



nexa

Annual Report

2019

About The Report

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We are presenting the annual performance report of Nexa Resources S.A. for the period from January 1 to December 31, 2019. This report has been prepared in accordance with International Integrated Reporting Council (IIRC) guideline and the Global Reporting Initiative (GRI) Standards. The previous edition which refers to the year 2018, was published in April 2019. The content includes economic, social and environmental aspects, as well as the risks and opportunities mapped and considered of interest by shareholders and other stakeholders.

GRI 102-1, 102-50, 102-51, 102-52 SDG 12.6

Financial disclosures have been prepared and reported in accordance with the International Financial Reporting Standards (IFRS), while social and environmental disclosures have been prepared according to Brazilian legal parameters regarding labor and environmental issues. The greenhouse gases disclosures, have been prepared in accordance with the Brazilian Program of GHG Protocol methodology. The Sustainability and Corporate Affairs team was responsible for the information gathering and preparation of the content of this report and the document has been independently assured by PwC.

GRI 102-56

The consolidated financial statements and the external audit report are available for consultation on the results page, on our Investor Relations website (<https://ri.nexaresources.com>). Documents can also be downloaded in Portuguese and Spanish on our institutional website (www.nexaresources.com).

The expectations for 2020 contained in this Annual Report did not consider the unpredictable impacts at this moment of the pandemic of the coronavirus, Covid-19. Until the date of this report publication it wasn't clear how extent this global outbreak would affect our business and the World economy. The authorities of the countries which we operate have adopted policies referring to the pandemic declared by the World Health Organization (WHO), such as the state of emergency declared by the Peruvian government. Therefore, until this moment, we cannot predict the extent of the policies adopted or the impact they will have on our business and operations. So we continue with the monitoring of the advances related to this outbreak.

Materiality

GRI 102-44, 102-46

This document content follows the Materiality Principle established by the IIRC and GRI Standards defined based on topics of major relevance to the mining and smelting sector evaluation, the Sustainability Accounting Standards Board (SASB) guidelines and sectorial benchmarking. The material topics were prioritized in consultation with Nexa's leadership. The material aspects of sustainability and its long-term goals are presented throughout the report and cover the subjects: People, Safety and Health, Waste, Water, Emissions and Energy, Local Development, Decommissioning and Human Rights. Economic performance, ethics and integrity are considered as transversal topics. A new materiality survey has been scheduled for 2020 and should guide the subsequent edition of this report. GRI 102-47

Material Topics

Material topic GRI 102-47	Why it's relevant for Nexa GRI 103-1	Where the impacts occur	Involvement with the impacts
Water 	The mining activity involves technical procedures in which water assumes an important role, both for extraction and processing. It is an indispensable input, especially in a context in which water resources are scarce and their management has an impact on local communities. Thus, it is even more important strive to reduce water use and increase reutilization throughout the value chain.	All operations	Nexa and communities
Waste 	Our activities generate a significant amount of waste. There are regulatory requirements, such as the National Solid Waste Policy (PNRS) in Brazil, which determine the Company's responsibilities in this field. Thus, we strive to reduce the generation of mining and smelting waste, complying with local legislation and with actions as committed to in our strategy, leaving a positive legacy for society.	All operations	Nexa, suppliers and communities
Energy and emissions 	We consume large amounts of energy due to the nature of our operational activities, logistics and transportation processes. That is why we seek new technologies and progress regarding sustainable energy generation. The search for green technologies comes from the fact that mining activities represent a considerable percentage of foreign trade revenues; hence, they are subject to the norms and regulations of the developed countries to whom we export. As a result, we contribute to the progress being made regarding the National Climate Change Policy.	All operations	Nexa, suppliers and communities
People 	Our personnel management model, policies and tools have guided our individual development actions. In recent years, the Plurality Committee has coordinated the implementation of several processes promoting plurality, uniformly and constantly in all of our units.	All operations	Nexa
Safety and Health 	We continuously invest in strengthening a culture focused on safety and health for both our own as well as outsourced employees; improving training, especially for risky activities; and enhancing working conditions to assure safe and healthy environment for our employees.	All operations	Nexa, suppliers and communities

Material topic GRI 102-47	Why it's relevant for Nexa GRI 103-1	Where the impacts occur	Involvement with the impacts
Local Development 	Our projects emphasize relationship actions with the communities and training of local labor to act in the setting up of the units and in their future operations, always taking into account the co-creation of a legacy in the locations where we operate.	All operations	Nexa and communities
Human rights 	Assuring human rights is an essential condition for building long-term partnerships. Therefore, our contracts involve several requirements, such as the adoption of clauses, compliance with legal obligations and supplier assessments. All these measures are important for our suppliers to develop and implement appropriate business processes.	All operations	Nexa, suppliers and communities
Decommissioning 	Our premise is to assess impacts in all phases of a project, since the operation start. Thus, for each of our units, we have developed a decommissioning plan, regardless of whether there is a legal requirement to do so. This plan is prepared together with the input of the surrounding communities, now we undertake the study of the future use of the areas of operation. In this analysis, we consider the community's vision, the risks involved and the company's own vision of leaving a legacy for the future.	All operations	Nexa, environmental agencies, local governments and communities
Transversal topics	Why is the topic considered transversal for Nexa?		
Economic performance 	Growing sustainably, creating long-term value, is core of our strategy. Achieving this goal only is possible with consistent business evolution and economic and financial results that translate into wealth distribution with all our stakeholders. We do this through transformative technologies and processes, keeping us connected with the world and the current trends, appropriately allocating our human and financial resources and managing the risks inherent to our businesses.		
Ethics and integrity 	Acting responsibly and transparently is one of the values of Votorantim, the holding company that controls our business. We are committed to standards of ethics and integrity, which are transversal issues for the entire Company and guaranteed through the Compliance Program, with the Board of Directors being one of the main agents in promoting the program and ensuring compliance with it. We maintain a Code of Conduct shared with all stakeholders, including employees, suppliers, clients, communities, NGOs, government agencies, shareholders and other individuals and organizations with which we interact. The document is public, so that we are successful in achieving excellence in all our practices, with an effective process in risk management and mitigation.		

Message from the Board of Directors

GRI 102-14

In 2019, we continued to make progress towards our goal of becoming a benchmark for sustainability in the mining sector and we are following this path with determination. In recent years, we have strengthened our management procedures regarding the three sustainability pillars – economic, environmental and social – with the aim of generating more value for shareholders and for all society.

The Board of Directors now comprises ten members, with the addition of a new member during 2018. In addition, it has also become more pluralistic, with representation of women and men from six nationalities, 40% of whom are independent members.

We have strengthened our governance practices through the creation of the Sustainability Committee, which is now responsible for establishing guidelines, supporting and monitoring our practices, so that they are safe and sustainable, based on high standards of health, safety, respect for the environment and corporate social responsibility. The creation of this committee is in addition to the other three bodies already in existence, also permanent in nature: Audit, Finance, Compensation, Nominating and Governance.

Moreover, we have bolstered our Compliance area providing our employees training in our four compliance policies and nine internal procedures which relate to the Code of Conduct, prevention of money laundering, anti-corruption and other topics relevant to our organization, through a modern and interactive platform.

The future of mining and, consequently, of our business, also depends on the joint construction of a relevant legacy for society. This is only possible if we establish strong ties with the communities in the vicinities

of our sites, with the government and other stakeholders that are relevant to our business. Therefore, in 2019 we have made a great effort to strengthen relations with communities in Brazil and Peru.

Toward this end, we are committed to the evolution of Nexa's corporate culture, where agility and innovation are priorities and result in continuous enhancement of performance and potential returns for all stakeholders. We also cultivate good relations with our investors, through open dialogues in diverse forums and transparency in information disclosures. In the two years since the

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We continue to advance on the journey of becoming a mining sector sustainability benchmark company with safe practices, respect for the environment and the generation of a legacy for society.



