commercial and leadership skills. How to promote and scale-up their businesses; how to access channels that add value to their products; how to create sustainable small businesses that enable self-determination.

### National Service for Industrial Training (Serviço Nacional de Aprendizagem Industrial – SENAI)

SENAI, created in 1942, is the largest institution of trades and technological education in Latin America. It is a network of non-profit, secondary-level

(high-school) technical schools created and maintained by the industry sector, the Brazilian Confederation of Industry. It is supported by trade unions and individual companies, with supporting organizations contributing directly and indirectly, based on the size of their payroll (one percent contribution). SENAI is one of the most important institutions in the country, providing formal training for specialized workers in the areas of chemistry, mechanics, construction, etc.

In partnership with the Municipality of Maracás and SENAI, Largo invested over \$35,000 to transform a building

once used to house temporary workers into classrooms and laboratories for learning. The Maracás SENAI unit was completed in 2021, with the first classes starting in August 2021. Graduates were provided with resume writing and interviewing skills, and a job bank was created to keep track of them so a variety of local businesses can recruit from among them.

The courses offered in 2021 were electrician; baking & pastry; machinery basics; and maintenance mechanic assistant.



Cooperatives and associations help lower farmers' costs through group purchases, and promote their competitiveness in local markets where they can often demand higher prices.





## Education Strategic Pillar Programs

Continuing education for teachers provides excellent leverage to improve educational outcomes for students.

### Continuing education for teachers

In consultation with the Municipal Education Department, this program offers continuing education for teachers through virtual classes and mini-projects. The themes for 2021 included basic sanitation, organic agriculture, agroecology, family farming and sustainable entrepreneurship.

### Scholarships

This program is structured on a three-year cycle at high-school level, providing scholarships for four students per grade to attend a private school in Maracás. The scholarships include tuition, uniforms, materials, lunch and extracurricular activities.

The students are selected based on academic results—a total of eight participated in 2021, the second year of the program. Four more will be added in 2022.

### Liga do Bem

Aimed at developing leaders and community representatives, this program helps participants to better understand social and political citizenship themes, create networks of volunteers, and plan and execute self-reliant, efficient social programs, independent of Largo's support. It is a dynamic and interactive program, building on Largo's community-stakeholder engagement meetings.

## Environment Strategic Pillar Programs

In 2021, 15 events were held, both for employees and on-site contractors and the communities.

### Environmental education – events

This program is part of Largo's operational permit requirements, and aims to develop both appreciation and protection of the local ecosystems. It is also an opportunity for Largo to communicate transparently about the environmental programs already in place and the results we are seeing. Due to COVID-19, no events took place in 2020. In 2021, 15 events were held, both for employees and on-site contractors and the communities. A variety

of environmental topics were covered, such as water conservation, waste composting and recycling, the local Caatinga biome, soil management, the UN SDGs, and more.

### Youth multipliers

High-school students from the direct and indirect influence areas receive training in environmental topics so they can act as multipliers of knowledge in their communities.

## Culture, Sport and Leisure Strategic Pillar Programs

All of our community programs involve partnerships with local non-profit associations and relevant government entities.

### Arte e Qualidade de Vida

Largo supports two projects with free classes in this program: judo and jiu-jitsu classes (Jiquiriça Project), and music classes in partnership with the Maracás Marching Band (Fammac). These projects receive donations of equipment, subsidies for participants to attend out-of-town tournaments, and funds for instructors. We have been supporting the Jiquiriça Project since 2016 and have also donated their training space, Arena Vanádio.

### Projeto Viver Bem

This project has been “on hold” since 2019 due to COVID. When active, it organizes and sponsors sports-and-leisure events, promoting health and well being. In the past, activities have included bike-riding outings, fitness classes, informal lectures on healthy eating, community theatre skits, and many more.

### Other projects

Largo maintains some flexibility to address any short-term or emergency needs arising in the communities.

### COVID-19

Largo has been supporting the Bahia State Government, the Municipal Health Department and our local communities since the start of the pandemic in 2020. In 2021, we donated more than 10,000 food baskets to economically vulnerable families, supplied 300,000-plus masks, and supported 10 COVID-prevention campaigns. More details can be found in our OHS section.

### Mãos do Bem volunteer project

During community-engagement meetings, the Municipal Education Department raised the issue that some elementary students, especially from rural areas, were missing school due to a lack of hygiene products. This led to a collaboration project among several organizations and volunteers, including Largo's employees and contractor. Together, they raised funds and donated 50 hygiene kits to the students in the community of Porto Alegre.



Largo supplied  
**300,000-plus**  
masks and supported  
**10** COVID-prevention  
campaigns

### Mais Água Maracás – water treatment plant

Largo provides water access to the community of Água Branca, consisting of about 76 families. The water treatment plant was built in 2019 and legally donated to the community in 2021. (Write-off costs appear in 2021 Community Infrastructure expenses).

### Partnerships

All of our community programs involve partnerships with local non-profit associations and relevant government entities. The list includes: Associação

Comunitária da Água Branca; Associação do Assentamento Pindobeira; Associação Comunitária da Pindobeira; Associação dos Produtores Rurais de Porto Alegre; Associação Comunitária do Pé de Serra; Associação Comunitária do Money; Casa do Mel (AMAME); Associação Jiquiriçá de Artes Marciais (AJAM); Associação Fanfarra Musical de Maracás (FAMMAC); Maracás City Hall; Municipal Agriculture Department; Municipal Education Department; SENAI; Colégio Interativo; Colégio Estadual Edilson Freire; Escola Municipal Luiz Braga.



In 2021, over 1,670 youth and adults benefited directly from a Largo program in the DIA and IIA.



**Employment and Income**

**265 people**



**Education**

**344 people**



**Environmental Awareness**

**601 people**



**Culture, Sport and Leisure**

**202 people**



**Mental Health Support in Maracás**

**350 people**

## 2021 Highlights

In the areas of Largo's operation, the Employment and Income projects increased participant families' income by 14% on average. In some cases, families were lifted out of extreme poverty, and social opportunities were made available for vulnerable groups, especially in the rural areas.



## Stakeholder Meetings

In 2021, COVID affected schedules and fewer meetings took place.

Engagement Network	Total Number of Meetings	Average Participation
CAE – Enterprise Monitoring Committee, including representative from the municipal government	6 meetings	24 people – 11 women and 13 men
GFS (Grupo de Fortalecimento Social)	6 meetings	13 people – 8 women and 5 men
Rede Comunitária Flor do Maracá	9 meetings	12 people – 9 women and 4 men

Most important is Largo's implementation of long-term programs that are structured on our strategic pillars, yes. But especially on the aspirations, priorities and local conditions of the communities involved. We want to contribute a strategy for the community's sustainable socio-economic development, but the form that it takes and the opportunities it provides must, and always will, reflect the hopes and dreams of the community for itself.

## 2021 Program Results

Our programs and the opportunities they provide must, and always will, reflect the hopes and dreams of the community for itself.



Pillar	Program	Description	2021 KPIs
Employment and Income	Liga do Campo	Technical assistance to family farmers and beekeepers.	<ul style="list-style-type: none"> <li>9 women and 79 men.</li> <li>Abelha Rainha – 50 people received assistance. In 2021, medical equipment to extract apitoxin (medical use) was donated.</li> <li>Technical assistance provided to 33 people.</li> <li>Net income increase \$107K.</li> <li>Family income increase of 13% on average.</li> </ul>
Employment and Income	Mulheres Ativas	Promote entrepreneurship through new skills.	<ul style="list-style-type: none"> <li>91 women and 4 men.</li> <li>42 people completed sewing courses and 24 women completed a soap-making course for a total of 270 hours of training.</li> <li>3 new businesses started.</li> <li>Net income increase \$37,500, \$30K from masks and \$7.5K from other projects.</li> <li>Family income increase 14% on average.</li> </ul>
Employment and Income	SENAI	New school to provide trade courses at the secondary-school level.	<ul style="list-style-type: none"> <li>39 women and 43 men.</li> <li>82 people already completed training for a total of 456 hours.</li> </ul>
Education	Continuing Education for Teachers		<ul style="list-style-type: none"> <li>90 women and 3 men.</li> <li>93 teachers completed 80 hours each.</li> </ul>
Education	Scholarships for four students per year for a three-year program		<ul style="list-style-type: none"> <li>6 young women and 2 young men.</li> </ul>
Education (civil society)	Liga do Bem	Workshop on social projects development and sources of funding.	<ul style="list-style-type: none"> <li>52 leaders completed 80 hours each.</li> <li>2 volunteer networks created.</li> <li>1 public policy accessed.</li> </ul>
Environment	Environmental Education		<ul style="list-style-type: none"> <li>3 Happy Hour events – 332 employees and contractors.</li> <li>8 event days – 221 people in 8 communities.</li> </ul>
Environment	Youth Multipliers	Improve community awareness of environmental issues.	<ul style="list-style-type: none"> <li>48 secondary-school students (All and AID) received. 70 hours of training each.</li> </ul>
Culture, Sport and Leisure	Arte and Qualidade de Vida	<ul style="list-style-type: none"> <li>Jiquiriça Project – Judo and jiu-jitsu</li> <li>Fammac – Marching Band</li> </ul>	<ul style="list-style-type: none"> <li>162 (57 women and 103 men).</li> <li>112 (Jiquiriça).</li> <li>40 (FAMMAC).</li> </ul>
Other projects	Mãos do Bem	Occasional needs	<ul style="list-style-type: none"> <li>70 volunteers fundraised to donate 50 hygiene kits to elementary school students.</li> </ul>



## 2021 Community Survey

Largo is considered “very important” or “important” by the vast majority of interviewees, in both the town of Maracás and the rural communities.

A community survey was conducted as part of the work to update our mine closure plan (described in a separate section). The survey consisted of 37 interviews, sometimes involving more than one interviewee at a time, in both the direct and indirect impact areas. Many questions were related to how the community perceives our importance and performance. Some key findings are summarized below.

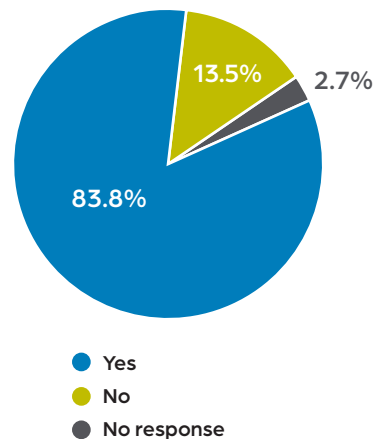
Largo is considered “very important” or “important” by the vast majority of interviewees, in both the town of Maracás and the rural communities.

The second chart shows the interviewees’ opinions on Largo’s impacts on the economic, social and environmental areas. The chart consolidates results from the town of Maracás and rural communities. Largo’s positive socio-economic impacts are well recognized. Opinions on our environmental impacts are tending towards neutral or negative.

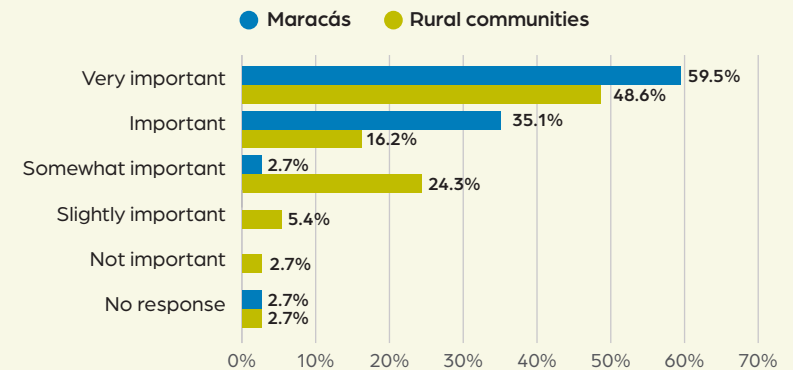
This indicates a lack of information about how our environmental programs are preserving parts of the local biome, and helping to regenerate original vegetation that had been lost due to cattle farming. (Refer to Biodiversity section.)

Almost 84% of respondents believe that our activities have improved the quality of life in their community. Overall, Largo has a positive social license.

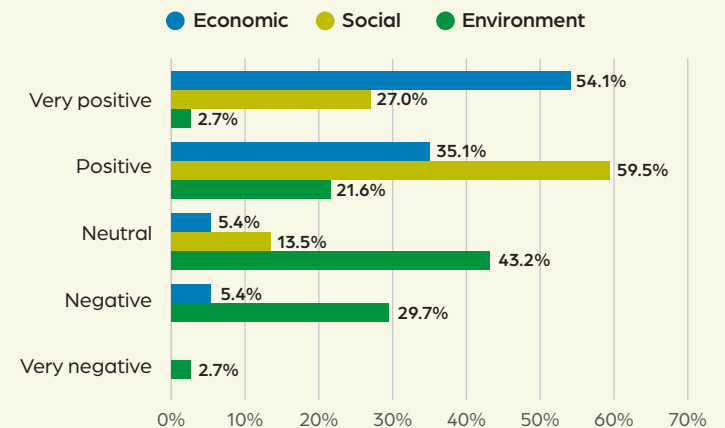
Have Largo’s activities improved the quality of life in your community?