Luis Ermirio de Moraes
Chairman of the Board
of Directors

company's IPO, we have seen a change in Nexa's investor profile, most of whom currently are seeking long-term returns, confident in our growth potential in the upcoming years. In 2019, for example, we fulfilled an important promise made at the time of going public: to start the construction of the Aripuanã Project, located in one of the world's largest unexploited zinc deposits. The work are still in progress and operations are expected to get underway in 2021.

This demonstrates our continued conviction to grow competitively, in current operations and future projects, safely and sustainably, making relevant contributions to the development of the locations where we are present. I wish to offer my special gratitude to Nexa's executive board and all employees for their commitment to overcome challenges and build an increasingly better company.

Message from the CEO

GRI 102-14

The year of 2019 was challenging for the entire international commodities industry due to the various political and economic events that impacted base metal prices. It was no different for Nexa. To face an increasingly unpredictable market and, at the same time, build the mining of the future, we launched the *Jeito Nexa* (The Nexa Way) Program, aimed at the evolution of our corporate culture and designed to improve the efficiency of our operations, generating great potential of return for all our stakeholders. This is another step on our journey to build, every day, a more sustainable, more plural and more transparent mining operation.

Another major milestone in the year was the start of construction of the Aripuanã (MT) polymetallic project, which should be one of the mining industry's sustainability benchmark operations in the coming years. It is a project that is being created without dams, utilizing dry waste treatment techniques and featuring low water intakes, since nearly 100% of the water will be treated and reused. We will also follow the innovative wetlands concept for the treatment of effluents. Furthermore, we are carrying out an extensive plan to train regional labor, with the goal of hiring workers locally for our operation while, at the same time, expanding the activities of the local economy. The prospecting projects in Peru, with emphasis on Magistral and Pukaqaqa, continue to make steady progress in the direction of also becoming viable soon.

In relation to the mines already in operation, new discoveries are extending the useful life of our units, as is the case in Morro Agudo (MG), where the Bonsucesso project has proved to be a good alternative for future

supply of ore to the current plant. And in Peru, the evidence of new mineralized bodies in the integration between Atacocha and El Porvenir, in the Pasco Complex, also is presenting good prospects.

Another important advance from an operational point of view is the deepening of mining operations in Vazante (MG), underway with the excavation of ramps to access the new reserves and the delivery of the first phase of the pumping station progresses, which will allow a safe ore extraction.

In 2019, we advanced in the field of social management, achieving a closer relationship with the communities in the vicinities of our operations, encouraging dialogue and joint construction of a relevant legacy. Part of this endowment is being built through the Somos Todos (We Are Everyone) volunteer program, which added more than 20 thousand contribution-hours from our employees, greatly anticipating the goal to be achieved in 2025.

As an example of an effective dialogue with the community, we signed an agreement for prospecting in Magistral (Peru), through which it was possible after an open dialogue with the population and local authorities. We will continue to seek competitive growth and co-create a legacy for the communities where we operate.



Tito Martins
Chief Executive Officer

We also know that there is still a lot to be done. In Peru, we had an employee fatality at the Cerro Lindo mine, which dismayed our entire company. This led us to further enhance our security practices.

Finally, I would like to specially thank our employees for their dedication to making Nexa a protagonist in the mining of the future. I also want to express gratitude to our customers, shareholders, suppliers and communities for their partnerships throughout the year, as well as the trust and support of the members of our Board of Directors.



In 2019, we began a deep transformation in Nexa, focused on the evolution of our corporate culture and on improving the efficiency of operations in Brazil and Peru, with great potential for returns for all stakeholders.



Employees from
Cerro Lindo



Nexa Resources

We are a large-scale, integrated, low-cost zinc producer, with over 60 years of experience in the development and operation of mining and smelting assets in Latin America. Our main shareholder is Votorantim S.A. (64.3%), which constituted Nexa Resources S.A. three years ago, the result of integration between Brazilian and Peruvian operations.

GRI 102-1

Since October 2017, our shares have been traded on the New York, United States, and Toronto, Canada stock exchanges. Our headquarters is located in Luxembourg and the administrative headquarters are in the cities of São Paulo (Brazil) and Lima (Peru). Our commercial offices are located in Brazil, Peru, the United States and Luxembourg (which started to coordinate the commercial relations carried out by the offices in Austria and China, which ended their activities in 2019).

GRI 102-3, 102-5, 102-10

We currently own and operate five long-life polymetallic mines, three located in the central Andes region of Peru (Cerro Lindo, El Porvenir and Atacocha), and two in the state of Minas Gerais, Brazil (Vazante and Morro Agudo) — and we are developing the Aripuanã Project as our sixth polymetallic mine, located in Mato Grosso, Brazil. Aripuanã is among the largest zinc greenfield projects under construction in the world and is our largest investment in the country, as well as the largest mining investment in the state of Mato Grosso.

GRI 102-2, 102-4

Our operations produced 361 thousand tonnes of zinc in 2019. Two of our mines, Cerro Lindo in Peru and Vazante in Brazil, are among the 20 largest zinc mines in the world and, combined with other mining operations, placed us among the four largest zinc producers in the world in 2019, according to Wood Mackenzie.

GRI 102-7

We also have three zinc smelters: one in Peru (Cajamarquilla) and two in Brazil (Três Marias and Juiz de Fora), which produce metallic zinc, zinc oxide and by-products. Cajamarquilla is the only zinc smelter operation in Peru and is among the five largest in the world by volume produced, according to a survey by Wood Mackenzie based on from 2019. During the year, our smelters produced 621 thousand tonnes, 584 thousand tonnes of metallic zinc and 37 thousand tonnes of zinc oxide, sold to customers in different industrial segments worldwide, such as automotive, construction, food, agriculture, beauty and hygiene, pharmaceutical, among others.