### Largo’s Importance to Our Communities Survey Results



### Largo’s Impact – Economic, Social and on the Environment Survey Results





# Environment

Management Approach	53
Water as a Shared Resource	54
Energy	56
Emissions	57
Biodiversity	59
Waste	64
Tailings Facilities	65
Closure Plan	66



## Management Approach

We have commitments to minimize the areas of land impacted by our operations; preserve their biodiversity; reduce, reuse and recycle as much waste as possible; be efficient in our use of energy and reduce GHG emissions; manage our use of water as a shared resource; and manage all air emissions, noise and dust. Our biodiversity management plan is described below, as are our plans for mine closure and tailings management.



This management-approach description applies to all environment material topics: water & effluents; energy & air emissions (climate change); biodiversity; waste; tailings facilities and mine closure. Each material topic may include additional information on our management approach.

We operate under Largo's Safety, Environment and Social Responsibility Policy, specifically, and other policies approved by the Board. Strict legal requirements are always in place and adhered to.

Oversight of environmental management is the responsibility of the Operations Committee of the Board of Directors. The production director, who reports directly to the CEO, is responsible for ensuring that we adhere to our commitments and are compliant with all legislation. The health and safety, environment and quality manager reports to the production director and has a team to support that effort.

Our first environmental risk assessment dates back to 2008. It included assessments for implementation, operations and closure phases, and used internationally accepted classifications of impacts and controls. Since then, our risk assessments have been updated periodically or in association with new developments. More details are provided in the Licensing Process and Risk Management section.

Our environment team manages our programs, ensuring that the established prevention and mitigation controls are performing well. In compliance with our operating licence, we monitor our environmental performance and provide reports to the environmental authority, Instituto do Meio Ambiente e Recursos Hídricos (INEMA), as well as to the local community.

KPIs are constantly monitored. They are reviewed weekly and/or monthly internally, and reported monthly to the executive team and Board of Directors. Any special matters arising are discussed at the weekly executive meetings and escalated to the Board as needed.

New employees receive training on water scarcity, recycling and composting. They are introduced to the area's flora and fauna, and to our environmental monitoring programs.

**In 2021, we followed all environmental regulations and there were no reportable incidents.**

We were notified of a fine related to a bureaucratic process and we are seeking further clarification. All of the mine's suppliers must also operate according to Brazilian environmental regulations.



## Water as a Shared Resource

We have already implemented several techniques that reduce water consumption and increase water reuse.

Largo's operations are located in an area with a semi-arid climate and average temperatures above 22°C. Rain volume is low, especially from May to September, with a 30-year rain average of 75 mm annually. The creeks are dry for most of the year, but run heavily in rainy periods. According to the World Resources Institute's "Aqueduct Water Risk Atlas," the area has a low water stress, with a low-to-medium-high overall water risk.

The Contas River is the most important one in the region. In 1978, the state government built the Pedra dam and reservoir to provide flood control, water for municipalities and irrigation, and power generation. The region is characterized by variable access to water. Small villages have little access to water and must rely on water trucks, while larger towns can pipe water directly from the Pedra reservoir and distribute it to their populations.

Water for the mine comes from the Pedra reservoir, which is self-replenishing. Our first risk assessment in 2008 classified the withdrawal of water from the reservoir as an "indirect negative impact," of low intensity, local scope, not significant, stable and reversible. It also identified an opportunity for Largo to install additional infrastructure during construction to provide water to a village in the area, which could create a direct, positive impact of high intensity and relevancy. Accordingly, we installed a pipeline and water-treatment plant for the village of Água Branca, which continues to supply a total of 800 m<sup>3</sup> of water each month to about 76 households.

We have already implemented several techniques that reduce water consumption and increase water reuse. Largo works with techniques like dry-magnetic sorting, vacuum-pumped horizontal filters, the use of thickeners, impermeable liners in the tailing facilities, vapour condensation and capture of rain water. These are detailed on our website.



## Water Performance 2021

As the solids separate from the water and deposit at the bottom of our non-magnetic tailings facility, the surface water is pumped back to be reused in the processing circuit. This allows for over 95% reuse of water.

Our water permit allows 7,200 m<sup>3</sup>/day to be withdrawn. We averaged 1,951 m<sup>3</sup>/day in 2021—less than 30% of the maximum allowed. Refer to Performance Data section for more information.

### Water Discharges

We release no effluents into the region's drainage system. All effluents are treated in our effluent treatment plant and separated into liquids and solids. The liquids are reused in different parts of the operations, and solids are discarded as hazardous or non-hazardous waste, depending on their characteristics.

In accordance with our permits, we monitor surface and groundwater quality. Following international standards such as the United States Environmental Protection Agency (EPA) standards, we collect water samples every three months and analyze them for more than 20 elements and compounds, oils, solids and turbidity. These are reported to INEMA. Several sampling locations are frequently dry, even during the rainy season.



## Energy

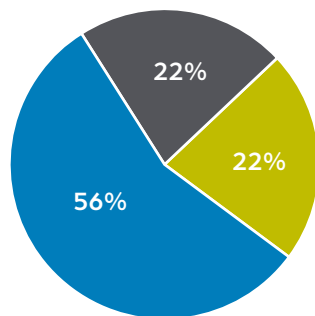
We closely monitor electricity consumption and the amount of fossil fuels used to generate energy, such as heavy fuel oil (HFO), diesel and liquefied petroleum gas (LPG), against monthly or weekly targets.

Due to our maintenance period in January, we saw a 9% decrease in energy consumption in 2021 compared to 2020. However, the year's lower V<sub>2</sub>O<sub>5</sub> production resulted in a slightly higher energy intensity (4% increase).

Our V<sub>2</sub>O<sub>3</sub> processing expansion, completed at the end of the year, was planned and installed to consume LPG. Electricity will be the main energy source at our ilmenite concentration (flotation) plant, which is under construction.

Other initiatives to reduce GHG emissions are discussed in the next section.

### 2021 Energy Consumption—Key Types

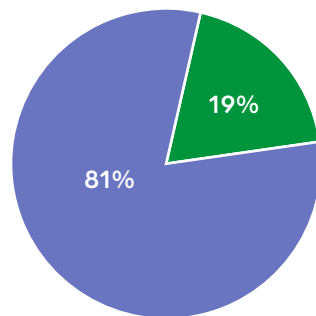


- Stationary Combustion
- Mobile Combustion
- Electricity

The chart shows the main types of energy sources used in our operations. Brazil is one of the world's top-five countries for installed renewable-energy capacity and use. Biodiesel and ethanol from sugar-cane are added to some types of diesel and gasoline. Our electricity matrix can vary throughout the year due to the rain-drought season. In 2021 on average, over 75% of it came from renewable sources such as hydro, wind and solar.

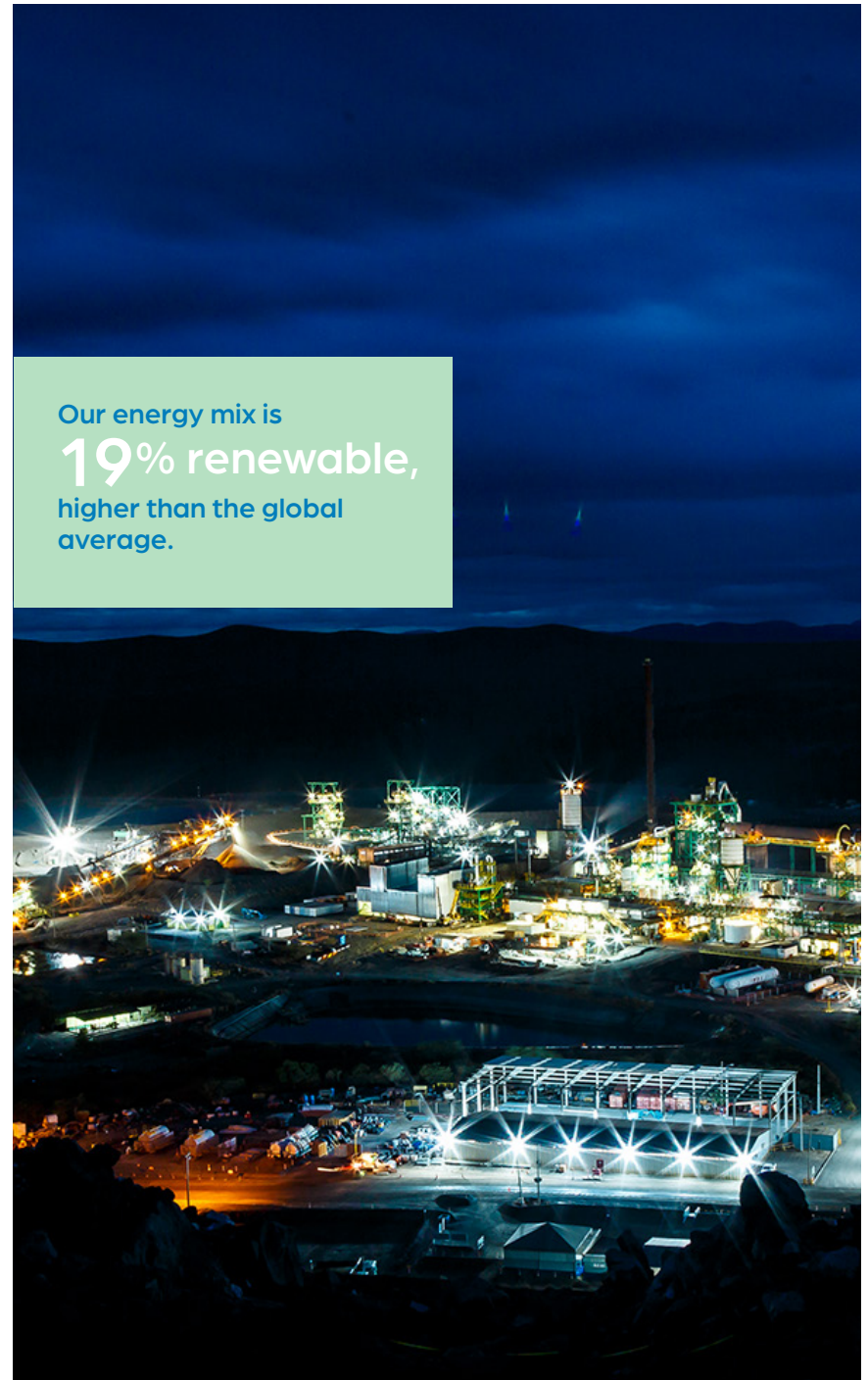
Taking these values into consideration, the chart shows energy consumption broken into renewable/non-renewable sources.

### 2021 Energy Consumption Matrix



- Non-Renewable sources
- Renewable sources

Our energy mix is  
**19% renewable,**  
higher than the global  
average.





# Emissions

We are reporting on Scope 3 emissions related to maritime transportation for the first time.

## GHG Emissions

The organizational boundaries and data collection period are the same as the boundaries for this report, restricted to Largo's operations in Brazil from January 1 to December 31, 2021. The compilation of the GHG inventory was conducted by a consulting company, following the GHG protocol methodologies and emission factors identified by the GHG Protocol Brazilian Program.

Gases included in the inventory include CO<sub>2</sub>, CH<sub>4</sub>, and HFC. The presence of chemical reactions that would result in the emission of N<sub>2</sub>O during ore processing is not confirmed; therefore it was excluded from the calculation at this time. There were no emissions of PCFs, SF<sub>6</sub> or NF<sub>3</sub>.

### Scope 1

Direct emissions are emissions from stationary and mobile combustion, process and fugitive emissions.

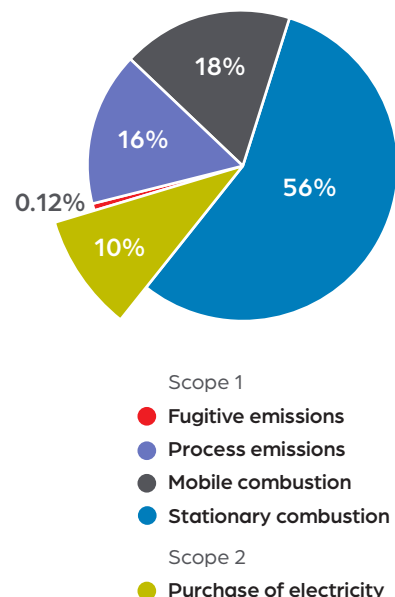
### Scope 2

Indirect emissions were calculated using the location-based method and Brazilian National Interconnected System (SIN) emission factors.

## 2021 GHG Emissions —Scope 1 and 2 and Intensity

Scope 1 and 2 Emissions (tCO <sub>2</sub> e)	86,035
Annual Production (tonnes V <sub>2</sub> O <sub>5</sub> equivalent)	10,319
GHG Emissions Intensity	8.34

## 2021 GHG Emissions—Scope 1 and 2



Scope 1 and 2 emissions decreased in 2021 due to Largo's kiln undergoing maintenance in January.

While less electricity was used in 2021 relative to 2020, the Brazilian SIN-emissions factors increased from 0.0617 tCO<sub>2</sub>/MWh to 0.1264 tCO<sub>2</sub>/MWh in that period. This resulted in a corresponding increase in Scope 2 calculated emissions.

## Emissions of biogenic CO<sub>2</sub>

As mentioned before, both S10 diesel and gasoline have a renewable component that emits biogenic CO<sub>2</sub>. This is not included in the GHG inventory, but must be calculated and reported here. These percentages are accounted for in the methodology and emission factors used in the inventory and are calculated automatically.

Emissions of biogenic CO<sub>2</sub> in 2021 totalled 1,757 tCO<sub>2</sub>e, 99% from mobile equipment.

## Kyoto and Montreal Protocol (Ozone-Depleting Substances)

2021 results are provided in the Performance Data section.

## Scope 3

As discussed earlier in this report, vanadium is used mainly as a microalloy to strengthen steel. A 2020 study by Kumar et al.\* from Texas A&M University concluded that "the increased strength of vanadium microalloyed steel translates into substantial material savings over mild steel, thereby reducing the total global fossil carbon footprint by as much as 0.385%. A more granular analysis pegs savings for China and the European Union at 1.01% and 0.19%, respectively, of their respective emissions."

We started to examine our Scope 3 emissions in detail, and maritime shipping emerged as a major contributor. We identified all of our shipments in 2021. There were over 200 to Asia, Europe and North America—a total of 9,404 metric tonnes, covering a distance of 96,961 nautical miles. Using conversion factors from the UK government for cargo ships, and assuming all shipments were of average size and by laden-container ships, we estimated a total emission of 1,880 tCO<sub>2</sub>e.

We will continue to examine and provide estimates on other components of our Scope 3 emissions in future reports.

\*Pradeep Kumar, Pranav & Santos, David & Braham, Erick & Sellers, Diane & Banerjee, Sarbajit & Dixit, Manish. (2020). Punching Above its Weight: Life Cycle Energy Accounting and Environmental Assessment of Vanadium Microalloying in Reinforcement Bar Steel. 10.26434/chemrxiv.13090265.

## Reducing GHG Emissions

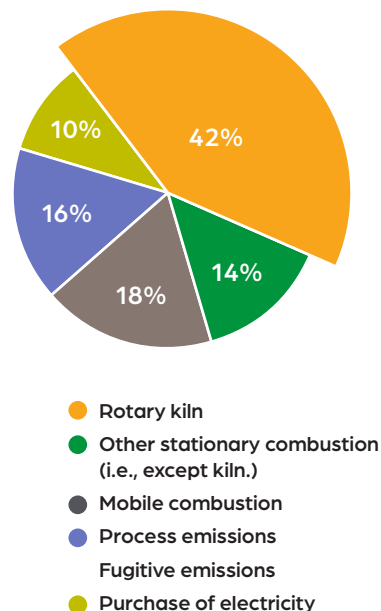
In 2021, three large pieces of equipment—boiler #2, a flash dryer and a fusion furnace—were modified to use energy generated by LPG. A cleaner fossil fuel, LPG generates less GHG. The flash-dryer conversion to LPG has been maintained, but unfortunately, boiler #2 and the fusion furnace have returned to burning diesel.

This demonstration improved the robustness of our processes, as it verified that technically, the equipment can burn LPG. The actual LPG consumption turned out to be twice the amount forecasted. Additionally, the cost of LPG went up in 2021, making it unsustainable economically. The flexibility remains to switch back to LPG when economic conditions improve.

In 2021, a diesel compressor used to unload soda ash was replaced with an electrical blower, which not only reduces our emissions but improves safety, too. In 2022, we plan to replace the compressor used for unloading the ammonium sulphate as well.

The rotary kiln generates the largest share of our GHG emissions, and we continue to explore alternative technologies. We are in the preliminary stages of evaluating natural petroleum gas as a fuel alternative.

2021 GHG Emissions  
—Rotary Kiln Contribution



It must be considered that Largo continues to expand operations. We are building an ilmenite processing plant on-site, and plan to build a TiO<sub>2</sub> pigment plant near Salvador in the next few years. Since we will not confirm our levels of Scope 1 and 2 emissions until those plants are in operation, it would not be advisable to make plans for reductions based on projections. We are working to establish baselines for the existing operations and ensuring that new plants use cleaner fuels. More data is also required on the availability of electric mobile mining equipment and the feasibility of generating renewable energy directly at the site.



While Largo's priority is to reduce emissions under our control, carbon offsets are being considered for Scope 3 emissions, particularly those related to maritime transportation.

## Non-GHG Emissions

In accordance with our INEMA permit, we run two programs to monitor non-GHG air emissions: air quality monitoring and chimney emissions. These programs measure the average concentration of specific compounds to ensure that they are within the established primary and secondary limits. We use EPA methodology and Brazilian National Council of the Environment (CONAMA) or World Health Organization (WHO) standards. Samples are collected monthly over different time intervals that vary from one to several hours, depending on the program and methodology.

**Air quality monitoring:** Six monitoring stations around the mine site measure the concentration of PTS, PM-10, SO<sub>x</sub>, NO<sub>x</sub>, NH<sub>3</sub>, V and VO<sub>x</sub>.

**Chimney controls:** In the chimneys we monitor the average concentration of PMs: HI-VOL and PM-10, NH<sub>3</sub>, SO<sub>x</sub>, NO<sub>x</sub>, V and VO<sub>x</sub>, and the emission rates for some compounds.

Note that non-GHG emissions cannot be compared year-to-year. Our expansions have increased the number of chimneys from five in 2019 to nine in 2020 (V<sub>2</sub>O<sub>5</sub> processing) and 12 in 2021, when three new chimneys were added for V<sub>2</sub>O<sub>3</sub> processing.

The following programs are in place as part of our risk management and permit conditions:

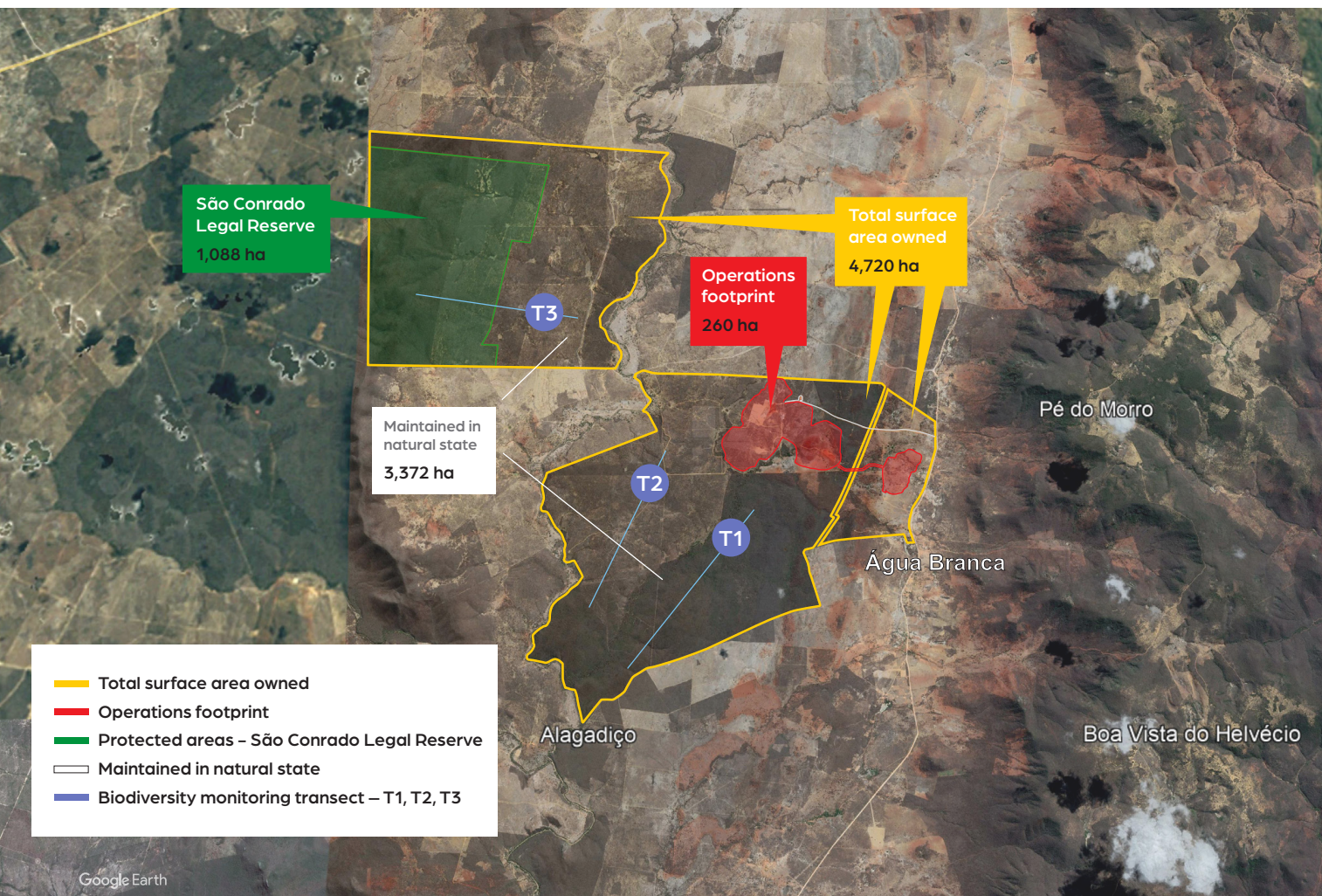
**Ambient Noise Monitoring** – A noise survey is conducted every six months, using 28 monitoring points (25 stations during the daytime only, and three stations over 24-hour periods.)

**Dust and particulate matter abatement** – Dust suppressants are used in key industrial areas, such as mill and crushing, and on the dirt roads.



## Biodiversity

The map shows the boundaries of our properties, protected areas, operations footprint and areas maintained in their natural state.



The site is within the Caatinga biome, a semi-arid Brazilian ecoregion of high-biodiversity value. The area is characterized by shrub and grass vegetation, with few trees reaching 15 metres. There are no protected areas or key biodiversity areas in proximity, as indicated by the Integrated Biodiversity Assessment Tool (IBAT) and other sources.

We established the São Conrado Legal Reserve as a controlled preservation area for environmental monitoring and a refuge for wild animals captured near our mine or exploration activities. You can read more details about our rescue efforts during the implementation phase and about the Legal Reserve on our website.

Prior to Largo's presence, much of the operational area had been deforested for agriculture and cattle raising, with a few large areas of original vegetation conserved. Several farms still operate around us, as can be seen by the light grey areas in the image. Near the mine, Brazilian law protects 30-metre swathes along the margins of natural drainage. Adding our efforts to protect natural drainage and following our environmental permit, we installed two artificial surface-drainage basins to contain overflow water in the area of the mine and prevent it from reaching any natural drainage systems.

## Biodiversity Management Plan

As part of Largo's permitting process, we began baseline studies and formal environmental and biodiversity risk assessments in 2008.

These assessments analysed the proposed activities and the potential impacts on biodiversity (local environment, animals, protected areas, and endangered species), and actions for prevention and mitigation of their effects. The main biodiversity impact identified was habitat conversion and the related loss of flora and fauna.

Based on these risk assessments and including legal requirements, we developed a Biodiversity Management Plan (BMP) to prevent and mitigate our impacts. As per our BMP, we:

- minimize the amount of land that is converted to industrial use. Permits are required before any vegetation can be removed;
- conduct a fauna-and-flora rescue program prior to any vegetation removal;
- established the São Conrado Legal Reserve to protect flora and fauna and to host rescued specimens;
- implemented monitoring programs for flora and fauna (see table) for the duration of the operations and closure;
- create vegetation corridors where feasible;
- monitor noise, dust and air emissions;

- store and reuse any organic layers affected by vegetation removal;
- operate a nursery to protect endemic plant species and generate seedlings for land reclamation;
- practice progressive reclamation; and
- maintain and update a closure plan on a regular basis.

We also conduct local information campaigns on the importance of the environment and communicate our compliance with environmental permits and conditions. This is important, because the destruction of habitat by stray cattle from nearby farms and the hunting for food by the local population contribute to reduced populations and numbers of native species. See Our Communities section.

We use manual cutting in the first phase of removal, which allows time for animals to leave the area by their own means if they can. And only then we use heavy machinery. This methodology reduces the mortality rate from an average of 20%–to–50% (international studies) to around 3%.



Prior to any vegetation removal, we conduct a flora-and-fauna rescue, manually capturing and releasing species in our Legal Reserve.

### Monitoring Programs

Type of monitoring	Frequency	Number of sampling spots	Number of species monitored
Fauna	3 months	3 transects with 4 spots each (see map)	• Amphibians, birds, mammals and reptiles
Aquatic biota	6 months	<ul style="list-style-type: none"> <li>• 15 planned spots, but only sampled when there is water flowing</li> <li>• An average of 5–7 spots sampled</li> </ul>	• 3 communities: Planktonic, Benthic Macroinvertebrates, Nekton/ichthyofauna
Biomonitoring of air quality using impact on vegetation	4 months	3 allotments close to the operation	• 4 species
Flora–phenological monitoring (seasonal changes)	Monthly	9 allotments close to the operation and one control in the Legal Reserve	• 10 species



## Bioindicators

These are species so dependent on their particular environmental conditions that any changes in them are quickly and directly reflected in the presence, abundance, distribution or status of the bioindicator itself.

A good bioindicator should be easily sampled (observed). Birds that have a specialized diet, such as carnivores, are considered excellent bioindicators. Our last monitoring campaign observed 20 carnivore bird species. As a top-of-the-food-chain species, they require large areas to obtain the necessary resources to maintain their populations. So in a general way, a richer population of birds of prey can only occur in areas that are not fragmented and have good environmental conditions. This again demonstrates our minimal impact on the local conditions.



*Rupornis magnirostris*

## 2021 Performance

Monitoring campaigns were conducted as planned, except for the December fauna monitoring campaign, which took place in January 2022. Considering seasonal (dry/rain) variations, all results continue to show no intensification of impacts from the operation.