GRI 102-4, 102-6, 102-7

Integration

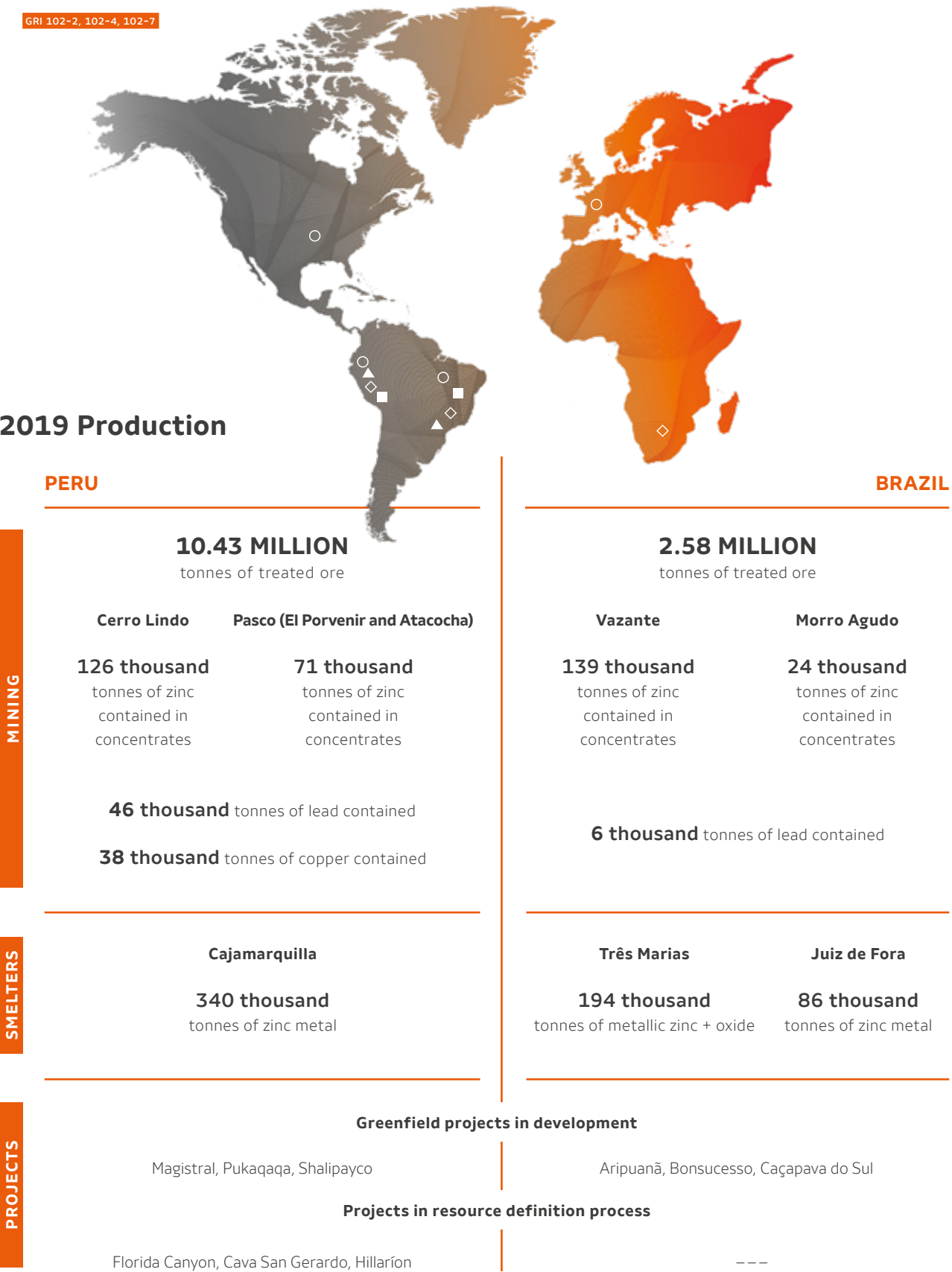
One of our competitive advantages is the integration between mines and smelters, which is approaching 60% and should increase with the entry into operation of Aripuanã, starting in 2021. In Brazil, the zinc concentrates extracted from the Vazante and Morro Agudo mines are transformed into metallic products at the Três Marias unit. The Juiz de Fora plant, in addition to concentrates, also uses recyclable materials (such as steel scrap metal and powder) for the production of zinc. In Peru, most of the zinc concentrates produced at the Cerro Lindo, El Porvenir and Atacocha mines are benefited by the Cajamarquilla unit.

Our net revenue in 2019 was US\$ 2.3 billion, adjusted EBITDA totaled US\$ 349 million, with a 15% margin. At the end of the year, we had 5,760 own employees and 11,470 outsourced employees. **GRI 102-7**

Employee
from Vazante

Operations and Projects

GRI 102-2, 102-4, 102-7



Highlights 2019



Financial Capital

GRI 102-7

US\$ **2.3 billion**
net revenue



Manufactured Capital

US\$ **410 million**
of investments in assets (Capex)



Human Capital

5,760
own employees



Intellectual Capital

US\$ **9 million**
invested in Research and Development



Natural Capital

67%
of water recirculation over total consumption in units



Social and Relationship Capital

More than

34 thousand people
benefited from the *Somos Todos* Program, volunteering

US\$ **349 million**
of adjusted EBITDA

564 thousand tonnes
tonnes of zinc equivalent produced

More than
153 thousand hours
of training

US\$ **1 million**
allocated to 9 startups selected in Mining Lab2, an innovation incentive program

18%
of the materials consumed for the production of the smelter in Juiz de Fora comes from secondary materials (recycled)

US\$ **14.5 million**
invested in social actions, with 145 projects in 17 localities

US\$ **701 million**
of added value distributed

621 thousand tonnes
of metallic zinc + zinc oxide produced

More than
US\$ **1.9 million**
invested in training

More than
44 thousand people
benefited by social investments

GRI 203-1

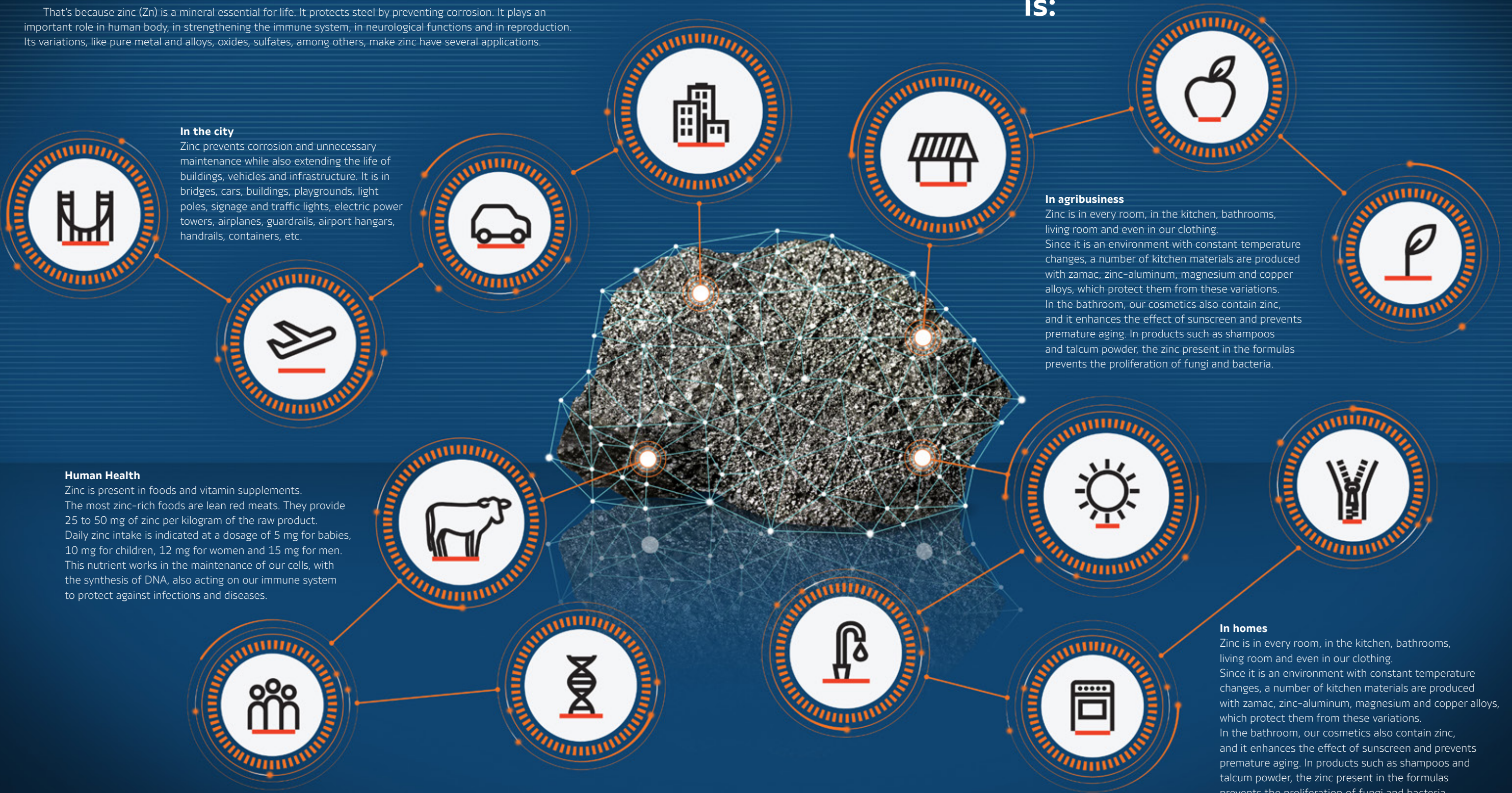
5.2 years
of average debt maturity after renegotiations in the year

Zinc: present in everything

Zinc is everywhere. It may not be visible, but it is present in everything around us and even within us. It brings greater productivity to agribusiness and nutritional value to food. Is present in cars, airplanes, trains, houses, bridges, construction and finishing materials, in electronics devices, household appliances and utensils, on sanitary metals, door handles, handles and hinges, personal care products, sunscreens, in metallic clothing accessories (on zippers, buttons)...and much more .

That's because zinc (Zn) is a mineral essential for life. It protects steel by preventing corrosion. It plays an important role in human body, in strengthening the immune system, in neurological functions and in reproduction. Its variations, like pure metal and alloys, oxides, sulfates, among others, make zinc have several applications.

Where ZINC is:

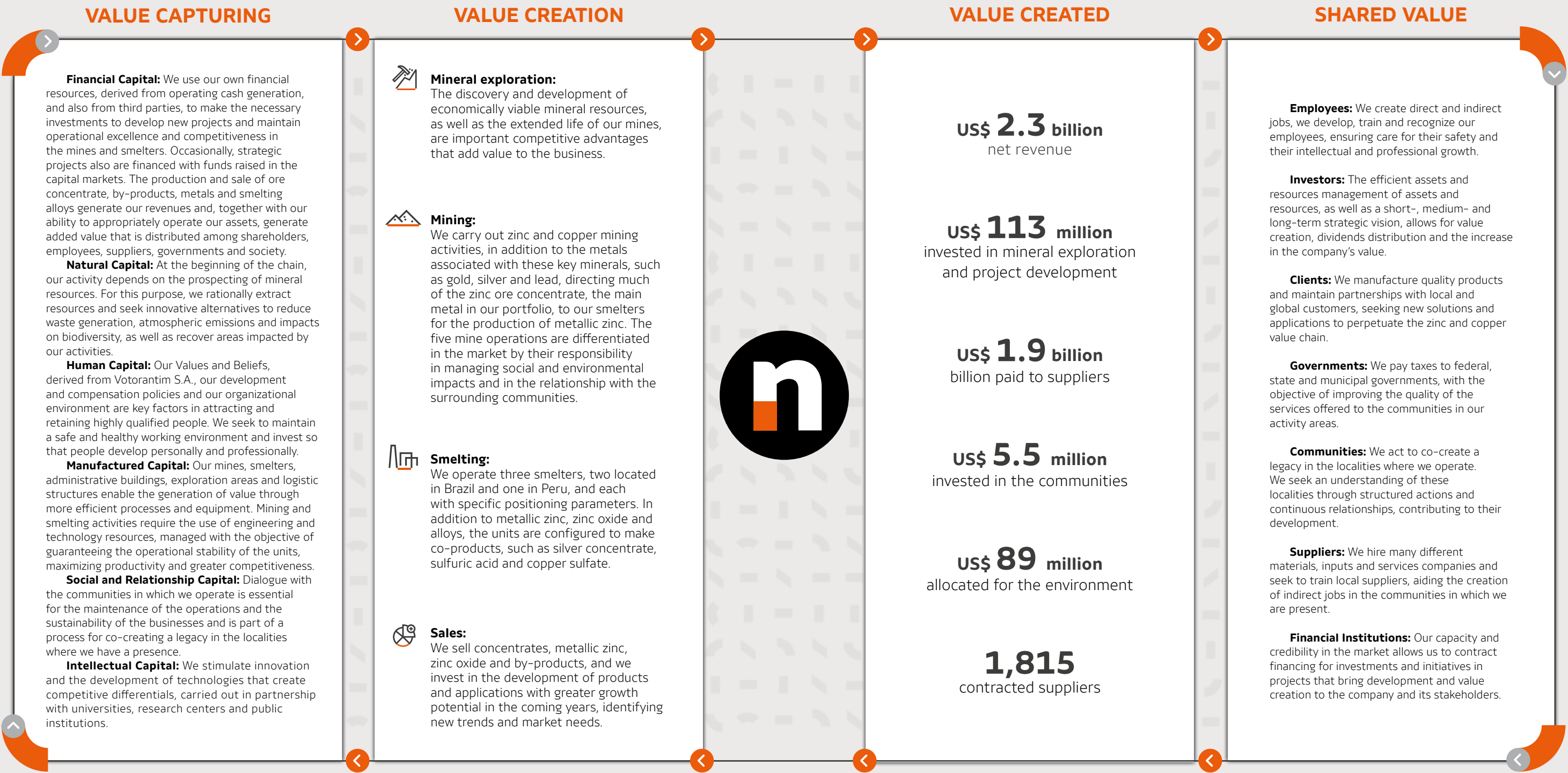


Business Model

Our business model has been developed considering the capture, creation and value distribution from the six capitals proposed by the International Integrated Reporting Council (IIRC): financial,

manufactured, human, intellectual, natural and social and relationship. In the sector in which we operate, mining, the main elements of value capture involve

the natural, financial and human capitals. Our mining, processing, smelting and marketing activities allow us to add and distribute value to the relationship publics.





Employees from
Três Marias



Strategy

Mining of the future

GRI 103-2, 103-3

Our strategic aspiration is to be globally perceived as a smart and reliable company, which grows with a focus on zinc and copper mining in the Americas, generating value for all stakeholders. This mandate was reviewed and approved in 2018 by the Board of Directors, when we reiterated our intention to grow competitively, based on two strategic axes – Growth and Operational Excellence – and eight enablers (People and Organization, Sustainability, Project Management, Commercial, Management of Risks, Technology and Automation, Logistics and Supplies and Capital Structure), which assist us in the execution and achievement of strategic objectives.

For us, being intelligent means innovating through transforming technologies and processes, keeping us connected to the world and its trends, carefully allocating human and financial resources and managing the risks inherent in our business. It also means sharing knowledge and solutions to be an increasingly agile company, imprinting our way of doing things – the “*Jeito Nexa*” (The Nexa Way).

And being reliable means that we are committed to operating safely and sustainably, contributing in a material manner to the development of the localities in which we operate. And furthermore, so that we are perceived as a company that plans what it does and accomplishes what it plans.

The Nexa Way of executing this strategy defines and guides us as we continue to grow competitively. And it allows us to take the world of mining to the world of people, with quality products, produced in such a way as to cause the least environmental impact while leaving a relevant social legacy. That is how we want to build the mining of the future. (More information about The Nexa Way is on page 66).