### Fauna monitoring

Three transects (see map) are used for the fauna monitoring. Transect 3 (Legal Reserve) and Transect 1 (closer to the operations) are in areas of denser vegetation. Transect 2 is located in an area of less dense vegetation. These differences are taken into account when planning the work.

The field work is conducted following standard international methodology, such as directly and indirectly observing and listening for animals and their behaviour in situ; looking for signs of animals (e.g., tracks, dung); capture/mark/release of animals using traps, mist nets, camera traps, pitfall traps; or attaching monitoring devices (e.g., leg bands). Data analysis includes analysis of the taxons observed, as well as statistical analysis of the data, creating rarefaction curves and other graphs.

We monitor birds through the use of leg bands showing the campaign number and year when they were first banded. When we recapture banded birds, we can conclude that local conditions have not deteriorated since they were banded.



Throughout our monitoring campaigns, we have recaptured birds after very long periods—3-to-5 years and even as long as 8 years—showing that our operations have not impacted them.

To evaluate any possible intensification of impact by Largo operations, we track any differences between the biodiversity in the areas near the mine (Transects 1 and 2), which are considered to be more impacted by noise in particular, and in the Legal Reserve (Transect 3), which serves as a control area. This modification of the method BACI (Before-After-Control-Impact design) has an advantage. It allows any potential alterations in the biological communities that are not related to our operations to be identified, too, as these would show up in both locations.

### Interpretation of results

The results of comparing the impacted and the control conditions show that since the first campaign in 2013, there have been no statistical differences in any of the taxon populations analysed over time. This demonstrates that our operations have had no negative impacts on local fauna beyond the mine and plant sites. Any variations observed in Transects 1 and 2 are usually due to seasonal variations and are also generally observed in Transect 3.

Many birds are observed in the same locations in different campaigns. A breeding pair of barn owls has a nest box in an abandoned house within our Legal Reserve. They have been there for the last six years.

The results of over 30 monitoring campaigns have been compiled since 2013, before Largo operations started. These are treated using internationally accepted, biostatistical methods and presented as rarefaction curves for each species monitored—birds, mammals, amphibians and reptiles. After an initial exponential increase, the curves tend to increase at a gentler rate. This reflects the fact that fewer new species will be observed over the years in the same locations. Our latest results indicate that the plateau hasn't been reached. That is, we have not mapped all the diversity of the area yet. This is due to the discreet habits of some species and is typical in tropical and biodiverse areas. Rarefaction curves are presented on our website.

We will continue to monitor for any impact intensification, as the impact on biological communities may be delayed.

### IUCN Red List and National Conservation Lists species

This year, there were no changes to the number of vulnerable species observed during our monitoring. It is important to understand that they are vulnerable due to anthropogenic changes, such as the removal of natural vegetation for cattle-raising over many decades, and hunting for food and for songbirds to keep in captivity. The fact that they were observed near our site means that we are actually protecting them and providing favourable conditions

for these specialists and vulnerable species to survive. The complete table is presented in Performance Data Section.

**We have collected the largest list of bird species observed in the state of Bahia – 234 different species.**



A family of Penelope jacucaca was observed during our most recent fauna monitoring in February 2022. This bird is a vulnerable species as it is the size of a chicken and therefore hunted for food by the local population.

The fact that it was observed in our operational area means that we are helping to protect it, as they can live in our fenced Legal Reserve.







In 2021, we conducted a drone flight to survey properties that were previously used for cattle-raising and are now part of our protected areas.



### Progressive Reclamation

As mining progresses, we reclaim the slopes of waste rock piles, facilitating natural regeneration. In past years we have attempted different types of methodologies for planting seedlings, with little success due to the semi-arid conditions.

The survey confirmed that natural regeneration is progressing well without the need to plant seedlings. We will follow this methodology in the progressive reclamation areas that will benefit from it.

Our plant nursery produces 3,000 seedlings a year. To promote local land rehabilitation, we provide specimens of native vegetation. Any seedlings that are not planted due to watering restrictions are donated to employees, schools and the municipality.

### Acid-Rock Drainage (ARD)

We have never observed acid-rock drainage at our site. This potential risk, with low likelihood, is tracked through our water-and-effluents monitoring program of surface and groundwater quality. In addition, our tailings facilities are lined with geotextiles that would prevent any leakage into the ground.



## Waste

Our strategies are to reduce waste to landfills, reduce the volumes of tailings generated, maximize the use of waste rock, and use technology to create value from the tailings by-products.

Largo complies with all legislation and permit conditions regarding waste management. No waste of any kind is shipped internationally.

There is no significant waste impact in our value chain, either upstream or downstream. The main consumables to our processes are raw materials—chemicals and fuel. As a supplier of industrial products, there is no excess packaging in our products, which are shipped in steel drums.

The most significant waste streams from our open-pit operations are waste rock and tailings from ore processing. To reduce waste, we use minimal water in processing, which reduces the volume of tailings. We use impermeable liners for tailings, so no water is lost; water is pumped out and reused. This has already led to the decommissioning of one tailings facility, which was converted to hold a different type of tailings.

Some of the tailings facilities were built in a depression that was purposely left in the middle of a waste rock pile, and some waste rock was also used to build other facilities. Small amounts are used on roads and other infrastructure built on-site.

### Waste Management

Waste is sorted on-site, and weighed and packaged as required. Different service companies transfer waste materials to their final destination in proper vehicles or shipping containers that include the permits for hazardous waste. Since the town of Maracás doesn't recycle, eligible materials are transported to recycling centres. Non-hazardous waste that cannot be recycled is taken to the landfill in the town of Maracás.



Chemically contaminated materials (hazardous waste) are transported to an industrial landfill near the state's capital city, Salvador. This facility stores the waste in cells lined with high-density, waterproof geotextiles to avoid soil contamination.

There was a maintenance shutdown in January 2021 and the replacement of various equipment contributed to an increase in metal waste from the processing plant.

Excluding the rock and tailings waste, more than 50% of the waste generated in 2021 was diverted from disposal.





## Tailings Facilities

The tailings facilities at our operations are designed for safety. They are built in basins that are created using readily available waste rock.

The width of the basin is large and the facilities are shallow, resulting in extremely stable slopes. Using waste rock as building material also means that there is no saturation, as water will percolate through the rocks. The facilities are lined with two layers of geotextile, providing excellent impermeability, and preventing water infiltration, soil contamination and acid drainage. The groundwater quality is monitored in several points. The design was based on extensive geotechnical investigations, and the construction conformed with best-in-class engineering practices.

The geotechnical monitoring of tailing facilities is thorough. Through visual inspections and instrumental monitoring, any changes in stability over time will be detected. There are currently 35 water-level meters (dry) to monitor the level of water in the slopes of the basin, and 38 topographic markers, which provide information on any deformations.

In 2021, we installed nine vibrating wire piezometers to monitor water-pressure conditions around our tailings facilities. These piezometers are quite common in geotechnical applications, as they offer high resolution and accuracy and have a reliable long-term performance. The measurements are performed using digital readers and the responses are almost instantaneous. These allow for automated readings in real-time monitoring.

Dam-break simulations show that, in the case of a catastrophic failure, the flood wave would not reach the Contas River, and there would be no risk to people on-site or to the population of the nearest village, which is eight kilometres away.

Full details of our tailings facilities risk management can be found on our website.

**We are working towards full adherence to the Global Industry Standard on Tailings Management by 2025.**



## Closure Plan

All mines have a finite life. Largo maintains and regularly updates a closure plan for the Maracás Menchen Mine that meets all Brazilian regulations and international standards.

Our Safety, Environment and Social Responsibility Policy describes our commitment to ensure that sufficient financial resources exist to fulfill our obligations, including closure and rehabilitation. The plan describes the environmental and socio-economic impacts to date, and our commitment to conduct closure and rehabilitation that will minimize negative impacts and maximize benefits. It assesses potential impacts until the end of operations, and outlines the steps for the rehabilitation of the site, including the open pit, processing plants, tailing facilities and waste-rock piles, and post-closure

environmental monitoring. The plan analyses all the risks associated with the site closure and recommends controls for their prevention and mitigation. It provides a thorough list of activities to take place during preparation, closure and post-closure, and their estimated costs.

Risk controls include programs to address the socio-economic impacts on the community. Examples include increased communication with stakeholders during the closure process, continuing to generate new income sources, and demobilizing the employees.

The closure plan lists options for the future use of the site and infrastructure. It takes input from the community/stakeholders into account and gives a brief analysis of each option within a regional context. An early analysis of the options is provided, with regions considered and consolidating ideas where possible. As we near closure, this analysis will be expanded to ensure that the selected options for rehabilitation and future use maximize benefits to the community and the biome.

### Our closure plan includes input from the community.

In late 2021 and early 2022, the closure plan was updated to include the new life-of-mine (LOM) plan, which was extended by six years. Regular updates are important and must be considered, as technologies continue to evolve that can have a bearing on rehabilitation and options for future use.

As in previous updates, representatives from several stakeholder groups were consulted regarding our closure plan. These included government agencies at various levels, communities, non-governmental organizations (NGOs) and the government agency responsible for the operational permits and inspections. In total, 37 interviews were conducted in November 2021, in Maracás and the outlying rural communities.

It's clear that residents are aware of the economic impact that will result from the mine closure. Our community-program strategy addresses this concern and much is being done to promote economic independence from the mine. The interviews also revealed some concerns about possible environmental damage post-closure that are not founded in science. We will improve our communication to dispel these myths.

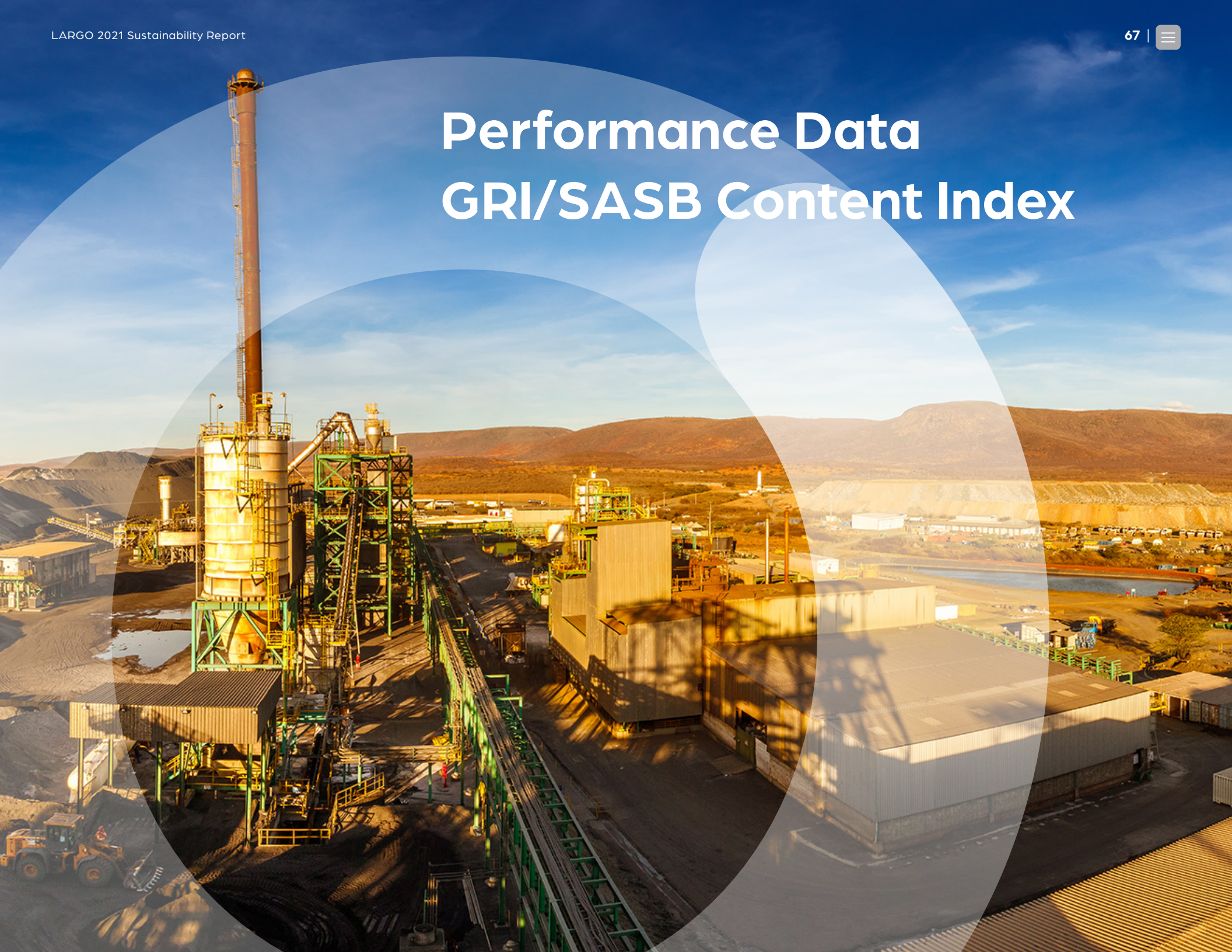
It's too early to discuss options for future use in detail in this report, remembering that our property includes both developed, undeveloped (Legal Reserve), and naturally regenerated land. One very specific option, which would be confined to areas already developed, would be the possibility of installing a solar energy farm.

The closure and post-closure costs are updated annually for inflation, and are reflected in Largo's financial statements. The production director is responsible for the site closure and rehabilitation.