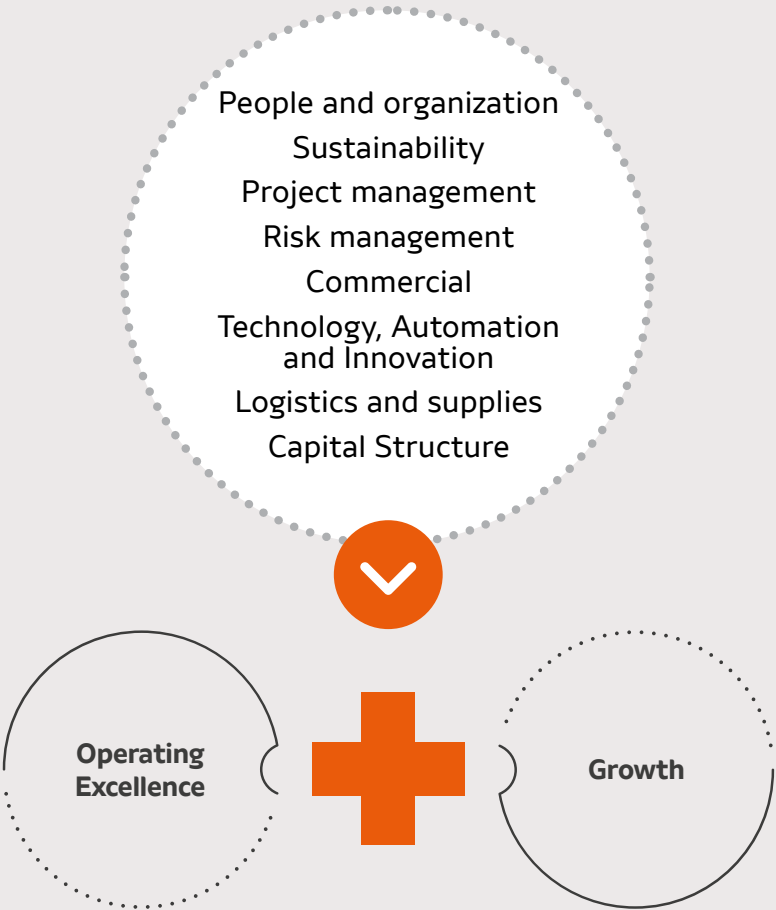
Strategic mandate

Throughout 2019, we focused our efforts on improving the execution of our strategy, strengthening our structures and connecting with global innovation trends. Thus, we guarantee the necessary breathing space to be competitive in an increasingly challenging mining scenario, with lower ore content levels, greater environmental obstacles and stronger demands for accountability from society and other stakeholders.

Our strategic mandate is reviewed every three years, through a process called Strategic Dialogue that is coordinated by the Strategic Planning area. It consists of individual and structured interviews with all the Company’s executive officers and Board members to identify positive aspects, opportunities for improvement and potential adjustments.

An analysis of the macro trends that affect the company and the sector, of new technologies, of the socio-economic and political environment of the countries where we operate also plays a part in this process. Another requirement is an assessment of our competences, of our ability to execute the strategy and of the evolution we have achieved in these areas since the last evaluation.

AXES AND ENABLERS



Employees from Juiz de Fora



Strategic drivers

Our strategy is to grow sustainably through the of zinc and copper exploration in the Americas, ensuring the long-term value creation, with the allocation of ideal capital through five growth avenues: extending the life of mines, brownfield projects, greenfield projects, exploration of new areas and development of new businesses.

Our strategic objectives for the Growth axis, by 2025, are to increase our annual production of zinc equivalent to 1.3 million tonnes, maintain our reserves economically viable and achieve 100% integration between our mining and smelting operations. To this end, we allocated resources in the order of US\$ 410 million in Capex in 2019.

Greenfield projects

Our projects are developed in an intelligent manner; that is, lower costs, more agility, minimum deviations from the plan and maximized returns. We have projects in different phases of Front-End Loading (FEL) feasibility assessment, which evolved in 2019 according to plan: Magistral, Shalipayco and Pukaqaqa (Peru); Caçapava do Sul and Aripuanã (Brazil). Aripuanã, our main current project, is already under construction. This makes it possible for us, in terms of prospecting, to direct more resources to other projects, such as Magistral and Pukaqaqa.

Greenfield projects in development

Aripuanã – a polymetallic mine located in the state of Mato Grosso, is considered one of the world's largest zinc projects. This integrated underground mine's operation is expected to produce 2.3 million tonnes of crude ore per year (especially zinc, lead and copper) – with production of 120 thousand tonnes of zinc equivalent. The expected useful life is at least 13 years, considering just the known reserves, with the possibility of extension for another six years. This is our main project for the coming years and a milestone in mining, due to its potential and the challenges involved. Its construction started in

2019, reaching 32% of the total investment and 28% of physical progress at the end of the year. *(Detailed information about Aripuanã is on page 28).*

Magistral – Located in the Ancash region of Peru, the project aims to develop an open pit copper mine. In 2019, approximately US\$ 12 million was spent, focusing on completing the pre-feasibility (FEL 2) and feasibility (FEL 3) studies. We also reviewed our investment schedule with the Peruvian government in order to optimize the project's facilities. An average annual production of 40 thousand tonnes of copper contained in concentrate, 3 thousand tonnes of molybdenum and 600 thousand ounces of silver (17 tonnes) over the 16 years of estimated useful life is expected, with operations scheduled for startup in the first quarter of 2024.

Pukaqaqa – The project contemplates the development of an open pit mine for extraction of copper, molybdenum, silver and gold located in the Huancavelica region, about 400 kilometers south of Lima (Peru). The study is in the pre-feasibility phase (FEL 2). New smelting tests will be conducted in 2020 to prove the feasibility of reusing waste and transforming it into a new product.

Shalipayco – A joint venture between Nexa Peru (75%) and Pan American Silver Peru (25%) to exploit potential underground zinc, lead and silver mines in the Junín region, in the central Andes of Peru. In 2019, we invested approximately US\$ 600 thousand in the project, focused on exploration activities, geological studies, environmental and social issues.

Caçapava do Sul – A polymetallic project involving copper, lead and zinc located in the state of Rio Grande do Sul, about 250 kilometers from the Port of Rio Grande. The resources can be exploited through both open pit mining and subsoil processes concomitantly. The research program in 2019 aimed to detail copper resources, with an expenditure of approximately US\$ 3 million and execution of 14.3 thousand meters of drilling in 29 holes. In 2020, activities are planned for detailing the studies already carried out and interpreting the information obtained in 2019.



Employees from
El Porvenir

Aripuanã Project

Aripuanã is fundamental to the evolution of our strategy of continuing to grow our zinc and copper mining and smelting operations in the Americas. The production of zinc in Aripuanã, after its stabilization (2022-2023), will contribute to a greater integration between mines and smelters, which means that we will be able to reduce our dependence on the purchase of zinc concentrate in the market. The official event inaugurating the start of construction took place in July 2019.

Infrastructure advances

In 2019, we concluded the execution of the tunnel for the Link underground mine ramp, following the Arex underground mine ramp and continued to make progress regarding the project's infrastructure, in line with the approved plan. This allowed for the construction of the lifting well for the ventilation system, the mobilization of the new supplier contracted to resume the development of the exploration tunnel in the Link mineralized zone, the drilling of the Arex well as part of the production plan, and the commissioning plan to supply provisional power.

We proceeded with the construction of temporary buildings and settlement and earthworks areas for the mine's waste stock. Earthworks have also continued to progress, mainly regarding access roads, water dam, processing plant and waste ore stock. In addition, we started the construction of the 69kV transmission line and the connection compartment in the Dardanelos substation.

Investments

In October, we concluded the acquisition of Karmin Exploration Inc. in the amount of US\$ 71 million, which previously indirectly held a 30% interest in the Aripuanã project, assuming 100% of the unit's control.

We invested US\$ 124 million in 2019 to develop Aripuanã, excluding the purchase of Karmin's stake, equivalent to 32% of the US\$ 392 million foreseen

for the project, and we estimate an investment of approximately US\$ 220 million in 2020, with residual investments to be made upon the startup of production in 2021¹.

Technology and operational excellence

We seek to incorporate the most modern technology and operational excellence into the Aripuanã Project, as well as a sustainability vision in all processes. Some examples are the goal of 100% water reutilization, the construction of a dry tailings deposit and focus on the co-creation of a legacy for the community.

- **Dry waste disposal** – A new process for filtering, drying, handling and disposing of dry waste in piles protected by layers of geomembranes reduces risks and environmental impacts.
- **Use of constructed wetlands** – With this system, there will be controlled return of treated water to the receiving bodies, as well as in the treatment of effluent water from the processing plant, with 100% recirculation of the treated water in the process and zero disposal into the environment.
- **High degree of automation** – Better safety levels, operational stability, cost savings and increased productivity.

Preservation of flora and fauna

Implemented through the Aripuanã Project's Environmental Control Plan, our seedling nursery develops actions to rescue, maintain, reintroduce, monitor and produce seedlings for subsequent planting of vegetation reconstitution or enrichment in areas to be preserved. In 2019, more than 30 thousand seedlings were cultivated with the participation of local residents, generating employment and income in the region. There is also

¹As of the date of this report publication, construction activities at the project have not yet been affected. Additional safety measures and procedures are being discussed with our contractors to mitigate any potential impact of the global COVID-19 outbreak, including a revision to the construction schedule

a concern for the safety of fauna in the area where the project is being built. Professionals were trained to rescue animals, who are sent to a veterinary care room at the Provisional Reception Center for Rescued Fauna. Since the beginning of the construction of the project, 667 animals have been rescued, including reptiles, amphibians, birds and mammals.

Qualification

Through a partnership with the Serviço Nacional de Aprendizagem Industrial – Senai-MT (National Industrial Training Service), the old Elídio Murcelli Filho School was completely renovated, allowing us to begin offering the Professional Qualification Program. This program and the other short-duration courses aim to train young people and adults from Aripuanã and the region for the job market in general. In 2019, 340 students started classes. In 2020, there will be 175 more, totaling 515 professionals trained by the program by 2021.

During the year, we carried out a selection process to fill the 515 vacancies offered, of which 54% went to women. This result represents the first step towards the goal of having women represent 50% of the labor force during the operational phase of the future Aripuanã unit.

We intend to fill our staff with 65% of local employees, primarily students graduated from the Senai-MT Professional Qualification Program, with the remaining 35% from other parts of the country, filling positions that require specific technical knowledge.

Social legacy

The Integrated Socioeconomics Plan of the Aripuanã Project is aligned with the Sustainable Development Goals (SDGs) in its topics and in the purpose of uniting the sectors, collaborating to achieve shared goals, aiming to minimize impacts and boost positive development in the region.

Aripuanã City

Community solutions of Aripuanã

In 2019, we made progress in building solutions for community health and safety on two fronts:

Health support and epidemiological surveillance – This front includes training for the management of health services; expansion of coverage in the Conselvan district; budgets and partnerships under negotiation for the renovation and acquisition of equipment in the Basic Health Units (UBS) and emergency rooms; accreditation and training of local medical teams; improvement in specialized care; preparation of the epidemiological surveillance plan; and donation of vehicles for use by the teams (1 panel truck, 1 pickup, 8 motorcycles, 6 bicycles and 2 boats). We guarantee the voluntary transfer of US\$ 1 million to the Secretary of Health of Aripuanã, as provided for in the cooperation agreement signed with the city. The amount is intended for the maintenance of four doctors and the purchase of supplies, such as medicines and items for hospital use.

Strengthening the health and prevention system – We are involved in the diagnosis of the current situation and possible monitoring of long-term improvements, strengthening of public health policies and the search for shared solutions, in addition to improving primary care quality.

Housing – In addition to the qualification courses that aim to develop people for the job market and so that we can employ 65% of local and regional labor, we are building 200 new houses that will be inhabited by employees hired outside Aripuanã, as an item in the benefits package offered. The construction of new residences aims to mitigate local real estate speculation.

Migrants, vulnerable publics and public management – In 2019, we continued the program to strengthen the network for the protection of the rights of children and adolescents and to train community agents to act in the prevention of violations of the rights of youths and women. We promoted a project in Conselvan, one of the districts with the greatest social vulnerability, to disseminate restorative practices in education, in which we certified 32 education professionals (72% of the program's target audience). We also inaugurated two Migrants Support Centers (CAMs), which will offer guidance and assistance to migrants, in addition to serving as a channel for dialogue with the social assistance network and other public policies in the municipality.

Entrepreneurship and local suppliers – In addition, we have also established that all our suppliers for social projects must commit to conduct their activities in accordance with our social responsibility requirements. These include guarantees about human rights, support for local development, promotion of safety and a healthy workplace, compliance with the Social Golden Rules and the 15 Community Relationship Protocol rules. In 2019, the second edition of the Opportunities Meeting was held in Cuiabá, which brought together 70 entrepreneurs, public managers, consultants, self-employed professionals and commercial representatives to learn about the project, the future demands for goods and services and our supplier management policy. In addition, we initiated the Local Entrepreneurs and Suppliers Development Program, designed to support the sustainable and integrated growth of existing production activities and new businesses.

Indigenous peoples – We aim to develop local production chains, expand the opportunities for coexistence and participation of the indigenous community and safeguard their territories and culture, avoiding the emptying of villages and loss of identity.

Employees from
Aripuanã



Brownfield projects

In order to grow sustainably, we also have implemented a strategy of extending the useful life of our mines. All our operations received funds in 2019 based on the maturity level of each unit. The projects were planned and executed according to a previously established schedule. Below are the most relevant initiatives:

Vazante

In 2019, we carried out 19.9 kilometers of exploratory drilling to extend the useful life of the Vazante mine. Started in 2013, the project so far has contributed to expanding operations by 12 years; we continue to conduct research into further boosting this potential. With the deepening of the mine, the expectation is to maintain its production at 130 – 140 thousand tonnes of zinc per year.

The exploration project worked on the extension of the ore bodies of the mine, with a focus on mineral exploration of the Lumiadeira and Far North targets, as well as drilling other exploration targets, which may contain mineralization close to the known deposit.

During the year, we made progress in the excavation of ramps aimed at replenishing reserves: of the five foreseen in the project, two have already been concluded. Eight of the twelve pumps that will form the pumping station have also been delivered to lower the region's aquifer, allowing safe ore extraction.

Cerro Lindo

We continue to invest in mine development in Cerro Lindo, obtaining environmental permits to access new exploration areas and, consequently, investigate the continuity of newly found mineralized zones and extend mineral bodies, in addition to adding more resources to extend the useful life of the operation.

At the end of 2019, the exploration team drilled 107.5 kilometers of diamond soundings distributed in exploratory and infill operations. In the Orcocobre region and in the continuity of the mineralization of the OB3-4 body, we have identified the same type of ore found in the well-known mineralized bodies of the Cerro Lindo mine.

Pasco Complex

In the Pasco Complex, which includes the Atacocha and El Porvenir mines, the exploration result will allow us to add mineral resources, with the discovery of the Sara mineralized body (with a high content of silver and lead) and the confirmation of good results in the integration, thus enabling us to extend the useful life of the two operations.

We completed the lifting of the El Porvenir dam on schedule and obtained an operating license, which allows the project to continue. We also completed the pre-feasibility engineering for the raising of the Atacocha dam, fulfilling the Tailings Master Plan for Cerro Pasco. Furthermore, we started studies for the tailings pumping system from El Porvenir to Atacocha, which will mean the full integration of the two units for the disposal of waste in a sustainable manner.

In 2019, the exploration program was aimed at increasing mineral resources at specific levels in the mines. The drilling program identified mineralization along the extension of the San Gerardo, Sara, Veta 27 and Integration targets, among others, leaving them with open potential for expansion. This achievement was achieved in a total of 40.2 kilometers of diamond exploration drilling in Atacocha and 47.8 kilometers in El Porvenir.

Morro Agudo/Bonsucesso Project

This project aims to extend the life of the Morro Agudo complex. In 2019, the exploration program was aimed at intensifying diamond drilling work in the Bonsucesso project. There was an extension of the known ore bodies and also the potential for zinc and lead mineralization west of the main ore zone, with high levels of zinc and lead, doubling the volume of ore indicated and measured in the region. We expect to finish the feasibility (FEL 3) in 2020 and start construction in 2021, after the approval of environmental licenses.