# Performance Data GRI/SASB Content Index



## GRI 102 General Disclosures

### 102-8 Employee breakdown by gender and type of contract

	2020			2021		
	M	F	Total	M	F	Total
Permanent	350	41	391	358	48	406
Temporary (apprenticeship)	8	5	13	0	0	0
Temporary (set contract)	7	3	10	6	5	11
<b>Total</b>	<b>365</b>	<b>49</b>	<b>414</b>	<b>364</b>	<b>53</b>	<b>417</b>
Percentages	88%	12%		87%	13%	
Full time	359	46	405	356	50	406
Part time – paid student interns (trainee)	5	2	7	7	3	10
Part time – others	1	1	2	1	0	1
<b>Total</b>	<b>365</b>	<b>49</b>	<b>414</b>	<b>364</b>	<b>53</b>	<b>417</b>
Percentages	88%	12%		87%	13%	
Contractors	638			732		

### 102-9 Number of Suppliers

	2020	2021
Number of Suppliers	1,065	1,121

### 102-17 Mechanisms for advice and concerns about ethics

Type of misconduct reported	Total number of concerns reported	2021								
		Supported	Partially supported	Founded	Unfounded	Consultation	Not applicable	Not investigated	Inconclusive	Insufficient data
Harassment	4						2			2
Conduct	19	2	7	1	1	1			4	3
Fraud	3				1		1	1		
Complaint	3	2			1					
Workplace safety	2		1				1			
Suggestion	1						1			
<b>Totals</b>	<b>32</b>	<b>4</b>	<b>8</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>4</b>	<b>5</b>

### 102-41 Collective bargaining agreements

	2020	2021
Employees covered by a collective bargaining agreement.	100%	100%



## GRI 201 Economic Performance

### 201-1 Direct economic value generated and distributed

Type	2020 (\$ million)	2021 (\$ million)
Employee wages and benefits	10.2	11.22
Taxes & royalties	1.18*	24
Community investment	0.49	0.79
National suppliers	78.82	94.27

\*Included federal taxes only

## GRI 202 Market Presence

### 202-1 Ratios of standard entry level wage by gender compared to local community

	2020	2021
For both men and women	29.56% above the minimum wage	30.73% above the minimum wage

### 202-2 Proportion of senior management hired from the local community

	2020	2021
Proportion of senior management hired from the local community	zero	zero

## GRI 203 Indirect Economic Impacts

### 203-1 Infrastructure investments and services supported

Strategic pillar	2017	2018	2019	2020	2021
Work and income	–	\$3,124	\$118,967	\$1,957	\$91,007
Education	\$376	\$17,383	\$64,062	\$40,284	\$33,440
Environmental awareness	–	\$6,137	\$40,140	–	\$14,337
Culture, leisure and sports	\$14,036	\$8,694	\$51,857	\$7,456	\$13,062
Health	\$2,320	\$89,236	\$205,951	\$446,544	\$330,124
Infrastructure	–	\$1,307	\$28,313	–	\$308,370
<b>Total</b>	<b>\$16,732</b>	<b>\$125,881</b>	<b>\$509,290</b>	<b>\$496,239</b>	<b>\$790,340</b>

### 203-2 Significant indirect economic impacts

#### Employee breakdown by location

	2020		2021	
Maracás	200	48%	212	51%
Regional – Bahia (excluding Maracás)	139	33%	121	29%
Minas Gerais	25	6%	29	7%
São Paulo	12	3%	11	3%
Goiás	18	4%	18	4%
Other states	21	5%	26	6%
<b>Total</b>	<b>415</b>		<b>417</b>	

## GRI 204 Procurement Practices

### 204-1 Proportion of spending on local suppliers

Geographic area	2020 total suppliers	2020 total spend (million)	2020 % suppliers	2020 % spend	2021 total suppliers	2021 total spend	2021 % suppliers	2021 % spend
Local – Maracás	76	\$17.02	7%	27%	69	\$9.22	6%	10%
Regional – Bahia (excluding Maracás)	341	\$40.54	32%	51%	422	\$58.68	38%	62%
Other states in Brazil	648	\$21.26	61%	22%	630	\$26.37	56%	28%
<b>Total</b>	<b>1,065</b>	<b>\$78.82</b>			<b>1,121</b>	<b>\$94.27</b>		

### 204-1 Supplier qualification

	2021 number of suppliers	2021
Acknowledged Largo's policies	1,107	98%
Acknowledged Largo's Code of Business Conduct and Ethics	1,107	98%

### 204-1 Additional supplier qualification process

The qualification questionnaire included questions about the supplier's certification under ISO 9001, ISO 14001 and ISO 45001 (environment and social criteria)

	2021 suppliers
Identified as critical under Quality Management System (ISO 9001)	78
Prioritized for assessment	78
Qualified with no pending items	63
Suppliers with pending items for qualification	15

## GRI 301 Materials

### 301-1 Materials used by weight or volume

Key raw materials consumption	2021 consumption (t)
Na <sub>2</sub> CO <sub>3</sub> – Sodium Carbonate	32,793
(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> – Amonium Sulfate	18,313
H <sub>2</sub> SO <sub>4</sub> – Sulphuric acid	6,458

### 301-2 Recycled input materials used

The processing circuit includes the recovery of approximately 8% (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> for reuse. Due to technical specifications, there is an excess of saline mix (ammonium sulfate and chlorides) that cannot be reused.



## GRI 302 Energy

### 302-1 Energy consumption within the organization

Type	2020 GigaJoules (GJ)	2021 GigaJoules (GJ)	2021 % of total energy consumption
<b>Stationary Combustion</b>			
Heavy fuel oil	504,615	468,141	
Diesel S500 (more sulphur, no biodiesel)	182,782	54,451	
Liquefied petroleum gas	1,377	71,452	
<b>Total Stationary Combustion</b>	688,774	594,044	56%
<b>Mobile Combustion</b>			
Diesel S10 (contains biodiesel)	230,019	227,629	
Gasoline (contains ethanol)	3,316	3,207	
<b>Total Mobile Combustion</b>	233,335	230,836	22%
<b>Electricity</b>			
Purchased electricity – Brazilian National Integrated System (SIN)	243,392	235,161	22%
<b>Energy Sold</b>	0	0	
<b>Total Energy Consumption</b>	1,165,500	1,060,041	

### 302-1 Energy consumption by renewable vs non-renewable

Energy source	% renewable (2021)	2021 renewable (GJ)	2021 non-renewable (GJ)
Heavy fuel oil	0%	–	468,141
Diesel S500 (more sulphur, no biodiesel)	0%	–	54,451
Liquefied petroleum gas	0%	–	71,452
Diesel S10 (contains biodiesel)*	11%	25,494	202,134
Gasoline (contains ethanol)**	27%	866	2,341
Purchased electricity – Brazilian National Integrated System (SIN)***	76%	178,722	56,439
<b>Total (GJ)</b>		205,082	854,958
<b>Total (%)</b>		19%	81%

\* % used in the GHG calculation – Inventário das Emissões dos Gases do Efeito Estufa (GEE)

– Ano Base 2021 (Mineral Engenharia e Meio Ambiente)

\*\* % used in the GHG calculation – Inventário das Emissões dos Gases do Efeito Estufa (GEE)

– Ano Base 2021 (Mineral Engenharia e Meio Ambiente)

\*\*\* [http://www.ons.org.br/Paginas/resultados-da-operacao/historico-da-operacao/geracao\\_energia.aspx](http://www.ons.org.br/Paginas/resultados-da-operacao/historico-da-operacao/geracao_energia.aspx)

#### Purchased Electricity – Brazilian National Integrated System (SIN) \*\*\*

Renewable	%
Hydroelectric	63%
Wind	12%
Solar	1%
<b>Total Renewable Component</b>	<b>76%</b>
Thermal	22%
Nuclear	2%
<b>Total Non-Renewable Component</b>	<b>24%</b>

### 302-2 Energy consumption outside of the organization

Not reported at this time.

### 302-3 Energy intensity

	2020	2021
Annual production (tV <sub>2</sub> O <sub>5</sub> )	11,825	10,319
Total energy consumption/V <sub>2</sub> O <sub>5</sub> production (GJ/tV <sub>2</sub> O <sub>5</sub> )	98.56	102.73

## GRI 303 Water and Effluents

### 303-3 Water withdrawal

Type	2020 (MI)	2021 (MI)
Surface water from the Pedra Reservoir – water stressed region	672.5	712.1

### 303-4 Water discharge

Type	2020 (MI)	2021 (MI)
Water discharge	0	0

### 303-5 Water consumption

Type	2020 (MI)	2021 (MI)
Donated to the village of Água Branca	11	9.4
Operational site consumption	661.5	701.9

## GRI 304 Biodiversity

### 304-3 Habitats protected or restored

	2020	2021
Total surface area owned	4,720 ha	4,720 ha
Operations footprint	260 ha	260 ha
Protected areas – São Conrado Legal Reserve	1,088 ha	1,088 ha
Maintained in natural state	3,372 ha	3,372 ha
Areas seeded	1.5 ha	0
Native vegetation removed	35.73 ha	0

### 304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations – 2021

	Least concerned	Near threatened	Vulnerable	Endangered	Protected species
Birds+	234	5 (IUCN)	2 (IUCN) / 3 (MMA) / 2 (SEMA)	0	0
Amphibians	22	0	0	0	0
Mammals*	23	0	1 (IUCN) / 2 (MMA) / 4 (SEMA)	1	0
Reptiles	16	0	1	0	0

+ One species of songbird much appreciated for breeding in captivity

\* Three species are highly targeted by predatory hunting

MMA – Ministério do Meio Ambiente

SEMA – Secretaria do Meio Ambiente (Bahia)

## GRI 305 Emissions

### 305-1 Direct (Scope 1) GHG emissions

The organizational boundaries and data collection period are the same as the boundaries for this report, restricted to Largo's operations in Brazil, during January 1 to December 31st, 2021. The compilation of the GHG inventory was conducted by a consulting company, following the GHG Protocol methodologies and emission factors identified by the GHG Protocol Brazilian Program.

Gases included in the inventory include: CO<sub>2</sub>, CH<sub>4</sub>, and HFC. The presence of chemical reactions that would result in the emission of N<sub>2</sub>O during the ore processing is not confirmed, therefore it was excluded from the calculation at this time. There were no emissions of PCFs, SF<sub>6</sub> nor NF<sub>3</sub>.

Scope	Emission source category	Emissions (tCO <sub>2</sub> e) 2020	Emissions (tCO <sub>2</sub> e) 2021
Scope 1	Stationary combustion	51,693	48,464
	Mobile combustion	13,328	15,091
	Process emissions	13,303	14,104
	Fugitive emissions	182	106
<b>Scope 1 Total</b>		<b>78,506</b>	<b>77,765</b>
Emissions of biogenic CO <sub>2</sub>	99% from ethanol and biodiesel consumed by mobile equipment	2,938	1,757

### 305-2 Indirect (Scope 2) GHG emissions

Scope	Emission source category	Emissions (tCO <sub>2</sub> e) 2020	Emissions (tCO <sub>2</sub> e) 2021
Scope 2	Purchase of electricity	4,169	8,270

### 305-3 Other indirect (Scope 3) GHG emissions

Details	2021	Emissions (tCO <sub>2</sub> e) 2021
Shipments to Asia, Europe and North America	Over 200	
Total weight	9,404 t	
Total distance	179,572 km	
Assumptions	All shipments via container ship and average TEU	
Methodology and conversion factors	GHG reporting: conversion factors 2019	
<b>Scope 3</b>	<b>Maritime transportation</b>	<b>1,880</b>



## GRI 305 Emissions (cont.)

### 305-4 GHG emissions intensity

	2020	2021
Scope 1 and 2 emissions (tCO <sub>2</sub> e)	82,675	<b>86,035</b>
Annual production (tV <sub>2</sub> O <sub>5</sub> )	11,825	<b>10,319</b>
GHG emissions intensity (tCO <sub>2</sub> e/tV <sub>2</sub> O <sub>5</sub> )	6.99	<b>8.34</b>

### 305-6 Emissions of ozone-depleting substances (ODS)

	Equipment	Type	2020 tCO <sub>2</sub>	2021 tCO <sub>2</sub>
Kyoto Protocol	Commercial air conditioning	HFC R-410A	182*	<b>106*</b>
	Circuit breakers	SF <sub>6</sub>	0	<b>0</b>
Montreal Protocol	Commercial air conditioning	HCFC-22 (R22)	16	<b>0</b>

\*Included in Scope 1 – Fugitive emissions

### 305-7 Nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), and other significant air emissions

Type	2020 (t) 9 chimneys*	2021 (t) 13 chimneys*
PM	49.84	<b>89.04</b>
SO <sub>x</sub>	2.62	<b>2.76</b>
NO <sub>x</sub>	38.67	<b>49.21</b>
NH <sub>3</sub>	32.93	<b>58.92</b>

\*Note that non-GHG emissions cannot be compared year to year due to the increase in number of chimneys

## GRI 306 Waste

### 306-3 Waste Generated

### 306-4 Waste Diverted from Disposal

### 306-5 Waste Directed to Disposal

Waste composition	Class	2020 waste generated (t)	2020 waste diverted from disposal (t)	2020 waste directed to disposal (t)	2021 waste generated (t)	2021 waste diverted from disposal (t)	2021 waste directed to disposal (t)
Materials contaminated with oil or chemical products – industrial disposal	Hazardous	221.58	–	221.58	277.52		277.52
Waste from the primary care clinic on site – incinerated and disposed	Hazardous	0.8	–	0.8	0.1		0.1
Lithium batteries	Hazardous	*		*	0.0034		0.0034
Lead batteries	Hazardous	**	**		1.1	1.1	
<b>Sub-Total Hazardous Waste</b>		<b>223.38</b>		<b>222.38</b>	<b>278.69</b>	<b>1.1</b>	<b>277.61</b>
Regular waste – landfill disposal	Non-hazardous	74.7	–	74.7	95.8		95.8
Metal	Non-hazardous	172.5	172.5	–	358.9	358.9	
Rubber	Non-hazardous	120.2	120.2	–	107.8	107.8	
Plastic	Non-hazardous	0.4	0.4	–	0.3	0.3	
Cardboard	Non-hazardous	10.1	10.1	–	3.7	3.7	
Compostable organic material	Non-hazardous	13.5	13.5	–	12.6	12.6	
Ready organic compostable					2.6	2.6	
<b>Sub-Total Non-Hazardous Waste</b>		<b>391.3</b>	<b>316.7</b>	<b>74.7</b>	<b>581.6</b>	<b>485.8</b>	<b>95.8</b>
<b>Total</b>		<b>613.7</b>	<b>316.7</b>	<b>297.1</b>	<b>860.3</b>	<b>486.9</b>	<b>373.4</b>
%			<b>52%</b>	<b>48%</b>		<b>57%</b>	<b>43%</b>

\*Included in hazardous materials

\*\*Included in 2021 totals

### Waste Rock and Tailings Generated

	Type	Metric tonnes generated – 2020	Metric tonnes generated – 2021	Metric tonnes diverted – 2021
Waste rock – stored in 3 piles	Solid	9,940,272	9,600,937	
Drymag – stored in piles	Solid	275,142	441,576	
Non-magnetic – stored in lined ponds	Wet mix	638,145	665,982	
Iron rich – stored in lined ponds	Solid	415,647	400,148	14,000*
Silica cakes – stored in lined ponds	Solid	2,564	2,486	
Chloride – stored in lined ponds	Saline mix	22,468	88,390	
<b>Total</b>		<b>1,353,966</b>	<b>11,199,519</b>	<b>14,000*</b>

\*Sold based on high iron content

## GRI 307 Environmental Compliance

### 307-1 Non-compliance with environmental laws and regulations

2020

There were no incidents of non-compliance in 2020.

2021

We received notification of a fine related to a bureaucratic process and we are seeking further clarification.



## GRI 401 Employment

### 401-1 New employee hires and employee turnover by age and gender

	Age	M	F	Total
2020 New Hires	<30	11	6	17
	30-50	32	5	37
	50+	5	0	5
	<b>Total</b>	<b>48</b>	<b>11</b>	<b>59</b>
	Percentages by gender	81%	19%	

	Age	M	F	Total
2020 Voluntary Resignations	<30	1	0	1
	30-50	9	2	11
	50+	2	0	2
	<b>Total</b>	<b>12</b>	<b>2</b>	<b>14</b>
	Percentages by gender	86%	14%	

	Age	M	F	Total
2020 Dismissals	<30	7	2	9
	30-50	14	1	15
	50+	5	0	5
	<b>Total</b>	<b>26</b>	<b>3</b>	<b>29</b>
	Percentages by gender	90%	10%	

	Total
2020 Turnover	Total leaves (voluntary and involuntary)
	43
	Employee turnover (Brazilian formula)
	1.1%
	Employee turnover (voluntary+involuntary leaves divided by total staff)
	10.4%

	Age	M	F	Total
2021 New Hires	<30	25	3	28
	30-50	31	7	38
	50+	4	0	4
	<b>Total</b>	<b>60</b>	<b>10</b>	<b>70</b>
	Percentages by gender	86%	14%	

	Age	M	F	Total
2021 Voluntary Resignations	<30	2	0	2
	30-50	11	0	11
	50+	0	0	0
	<b>Total</b>	<b>13</b>	<b>0</b>	<b>13</b>
	Percentages by gender	100%	0	

	Age	M	F	Total
2021 Dismissals	<30	5	1	6
	30-50	21	2	23
	50+	5	0	5
	<b>Total</b>	<b>31</b>	<b>3</b>	<b>34</b>
	Percentages by gender	91%	9%	

	Total
2021 Turnover	Total leaves (voluntary and involuntary)
	47
	Employee turnover (Brazilian formula)
	1.1%
	Employee turnover (voluntary+involuntary leaves divided by total staff)
	11.3%

### 401-3 Parental Leave

	2020 Male	2020 Female	2021 Male	2021 Female
Total number of employees entitled to parental leave (100%)	357	49	364	53
Total number of employees that took parental leave	15	1	12	2
Total number of employees that returned to work in the reporting period after parental leave ended	15	1	12	2
Total number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work	14	1	12	2
Return to work and retention rates of employees that took parental leave	93.33%	100%	100%	100%

## GRI 403 Occupational Health and Safety

### 403-5 Worker training on occupational health and safety

	2020	2021
Total hours of safety training	8,176	12,016

### 403-8 Workers covered by an occupational health and safety management system

	2020	2021
Covered by Plan-Do-Check-Act system	100%	100%
Where an internal audit has taken place	100%	100%
Audited or certified by third party	zero	zero

### 403-9 Work-related injuries

	2020 Employees	2020 Contractors	2020 Frequency rate	2021 Employees	2021 Contractors	2021 Frequency rate
Fatalities	zero	zero	0*	zero	zero	0*
Injuries with more than 6 months lost time	zero	zero	0*	zero	zero	0*
Reportable incidents – lost time injuries	3	3	7.81*	1	1	0.75*
Type of injury	Upper limb crushing, thermal burn	Chemical burn, same level fall, ankle sprain		Head injury	Broken finger	
Number of hours worked	1,091,420	1,598,740		800,482	1,848,487	

All rates based on per million hours worked. \* Includes on-site employees and contractors

### 403-9 Other Safety Metrics

	2016	2017	2018	2019	2020	2021
High potential incidents including near misses			27	21	29	45
Total injuries including first aid incidents			62	103	83	56
Total – LTI + RWC + MTC	15	16	10	21	21	14
Total Injuries frequency rate LTI + RWC + MTC	10.77	8.48	5.19	7.82	7.81	5.28
Lost time Injuries (LTI)	9	9	4	7	6	2
Lost-time injury frequency rate (LTIFR)	6.46	4.77	2.08	2.61	2.23	0.75
Injuries with over 6 months of lost-time					0	0
Severity rate						7.93
Fatalities	0	0	0	0	0	0
<b>Total work hours per year</b>	1,392,689	1,887,380	1,926,760	2,685,364	2,690,160	2,648,970

All rates based on per million hours worked. \* includes on-site employees and contractor  
LTI – Lost time incident RWC – Restricted Work Case MTC – Medical Treatment Case



## GRI 403 Occupational Health and Safety (cont.)

### 403-9 Leading Indicators

	2020	2021
Daily safety dialogues	Approximately 2,000	<b>Approximately 2,000</b>
Management Inspections	100% completed with average score of 76%	<b>100% completed with average score 87.7%</b>
<b>Internal Audits</b>		
Permit to Work audits completed	39	<b>240*</b>
Audits of Daily Safety Dialogues	18	<b>350*</b>
Audits of service providers	12 providers audited twice	<b>12 providers audited twice and one new provider audited once</b>

\*Audits were increased in 2021 as part of a project to identify the most effective audit teams and schedule.

### 403-10 Work-related ill health

	2020 Employees	2020 Contractors	2021 Employees	2021 Contractors
Fatalities resulting from work-related ill health	0	0	0	0
Recordable work-related ill health	0	0	0	0
<b>Non-work related</b>				
COVID cases	45	51	69	178

### 403-10 Medical Exams (Employees only)

Type of exam	2020	2021
AD – upon hiring	59	<b>76</b>
PR – periodic	316	<b>306</b>
IDE – when leaving	47	<b>63</b>
MF – change of function	15	<b>33</b>
RT – back to work	15	<b>6</b>
<b>Total</b>	<b>452</b>	<b>478</b>
Not meeting requirements	1	<b>0</b>
Accepted	451	<b>471</b>

### 403-10 Vanadium Concentration Exams (Employees only)

	2020 Number of tests	2020 Results	2021 Number of tests	2021 Results*
Blood	578	Normal	760	754 (N) 06 (O)
Urine	530	Normal	605	602 (N) 03 (O)

\*N – Normal O – Out of range

## GRI 404 Training and Education

### 404-1 Average hours of training per year per employee

	2020	2021
Total training hours (women and men) (hours)	15,987	22,094
Average hours of training per year per employee (hours/year)	40 hours/year	53 hours/year

Month	2020 Development training	2020 Mandatory/ safety training	2020 Training index*	2021 Development training	2021 Mandatory/ safety training	2021 Mandatory/training management system	2021 Training index*
January	384	392	1.7	88	542	140	1.1
February	701	1,141	3.8	0	695.5	672.6	2.1
March	520	681	2	111	498.5	144	1.2
April	34	317	0.5	342	1628	406.95	3.3
May	174	320	0.7	1054	883	19.5	3
June	567	630	1.8	2,109.75	1,122	127.5	5
July	1,060	1,223	3.5	266	1,178	302.5	2.2
August	1,950	95	3.1	854	613	163	2.5
September	778	694	2.1	967.1	1,406	322	3.8
October	1,064	605	2.6	946.3	546	37.5	2.3
November	516	1,008	2.4	174	1,296	0	2.6
December	583	1,070	3	700	1,608	130	4
<b>Total</b>	<b>8,331</b>	<b>8,176</b>	<b>2.27</b>	<b>7,612</b>	<b>12,016</b>	<b>2,466</b>	<b>2.76</b>

\*Training index – total training hours/total worked and training hours

### 404-2 Programs for upgrading employee skills and transition assistance programs

#### Largo's scholarship program

	2021
Total number of graduates since 2018 (as of Dec 2021)	27
<b>Participation in program by gender</b>	
Women	18 (20%)
Men	70 (80%)
<b>Total</b>	<b>88</b>

#### Investment in employees' training and development

	Investment
2014	\$13,928
2015	\$21,043
2016	\$38,320
2017	\$76,470
2018	\$252,664
2019	\$279,913
2020	\$123,159
<b>2021</b>	<b>\$148,322</b>

### 404-3 Percentage of employees receiving regular performance and career development reviews

2020	2021
100%	100%



## GRI 405 Diversity and Equal Opportunity

### 405-1 Diversity of governance bodies and employees

2020	M	F	<30 years	30-50 years	50+ years
<b>Board of Directors</b>					
Chair	1				1
Directors	5	1		3	3
<b>Largo – Brazil – Functions</b>					
President/VP	2	0	0	1	1
Manager	9	0	0	8	1
Coordinator/specialist	13	4	1	10	6
Supervisor	16	2	3	12	3
University level roles	28	12	8	28	4
Operational	284	23	99	202	19
Student paid Intern	6	2	8		
Individuals with physical disabilities*	10	3	included in operational functions		
<b>Totals</b>	<b>368</b>	<b>46</b>	<b>119</b>	<b>261</b>	<b>34</b>
Percentages	89%	11%	29%	63%	8%

\*Complies with % mandated by law

2021	M	F	<30 years	30-50 years	50+ years
<b>Board of Directors</b>					
Co-Chairs	2				2
Directors	4	1		2	3
<b>Largo – Brazil – Functions</b>					
President/VP	2	0		1	1
Manager	12	0		10	2
Coordinator/specialist	13	4		11	6
Supervisor	18	3	2	16	3
University level roles	25	20	4	37	4
Operational	272	22	70	204	20
Student paid Intern	7	3	10		
Individuals with physical disabilities*	10	3	5	6	2
<b>Totals</b>	<b>359</b>	<b>55</b>	<b>91</b>	<b>285</b>	<b>38</b>
Percentages	87%	13%	22%	69%	9%

\*Complies with % mandated by law

### 405-2 Average salary and remuneration by function – ratio women:men

Function	2020	2021
Manager	No women managers on Dec. 31, 2020	No women managers on Dec. 31, 2021
Coordinator/specialist	98:100*	95:100*
Supervisor	99:100	103:100**
University level functions	100:100	100:100
Operational	99:100	108:100**
Student trainee	100:100	100:100
Temporary (short-term projects)	93:100	100:100

\*The higher averages shown for men reflect the higher number of men with over five years' experience at Largo.

\*\*The averages reflect higher levels of responsibility, complexity and autonomy in their respective functions.