Employee from
Morro Agudo

New exploration areas

In order to maintain an optimized project portfolio, which allows us to operate sustainably over the years, we studied organic growth options (expansion of current operations and greenfield projects) and inorganic growth options (possible asset purchases) in Peru, Brazil and Namibia. We currently have a robust pipeline of greenfield projects in progress, from the exploratory regions to those that are in a feasibility study.

One of our main prospecting projects, Hilarión, is located in the Ancash region, 230 kilometers from Lima, Peru. It is the second largest unexplored zinc deposit in South America, according to SNL Metals & Mining 2019 data, with measured and indicated resources of 69.4 million tonnes and 37.5 million tonnes of inferred resources. Throughout 2019, we conducted 9.1 kilometers of drilling, which indicated continuity of the mineralized areas towards the El Padrino deposit and potential for expansion. We will continue geological studies and diamond drilling operations to increase the deposit's resources and potential.

Florida Canyon is another area that is part of our survey program, in the Amazon region of Peru. More than 14 kilometers of drilling were carried out in 2019, focusing on two areas related to feeders that generated the concentration of mineralized sulfides in mantles, bodies and veins. New mineralized bodies were defined, with zinc content around 10%, representing a positive outlook for future exploration.

We continued to conduct mineral exploration work in the Aripuanã project throughout 2019. The goal is to extend the existing mineralizations and find new opportunities for the unit, such as confirming the excellent potential of the Babaçu target. The drilling campaign focused on exploring these mineralized areas of Babaçu and confirmed the presence of high-grade ore over 1.3 kilometers in length. We drilled a total of 12.6 kilometers, confirming the previous geometry and opening the possibility of connection with the Ambrex target in depth.

In addition to these ongoing projects, mineral exploration consolidates a portfolio of areas for initial research and exploratory drilling, aiming at strategic positioning in fertile areas for the exploration of deposits and pipeline feeding, in order to boost and develop other copper and zinc projects.

Resources and reserves

We annually declare our proven and probable mineral resources and reserves in accordance with the Standards for Defining Mineral Resources and Mineral Reserves (2014 CIM Definition Standards) prepared by the CIM (Canadian Institute of Metallurgy and Petroleum) and incorporated by reference in National Instrument 43-101 (NI 43-101) of all mines and projects. The Cerro Lindo, El Porvenir and Vazante Operating Units also have mineral reserves declared according to the SEC Industrial Guide 07 (IG07) from SEC (Securities and Exchange Commission), in the U.S. These information are available in the Nexa 20-F Annual Report at <https://ir.nexaresources.com/regulatoryfilings>. According to NI 43-101, as of December 31, 2019, the total metal contained in our mineral reserves was 3,992.4 thousand tonnes of zinc, 426.6 thousand tonnes of copper, 711.6 thousand tonnes of lead, 104,966 thousand ounces of silver and 294.8 thousand ounces of gold, representing a loss of 2.4% of total reserves (by mass).

Operational Excellence Axis

We seek continuous improvement in competitiveness, designed to maximize the value of existing operations through operational stability, increased capacity utilization and constant improvements in costs, productivity and rationalization of capital employed. We invest in technology, innovation and automation to boost our productivity and competitiveness, broaden our safety culture and support key sustainability goals, such as higher water recycling rates and reduced CO₂ emissions and waste generation. SDG 9.4

We were early in meeting our operational excellence goals for the 2025 to 2023 period, aiming to strengthen cash generation to support our growth objective, which is mainly leveraged by The Nexa Way program. In addition to the work being carried out on the culture front, the program also is designed to create value by encouraging the generation of ideas, performance enhancements and capital allocation.

To ensure the implementation of the ideas generated, the governance structure of The Nexa Way program

Resources and reserves²

Class ³	Total (million t)	Zinc (%)	Copper (%)	Silver (g/t)	Lead (%)	Gold (g/t)	Zinc (thousand t)	Copper (thousand t)	Silver (thousand t)	Lead (thousand t)	Gold (thousand t)
Reserves											
Proved	54.27	3.56	0.35	29.3	0.66	0.08	1,934.6	191.5	51.053	357.0	138.0
Probable	63.28	3.25	0.37	26.5	0.56	0.08	2,057.8	235.2	53.913	354.6	156.8
Total	117.56	3.40	0.36	27.8	0.61	0.08	3,992.4	426.6	104,966	711.6	294.8
Resources											
Measured	239.53	0.75	0.41	7.3	0.18	0.01	1,793.5	974.0	55.832	420.6	40.0
Indicated	398.78	0.65	0.36	5.4	0.15	0.01	2,603.4	1,437.7	68.698	581.0	79.7
Total	638.31	0.69	0.38	6.1	0.16	0.01	4,396.9	2,411.7	124,530	1,001.6	119.7
Inferred	251.91	2.60	0.23	20.2	0.60	0.09	6,548.4	580.9	163,871	1,521.0	752.7

Note: The estimate of reserves and mineral resources involves assumptions about future commodity prices and technical mining issues. The presented Statement of Resources and Reserves follows the CIM 2014 Definition Standards (Definition Standards for Mineral Resources and Mineral Reserves).

² The amounts shown in this table have not been adjusted to reflect our proprietary interests. The information presented in this table includes 100% of the estimates of reserves and mineral resources of our consolidated subsidiaries and our joint ventures, calculated based on the CIM 2014 definition standards, incorporated in NI 43-101, some of which are not wholly owned, as set out in the participation column available in the 6-k mining report, which can be accessed at <https://ir.nexaresources.com/regulatoryfilings>.

³ Mineral resources are reported exclusively for mineral reserves and the effective dates are described in the 6-K mining report.

also is responsible for accelerating and ensuring the implementation of these initiatives. *(More information about The Nexa Way is on page 66).*

Mining

One of the main examples of operational excellence was the optimization of underground work shifts in Vazante, making it possible to produce 1.4 million tonnes extracted from the mine and the development of 16.7 kilometers. This represented increases of 2.4% and 11.2%, respectively, over 2018. The concentration plant reported improvements of 2.3% in smelting recovery that, together with the implementation of the new ore sorter circuit, made it possible to maintain zinc production levels even though the main milling circuit was shut down for maintenance for 30 days.

Ore sorting is a technology that consists of dry separation by ore and sterile content, bolstering efficiency and reducing metal recovery costs. With the good results obtained in Vazante, we increased both production in the underground mine as well as the treatment of ore from tailings. In addition to recovering

a greater amount of metal, Morro Agudo also expanded sales of Zinca (a zinc mining by-product), thus shoring up the zero-waste generation concept.

Furthermore, Vazante initiated the dry disposal of tailings, which reduces environmental risks and leads to higher safety levels in the units and the surrounding regions.

In Cerro Lindo, we concluded the Master Plan for disposal of waste and tailings, redefining the useful life of the deposit until 2027. We have also completed the installation of a new desalinated water pipeline to ensure the supply of the resource to the mine, and we have made progress in implementing digital personnel access controls.

At the Pasco Complex, we increased the extraction at the Atacocha mine by 17%, to 1.4 thousand tonnes/day, as a result of investments in mine development, review of processes to boost our productivity and optimization of mine sequencing through delivery of a higher-content ore feed. We also made progress in expanding Cava San Gerardo, obtaining a license to enlarge the mine. In El Porvenir, we achieved greater mining

efficiencies through sublevel stopping technology, implemented in the previous year. We have achieved even lower costs by reducing the volume of concrete consumed to buttress the galleries, as well as by optimizing contracts with third parties.