## GRI 406 Non Discrimination

### 406-1 Incidents of discrimination and corrective actions take

	Type of misconduct reported	Total number of concerns reported	Supported	Partially supported	Unfounded	Consultation	Completed	Forwarded to client
2020	Discrimination	1		1			1	
2021	Discrimination	0						

## GRI 410 Security Practices

### 410-1 Security personnel trained in human rights policies or procedures

2020	2021
100%	100%

## GRI 419 Socioeconomic Compliance

### 419-1 Non-compliance with laws and regulations in the social and economic area

2020	2021
In 2020 there were some minor fines, less than \$80 in total, which were related to short delays in reporting some routine data to a government agency.	None

## GRI 415 Public Policy

### 415-1 Political contributions

2020	2021
None	None



# GRI/SASB Content Index

GRI Standard Version 2016 (except as otherwise noted)

SASB Metals and Mining Industry Standard Version 2018–10

## GRI 102 General Disclosures

Disclosure Description	SASB Alignment	Location/Direct Response	Page
<b>1. Organizational Profile</b>			
<b>102-1</b> Name of the organization		2021 Sustainability Report – About This Report	2
<b>102-2</b> Activities, brands, products and services	EM-MM-000.A	2021 Sustainability Report – Our Business Largo does not produce any products that are banned on any markets or are the subject of stakeholder questions or public debate.	7–10
<b>102-3</b> Location of headquarters		2021 Sustainability Report – Our Business	7
<b>102-4</b> Location of operations		2021 Sustainability Report – Our Business	7
<b>102-5</b> Ownership and legal form		2021 Sustainability Report – Our Business	7
<b>102-6</b> Markets served		2021 Sustainability Report – Our Business	10–11, 72
<b>102-7</b> Scale of the organization	EM-MM-000.B	2021 Sustainability Report – Our Business	6–10
<b>102-8</b> Information on employees and other workers		2021 Sustainability Report – Our People 2021 Sustainability Report – Performance Data	6 68
<b>102-9</b> Supply chain		2021 Sustainability Report – Economic Performance	28–31, 68
<b>102-10</b> Significant changes to the organization and its supply chain		2021 Sustainability Report – Our Business	8–9
<b>102-11</b> Precautionary principle or approach		2021 Sustainability Report – Governance	23
<b>102-12</b> External initiatives		2021 Sustainability Report – Governance	22
<b>102-13</b> Membership of associations		2021 Sustainability Report – Governance	22
<b>2. Strategy</b>			
<b>102-14</b> Statement from senior decision-maker		2021 Sustainability Report – Message from the CEO	12–13
<b>102-15</b> Key impacts, risks, and opportunities		2021 Sustainability Report – Governance 2021 Annual Information Form	18–26 33–56
<b>3. Ethics and Integrity</b>			
<b>102-16</b> Values, principles, standards, and norms of behavior		2021 Sustainability Report – Governance	16–17
<b>102-17</b> Mechanisms for advice and concerns about ethics		2021 Sustainability Report – Governance 2021 Sustainability Report – Performance Data	16–17 68

## GRI 102 General Disclosures (cont.)

Disclosure Description	SASB Alignment	Location/Direct Response	Page
<b>4. Governance</b>			
<b>102-18</b> Governance structure		2022 Management Information Circular The Operations Committee has oversight of Health, Safety, Environment and Social Responsibility issues.	17-20
<b>102-19</b> Delegating authority		Authority is delegated from the CEO to the Production Director and Finance VP, who delegate to the Managers responsible for Human Resources; Quality, H&S and Environment; and Procurement.	82
<b>102-20</b> Executive-level responsibility for economic, environmental, and social topics		The Production Director and VP Finance have responsibilities for economic, environmental and social topics. They report to the CEO.	82
<b>102-21</b> Consulting stakeholders on economic, environmental, and social topics		2021 Sustainability Report – Governance	25
<b>102-22</b> Composition of the highest governance body and its committees		2021 Sustainability Report – Performance Data 2021 Annual Information Form 2022 Management Information Circular	79 58-61 17-20
<b>102-23</b> Chair of the highest governance body		The chair of the highest governance body is not an executive officer in the organization.	82
<b>102-24</b> Nominating and selecting the highest governance body		2022 Management Information Circular	22-23
<b>102-25</b> Conflicts of interest		2022 Management Information Circular	21-22
<b>102-26</b> Role of highest governance body in setting purpose, values, and strategy		2021 Sustainability Report – Governance	15
<b>102-27</b> Collective knowledge of highest governance body		2022 Management Information Circular	23
<b>102-28</b> Evaluating the highest governance body's performance		2022 Management Information Circular	24-25
<b>102-29</b> Identifying and managing economic, environmental, and social impacts		2021 Sustainability Report – Governance	23-26
<b>102-30</b> Effectiveness of risk management processes		2021 Sustainability Report – Governance	23-26
<b>102-31</b> Review of economic, environmental, and social topics		2021 Sustainability Report – Governance	23-26
<b>102-32</b> Highest governance body's role in sustainability reporting		2021 Sustainability Report – Governance	15
<b>102-33</b> Communicating critical concerns		There were no critical concerns from our stakeholders related to our ethics, human rights, the environment or communities.	82
<b>102-34</b> Nature and total number of critical concerns		There were no critical concerns from our stakeholders related to our ethics, human rights, the environment or communities.	82
<b>102-35</b> Remuneration policies		2022 Management Information Circular	25-45



## GRI 102 General Disclosures (cont.)

Disclosure Description	SASB Alignment	Location/Direct Response	Page
<b>102-36</b> Process for determining remuneration		2022 Management Information Circular	25-45
<b>102-37</b> Stakeholders' involvement in remuneration		Proxy services agencies provide feedback through their analyses.	83
<b>102-38</b> Annual total compensation ratio		Not calculated at this time.	83
<b>102-39</b> Percentage increase in annual total compensation ratio		Not calculated at this time.	83
<b>5. Stakeholder engagement</b>			
<b>102-40</b> List of stakeholder groups		2021 Sustainability Report – Governance	25
<b>102-41</b> Collective bargaining agreements	EM-MM-310a.1	2021 Sustainability Report – Our People 2021 Sustainability Report – Performance Data 100% employees included in the agreement.	33 68
<b>102-42</b> Identifying and selecting stakeholders		2021 Sustainability Report – Governance	25
<b>102-43</b> Approach to stakeholder engagement		2021 Sustainability Report – Governance 2021 Sustainability Report – Our Communities	25 44, 49
<b>102-44</b> Key topics and concerns raised		2021 Sustainability Report – Governance	25
<b>6. Reporting practice</b>			
<b>102-45</b> Entities included in the consolidated financial statements		2021 Sustainability Report – Scope of this Report This sustainability report only covers the Largo Maracás Menchen Mine operations in Brazil.	3
<b>102-46</b> Defining report content and topic boundaries		2021 Sustainability Report – About this Report	2-3
<b>102-47</b> List of material topics		2021 Sustainability Report – Governance	26
<b>102-48</b> Restatements of information		2021 Sustainability Report – About this Report	2
<b>102-49</b> Changes in reporting		2021 Sustainability Report – About this Report The topic boundaries remain the same. The material topics have been better defined.	2
<b>102-50</b> Reporting period		2021 Sustainability Report – About this Report	2
<b>102-51</b> Date of most recent report		2020 Sustainability Report released in August 2021.	83
<b>102-52</b> Reporting cycle		Reporting is done on an annual basis.	83
<b>102-53</b> Contact point for questions regarding the report		2021 Sustainability Report – About this Report	2
<b>102-54</b> Claims of reporting in accordance with the GRI Standards		2021 Sustainability Report – About this Report	2
<b>102-55</b> GRI content index		2021 Sustainability Report – GRI/SASB Content Index	81-91
<b>102-56</b> External assurance		No external assurance was sought for this report.	83

## 200 Economic Topics

Disclosure Description		SASB Alignment	Location/Direct Response	Page
201 Economic Performance				
201-1	Direct economic value generated and distributed		2021 Sustainability Report – Our Business 2021 Sustainability Report – Economic Performance 2021 Sustainability Report – Performance Data Annual Consolidated Financial Statements for the Years ended December 31, 2021 and 2020	6 28 69
201-2	Financial implications and other risks and opportunities due to climate change		2021 Sustainability Report – Governance	18
201-3	Defined benefit plan obligations and other retirement plans		There are no retirement plans other than those offered by the government. Contributions are paid by the employer and employees.	84
201-4	Financial assistance received from government		Largo benefits from tax incentives in Brazil.	84
202 Market Presence				
202-1	Ratios of standard entry level wage by gender compared to local minimum wage		2021 Sustainability Report – Economic Performance 2021 Sustainability Report – Performance Data	29 69
202-2	Proportion of senior management hired from the local community		2021 Sustainability Report – Economic Performance 2021 Sustainability Report – Performance Data	29 69
203 Indirect Economic Impacts				
203-1	Infrastructure investments and services supported		2021 Sustainability Report – Economic Performance 2021 Sustainability Report – Performance Data	29 69
203-2	Significant indirect economic impacts		2021 Sustainability Report – Economic Performance 2021 Sustainability Report – Our Communities 2021 Sustainability Report – Performance Data	28–29 49–50 69
204 Procurement Practices				
204-1	Proportion of spending on local suppliers		2021 Sustainability Report – Economic Performance 2021 Sustainability Report – Performance Data	30 70
205 Anti-Corruption				
205-1	Operations assessed for risks related to corruption		2021 Sustainability Report – Governance	16–17
205-2	Communication and training about anti-corruption policies and procedures	EM-MM-510a.1 EM-MM-510a.2	2021 Sustainability Report – Governance	16–17
205-3	Confirmed incidents of corruption and actions taken		2021 Sustainability Report – Governance No confirmed incidents of corruption in the reporting period.	16
206 Anti-Competitive Behavior				
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices		The organization has not been identified as a participant on any legal action pending or completed during the reporting period, regarding anti-competitive behaviour and violations of anti-trust and monopoly legislation.	84

### 300 Environmental topics

Disclosure Description	SASB Alignment	Location/Direct Response	Page
<b>301 Materials</b>			
		This topic is considered non-material. Some data is reported. 2021 Sustainability Report – Performance Data	70
<b>302 Energy</b>			
<b>302–103 Management Approach</b>		2021 Sustainability Report – Environment	53
<b>302–1 Energy consumption within the organization</b>	EM-MM-130a.1	2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	56 71
<b>302–2 Energy consumption outside of the organization</b>		Not estimated at this time.	85
<b>302–3 Energy intensity</b>		2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	56 71
<b>302–4 Reduction of energy consumption</b>		2021 Sustainability Report – Environment	53, 56
<b>302–5 Reductions in energy requirements of products and services</b>		Largo's vanadium products do not consume energy.	85
<b>303 Water and Effluents 2018</b>			
<b>303–103 Management Approach</b>		2021 Sustainability Report – Environment	53
<b>303–1 Interactions with water as a shared resource</b>		2021 Sustainability Report – Environment	54
<b>303–2 Management of water discharge-related impacts</b>		2021 Sustainability Report – Environment	55
<b>303–3 Water withdrawal</b>	EM-MM-140a.1	2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	55 72
<b>303–4 Water discharge</b>		2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	55 72
<b>303–5 Water consumption</b>	EM-MM-140a.1	2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	55 72
<b>304 Biodiversity</b>			
<b>304–103 Management Approach</b>	EM-MM-160a.1	2021 Sustainability Report – Environment	53, 59–63
<b>304–1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas</b>	EM-MM-160a.3	2021 Sustainability Report – Our Business 2021 Sustainability Report – Environment	9 59
<b>304–2 Significant impacts of activities, products, and services on biodiversity</b>	EM-MM-160a.1	2021 Sustainability Report – Environment	60
<b>304–3 Habitats protected or restored</b>		2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	59, 63 72
<b>304–4 IUCN Red List species and national conservation list species with habitats in areas affected by operations</b>		2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	62 72



### 300 Environmental topics (cont.)

Disclosure Description	SASB Alignment	Location/Direct Response	Page
<b>305 Emissions</b>			
<b>305-103 Management Approach</b>		2021 Sustainability Report – Environment	53
<b>305-1 Direct (Scope 1) GHG emissions</b>	EM-MM-110a.1	2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	57 72
<b>305-2 Energy indirect (Scope 2) GHG emissions</b>		2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	57 72
<b>305-3 Other indirect (Scope 3) GHG emissions</b>		2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	57 72
<b>305-4 GHG emissions intensity</b>		2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	57 73
<b>305-5 Reduction of GHG emissions</b>	EM-MM-110a.2	2021 Sustainability Report – Environment	58
<b>305-6 Emissions of ozone-depleting substances (ODS)</b>		2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	57 73
<b>305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions</b>	EM-MM-120a.1	2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	58 73
<b>306 Waste 2020</b>			
<b>306-103 Management Approach</b>		2021 Sustainability Report – Environment	53
<b>306-1 Waste generation and significant waste-related impacts</b>		2021 Sustainability Report – Environment	64–65
<b>306-2 Management of significant waste-related impacts</b>		2021 Sustainability Report – Environment	64–65
<b>306-3 Waste generated</b>	EM-MM-150a.2	2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	64 74
<b>306-4 Waste diverted from disposal</b>		2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	64 74
<b>306-5 Waste directed to disposal</b>		2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	64 74
<b>307 Environmental Compliance</b>			
<b>307-1 Non-compliance with environmental laws and regulations</b>	EM-MM-140a.2	2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	53 74
<b>308 Supplier Environmental Assessment</b>			
<b>308-1 New suppliers that were screened using environmental criteria</b>		2021 Sustainability Report – Economic Performance 2021 Sustainability Report – Performance Data	30–31 70
<b>308-2 Negative environmental impacts in the supply chain and actions taken</b>		2021 Sustainability Report – Economic Performance	30

## 400 Social topics

Disclosure Description	SASB Alignment	Location/Direct Response	Page
<b>401 Employment</b>			
<b>401-1</b> New employee hires and employee turnover		2021 Sustainability Report – Performance Data	75
<b>401-2</b> Benefits provided to full-time employees that are not provided to temporary or part-time employees		Temporary and part-time employees receive the same benefits as full-time employees.	87
<b>401-3</b> Parental leave		2021 Sustainability Report – Performance Data	75
<b>402 Labour/Management Relations</b>			
<b>402-1</b> Minimum notice periods regarding operational changes		<p>a. There have never been any operational changes involving layoffs in the company's history. The minimum notice period for employees is 30 days.</p> <p>b. The collective agreement prescribes formal meetings between the union and management including agenda and minutes to take place every two months.</p>	33
<b>403 Occupational Health and Safety 2018</b>			
<b>403-103</b> Management Approach		2021 Sustainability Report – Our People	38–39
<b>403-1</b> Occupational health and safety management system		2021 Sustainability Report – Our People <a href="#">Largo's website – Health &amp; Safety</a>	39
<b>403-2</b> Hazard identification, risk assessment, and incident investigation		<a href="#">Largo's website – Health &amp; Safety</a>	39–42
<b>403-3</b> Occupational health services		2021 Sustainability Report – Our People <a href="#">Largo's website – Health &amp; Safety</a>	39
<b>403-4</b> Worker participation, consultation, and communication on occupational health and safety		2021 Sustainability Report – Our People <a href="#">Largo's website – Health &amp; Safety</a>	39–40
<b>403-5</b> Worker training on occupational health and safety	EM-MM-320a.1 (4)	2021 Sustainability Report – Our People 2021 Sustainability Report – Performance Data	40 76
<b>403-6</b> Promotion of worker health		2021 Sustainability Report – Our People <a href="#">Largo's website – Health &amp; Safety</a>	39–40
<b>403-7</b> Prevention and mitigation of occupational health and safety impacts directly linked by business relationships		2021 Sustainability Report – Our People <a href="#">Largo's website – Health &amp; Safety</a>	40–42
<b>403-8</b> Workers covered by an occupational health and safety management system		2021 Sustainability Report – Our People 2021 Sustainability Report – Performance Data	39 76
<b>403-9</b> Work-related injuries	EM-MM-320a.1 (1) (2) (3)	2021 Sustainability Report – Our People 2021 Sustainability Report – Performance Data	38 76
<b>403-10</b> Work-related ill health		2021 Sustainability Report – Performance Data	77

## 400 Social topics (cont.)

Disclosure Description	SASB Alignment	Location/Direct Response	Page
<b>404 Training and Education</b>			
<b>404-1</b> Average hours of training per year per employee		2021 Sustainability Report – Our People 2021 Sustainability Report – Performance Data	34 78
<b>404-2</b> Programs for upgrading employee skills and transition assistance programs		2021 Sustainability Report – Our People 2021 Sustainability Report – Performance Data	34 78
<b>404-3</b> Percentage of employees receiving regular performance and career development reviews		2021 Sustainability Report – Our People 2021 Sustainability Report – Performance Data	34 78
<b>405 Diversity and Equal Opportunity</b>			
<b>405-1</b> Diversity of governance bodies and employees		2021 Sustainability Report – Our People 2021 Sustainability Report – Performance Data	35–36 79
<b>405-2</b> Ratio of basic salary and remuneration of women to men		2021 Sustainability Report – Our People 2021 Sustainability Report – Performance Data	35 79
<b>406 Non-Discrimination</b>			
<b>406-1</b> Incidents of discrimination and corrective actions taken		2021 Sustainability Report – Our People 2021 Sustainability Report – Performance Data	37 80
<b>407 Freedom of Association and Collective Bargaining</b>			
<b>407-1</b> Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk		2021 Sustainability Report – Economic Performance 2021 Sustainability Report – Our People No operations or suppliers at risk have been identified.	30–31 33
<b>408 Child Labour</b>			
<b>408-1</b> Operations and suppliers at significant risk for incidents of child labour		2021 Sustainability Report – Economic Performance 2021 Sustainability Report – Our People No operations or suppliers at risk have been identified.	30–31 37, 41
<b>409 Forced or Compulsory Labour</b>			
<b>409-1</b> Operations and suppliers at significant risk for incidents of forced or compulsory labour		2021 Sustainability Report – Economic Performance 2021 Sustainability Report – Our People No operations or suppliers at risk have been identified.	30–31 37, 41
<b>410 Security Practices</b>			
<b>410-1</b> Security personnel trained in human rights policies or procedures		2021 Sustainability Report – Our People 2021 Sustainability Report – Performance Data	37 80
<b>411 Rights of Indigenous Peoples</b>			
<b>411-1</b> Incidents of violations involving rights of indigenous peoples		No incidents. There are no indigenous peoples in or near our operational site.	88



## 400 Social topics (cont.)

Disclosure Description	SASB Alignment	Location/Direct Response	Page
<b>412 Human Rights Assessment</b>			
<b>412-1</b> Operations that have been subject to human rights reviews or impact assessments		Sustainability Report – Our People	37
<b>412-2</b> Employee training on human rights policies or procedures	EM-MM-210a.3	Sustainability Report – Our People	37
<b>412-3</b> Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	EM-MM-210a.3	2021 Sustainability Report – Economic Performance	30-31
<b>413 Local Communities</b>			
<b>413-103</b> Management Approach		2021 Sustainability Report – Our Communities	44-51
<b>413-1</b> Operations with local community engagement, impact assessments, and development programs	EM-MM-210b.1	One operation (100%) 2021 Sustainability Report – Our Communities	44-51
<b>413-2</b> Operations with significant actual and potential negative impacts on local communities		No operations with significant actual and potential negative impacts on local communities.	89
<b>414 Supplier Social Assessment</b>			
<b>414-1</b> New suppliers that were screened using social criteria		2021 Sustainability Report – Economic Performance 2021 Sustainability Report – Performance Data	30-31 70
<b>414-2</b> Negative social impacts in the supply chain and actions taken		2021 Sustainability Report – Economic Performance	30
<b>415 Public Policy</b>			
<b>415-1</b> Political contributions		2021 Sustainability Report – Governance 2021 Sustainability Report – Performance Data	17 80
<b>416 Customer Health and Safety</b>			
<b>416-1</b> Assessment of the health and safety impacts of product and service categories		Our products are assessed for industrial, business-to-business, use.	10, 89
<b>416-2</b> Incidents of non-compliance concerning the health and safety impacts of products and services		No incidents of non-compliance concerning the health and safety impacts of products and services.	89

## 400 Social topics (cont.)

Disclosure Description		SASB Alignment	Location/Direct Response	Page
<b>417 Marketing and Labeling</b>				
<b>417-1</b>	Requirements for product and service information and labeling		Compliance with REACH chemical regulations in the UK and EU. Compliance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).	90
<b>417-2</b>	Incidents of non-compliance concerning product and service information and labeling		No incidents of non-compliance concerning product and service information and labeling.	90
<b>417-3</b>	Incidents of non-compliance concerning marketing communications		No incidents of non-compliance concerning marketing communications.	90
<b>418 Customer Privacy</b>				
<b>418-1</b>	Substantiated complaints concerning breaches of customer privacy and losses of customer data		No complaints received.	90
<b>419 Socioeconomic Compliance</b>				
<b>419-1</b>	Non-compliance with laws and regulations in the social and economic area		Nothing to report. 2021 Sustainability Report – Performance Data	90

## GRI 4 Mining and Metals

Disclosure Description	SASB Alignment	Location/Direct Response	Page
<b>Sector</b>			
<b>MM1</b> Amount of land (owned or leased, and managed for production activities or extractive use) disturbed or rehabilitated		2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data	59 72
<b>MM2</b> The number and percentage of total sites identified as requiring biodiversity management plans according to stated criteria, and the number (percentage) of those sites with plans in place	EM-MM-160a.2	Our only operation has a biodiversity management plan in place – 100%. 2021 Sustainability Report – Environment	60–63
<b>MM3</b> Total amounts of overburden, rock, tailings, and sludges and their associated risks	EM-MM-150a.1 EM-MM-150a.2 EM-MM-150a.3	2021 Sustainability Report – Environment 2021 Sustainability Report – Performance Data <a href="#">Largo's website – Tailings Management</a>	64–65 74
<b>MM4</b> Number of strikes and lock-outs exceeding one week's duration, by country	EM-MM-210b.2 EM-MM-310a.2	There were no strikes, lock-outs nor non-technical delays.	91
<b>MM5</b> Total number of operations taking place in or adjacent to indigenous peoples' territories, and number and percentage of operations or sites where there are formal agreements with indigenous peoples' communities	EM-MM-210a.1 EM-MM-210a.2 EM-MM-210a.3	There are no operations, proven nor probable reserves, in or near areas of conflict.  There are no operations, proven nor probable reserves, in or adjacent to indigenous peoples' territories.	91
<b>MM6</b> Number and description of significant disputes relating to land use, customary rights of local communities and indigenous peoples		There were no disputes relating to land use, customary rights of local communities and indigenous peoples.	91
<b>MM7</b> The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and indigenous peoples, and the outcomes		There were no disputes relating to land use, customary rights of local communities and indigenous peoples.	91
<b>MM8</b> Number (and percentage) of company operating sites where artisanal and small-scale mining (asm) takes place on, or adjacent to, the site; the associated risks and the actions taken to manage and mitigate these risks		There are no artisanal or small-scale mining on or adjacent to the site.	91
<b>MM9</b> Sites where resettlements took place, the number of households resettled in each, and how their livelihoods were affected in the process		There were no resettlements.	91
<b>MM10</b> Number and percentage of operations with closure plans		2021 Sustainability Report – Environment Our only operation has a closure plan – 100%.	66



# Corporate Directory

## Corporate Officers

Paulo Misk  
President, CEO and Director

Ernest Cleave  
CFO

## Directors

Alberto Arias<sup>2,3,4,6</sup>  
Chair

Paulo Misk<sup>3</sup>  
Director, President and CEO

David Brace<sup>1,2,5</sup>  
Director

Jonathan Lee<sup>3,5,6</sup>  
Director

Daniel Tellechea<sup>1,4,5,6</sup>  
Director

Koko Yamamoto<sup>1,2,4</sup>  
Director

## Board Committees

1. Member of the Audit Committee
2. Member of the Compensation Committee
3. Member of the Energy Committee
4. Member of the Governance Committee
5. Member of the Operations Committee
6. Member of the Sales Committee

## Investor Relations and Communications

Alex Guthrie  
Senior Manager, External Relations  
T 416 861 9797  
E [aguthrie@largoinc.com](mailto:aguthrie@largoinc.com)

## Corporate Office

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Toronto, ON Canada M5J 2H7  
T 416 861 9797

## Website

[www.largoinc.com](http://www.largoinc.com)

We welcome feedback on this report or on any other aspect of sustainability at Largo.

Please contact us at:  
[Info@largoinc.com](mailto:Info@largoinc.com)

## Forward-looking Statements:

This report contains forward-looking information under Canadian securities legislation ("forward-looking information"), some of which may be considered "financial outlook" for the purposes of applicable Canadian securities legislation. Forward-looking statements can be identified by the use of forward-looking terminology such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or statements that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved". All information contained in this news release, other than statements of current and historical fact, is forward-looking information. Forward-looking information contained in this press release includes, but is not limited to, statements with respect to the timing and amount of estimated future production and sales; costs of future activities and operations; production and sale of titanium dioxide pigment, expansion of vanadium production, and related impacts on cash flow; the successful vertical integration of the Company; timing and cost related to the build-out of the ilmenite plant and titanium-dioxide pigment processing plant; the extent of capital and operating expenditures; the effectiveness of our efforts to mitigate effects of future rains on operations at the Maracás Menchen Mine; the impact of global delays and related price increases on the Company's global supply chain and future V<sub>2</sub>O<sub>5</sub> equivalent sales; and the completion by Largo Physical Vanadium Corp. of a qualifying transaction with Column Capital Corp. and listing of the resulting issuer on the TSX Venture Exchange; purchases of vanadium products from GMR.

The following are some of the assumptions upon which forward-looking information is based: that general business and economic conditions will not change in a material adverse manner; demand for, and stable or improving price of V<sub>2</sub>O<sub>5</sub>, other vanadium commodities, iron ore, ilmenite and titanium dioxide pigment; receipt of regulatory and governmental approvals, permits and renewals in a timely manner; that the Company will not experience any material accident, labour dispute or failure of plant or equipment or other material disruption in the Company's operations at the Maracás Menchen Mine or relating to Largo Clean Energy; the availability of financing for operations and development; the Company's ability to procure equipment and operating supplies in sufficient quantities and on a timely basis; that the estimates of the resources and reserves at the Maracás Menchen Mine and the geological, operational and price assumptions on which these are based are within reasonable bounds of accuracy (including with respect to size, grade and recovery); the Company's ability to attract and retain skilled personnel and directors; the ability of management to execute strategic goals; that we will be able to build, finance and operate our vanadium redox flow ("VRFB") business; that we will be able to protect and develop our technology and maintain our intellectual property; that we will be able to market, sell and deliver our VCHARGE± battery system on specification and at a competitive price; that the Company's current plans for iron ore, ilmenite, titanium dioxide pigment and VRFBs can be achieved; that we will be able to secure the required production resources to build our VCHARGE± battery system; and that VRFB technology will generally be adopted in the market.

Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause actual results, level of activity, performance or achievements to be materially different from those expressed or implied by such forward-looking information, including but not limited to those risks described in the annual information form of Largo and in its public documents filed on [www.sedar.com](http://www.sedar.com) and [www.sec.gov](http://www.sec.gov) from time to time. Forward-looking statements are based on the opinions and estimates of management as of the date such statements are made. Although management of Largo has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. Largo does not undertake to update any forward-looking statements, except in accordance with applicable securities laws. Readers should also review the risks and uncertainties sections of Largo's annual and interim MD&As which also apply. Trademarks are owned by Largo Inc.

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