Smelting

Our great challenge in smelting is to obtain constant and incremental efficiency gains. This will be achieved through small adjustments in production, cost reductions and the gradual decrease in bottlenecks at the plants, such as improving the processing capacity of the ustulator furnace in all smelters.

We advanced 91% in the execution of the project to change the energy matrix of the smelter at Cajamarquilla, designed to replace all liquid fuels with natural gas, thereby significantly reducing greenhouse gas emissions and the unit's operating costs. To improve wastewater management, over the course of 2019 we continued to make progress in the execution of a project to separate domestic from industrial sewage. Projects for new changing rooms and a cafeteria for greater employee comfort were concluded. We are in the process of review the construction and execution of the work plan for the Jarosita project (conversion of the production process from iron oxide to iron sulfate), which was temporarily suspended due to a delay in the delivery of equipment and materials from suppliers.

We were able to increase the zinc volatilization in the Waelz Furnace in Juiz de Fora, reducing slag losses after the installation of a water spray system to cool gases. This system was developed internally and through market research. With the tests and effective start-up in July, the average yield in the electric steelmaking powder (PAE) treatment process in 2019 was 93.2%, significantly higher than in previous years (2017 - 83.2% and 2018 - 87.1%).

In addition, we improved the level of the zinc recovery yield in Trés Marias, from 93.7% in 2018 to 94.2% in 2019. Moreover, we sustained an operation with 30% fewer greenhouse gas emissions through the steam boilers installed in 2018 to replace fuel oil equipment.

Enablers

People and Organization

We act in this enabler by cultivating talents and promoting inspiring leadership, guaranteeing the main critical resources within the organization in addition to constantly evaluating and improving them. We contribute to bolster business productivity and competitiveness through effective governance and organization, promoting a positive and constructive relationship with decisive stakeholders. *(For more information on People, see the chapter on the topic on page 70. About Corporate Governance, see the chapter on page 48).*

Sustainability

We want to be a benchmark in sustainability, continuously improving the organization's safety and health culture. At the same time, we seek to reduce the environmental impacts (emissions, waste, water and energy consumption, and similars) of the operations and co-create a relevant legacy for society, based on a constructive relationship with our stakeholders.

In all of our activities, we follow strict sustainability guidelines, as defined in our Sustainability Master Plan, whose practices are supported and monitored by the Sustainability Committee that was created in the past year.

In 2019 we created a General Social Management Department, which is responsible for evaluating all social programs developed in Brazil and Peru, delving more broadly into these activities within the sustainability pillar.



Employee from Trés Marias

External initiatives GRI 102-12

The voluntary adherence to several of joint initiatives with national and international entities also expresses our commitment to sustainable development:

Global Compact – Since 2017, we have been a signatory of this United Nations Initiative, which aims to mobilize the business community around the world to adopt ten principles that represent fundamental values of human rights, labor relations, the environment and the fight against corruption.

Sustainable Development Goals – Commitment signed in 2017 with the Sustainable Development Goals (SDGs), a global agenda composed of 17 objectives and 169 goals to be achieved by 2030 (United Nations Summit on Sustainable Development - 2015). The agenda includes measures for eradicating poverty, food security, agriculture, health, education, gender equality, reduction in inequalities, energy, water and sanitation, sustainable production and consumption patterns, climate change, sustainable cities, protection and sustainable use of oceans and terrestrial ecosystems, including economic growth, infrastructure and industrialization, among others. This report indicates the relationship between the SDGs with our material topics and long-term goals.

Carbon Disclosure Project (CDP) – In 2019, we were invited to participate effectively in the CDP, responding about water security. Reflecting the good water management that we carry out in all of our operations, we were included in the "B-" category. CDP is an international non-profit organization that analyzes and recognizes business initiatives to minimize and manage the environmental impacts of its activities. The initiative operates a global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts.

Project management

We guarantee the development and execution of the various projects in progress at the company, supporting the areas to guarantee the best returns and minimize the risk of deviations. We also monitor and improve the long-term investment plan, focusing not only on the maintenance and modernization projects of our assets, but also on the company's overall expansion and growth. We always seek better visibility of the projects necessary for the development of the business, their implementation details and proper execution.

Commercial

In 2019, we consolidated our commercial strategy of making Nexa a brand name globally recognized and active, through direct sales, partners and distributors, reducing our exposure to local market volatilities. With commercial offices in Luxembourg, Europe, and Houston (USA), we have increased our share in North America and Asia (which accounts for two-thirds of the world's zinc consumption), in addition to consolidating our position in South Africa. GRI 102-6

To backstop our global zinc deliveries and anticipate the impacts of changes in the economic scenario, we designed a commercial area that is fully oriented to expand the relationships with our customers, getting closer to their production and sales planning operations through implementation of the Customer Relationship Management (CRM) tool. We organize and participate in market events and associations to exchange information on trends and new applications for zinc, while also publishing our Market Bulletin for all activity sectors, adding even more value to our client relationships.

We seek to differentiate ourselves by offering a product portfolio that goes beyond the 25-kg ingots (standard of the commodity priced at the LME - London Metal Exchange) and adding services that develop and retain the market. In addition, we customize chemical, physical specifications and identification marks for some of our customers. We currently have in our portfolio alloys for the CGG (Continuous Galvanizing Grade) and GG (General Galvanizing) with varying levels of aluminum and

other elements, such as magnesium, antimony, bismuth and nickel, in addition to the various Zamac foundry alloys. We also have developed active zinc oxide, which is already being sold and expands our participation in the Brazilian domestic market.

In addition, in line with the standardization strategy between our units and greater flexibility for global service, we changed the standard 1-tonne format from Três Marias to the Strip Jumbo, already produced in Cajamarquilla, and started the production of jumbos at the Juiz de Fora unit.

The sales team is also responsible for managing the concentrate sales portfolio, exploiting the benefits of the integration between smelters and mines, aiming to continuously improve our sales intelligence.

Logistics and Supplies

In order to guarantee a differentiated and customized service and maintain the competitiveness of our commercial effort, in 2019 the logistics and after-sales team gained a more agile and synergistic structure, based on a new customer relationship management tool: Salesforce. We also opened a refined zinc distribution center in Kaohsiung - Free Port Zone, a port city in southern Taiwan, which facilitates the shipping of our product to the Asian market.

At the same time, we implemented the technological management and logistics platform (SAP IBP and SAP TMS), aimed at reducing costs and improving the administration and planning of distribution and production flows, thereby optimizing the logistics process. In addition to the SAP modules, we started using robotic processes (Robotic Process Automatization - RPA) and other tools to merge, simplify and streamline our processes.

We increasingly are investing in multimodal operations, seeking to improve the delivery reliability rate and service flexibility. As an example, in 2019, 78% of the refined zinc flow was delivered by rail to the ports of origin or internal customers.

In addition, we obtained Authorized Economic Operator (AEO) certification for Brazil, a certificate that we already obtained for the Cajamarquilla unit since 2015 and that facilitates the import and export process.

We took some measures to raise our operational efficiency ratings: we optimized our loads, from the matching of receipt flows with shipping, thus maximizing the use of assets and adjusting transport vehicles; we reduced the wait time for receiving cargo in Três Marias by 50%; we augmented Cajamarquilla's efficiency in shipping sulfuric acid by 80%; we introduced the cross docking operation in the United States, cutting delivery times to customers. To reduce logistics costs, we renegotiated contracts with suppliers in Peru and Brazil.

We are focused on making the transportation of equipment and structures feasible for the construction and operation of the new Aripuanã mine, which is in the implementation phase and is expected to start operating in 2021.

In the safety aspect, we reduced the internal accident rate by 13% compared to 2018, and decreased our environmental accident rates by 79%.

Risk management

We identify and manage the main risks from both an operational and a strategic point of view, reducing and mitigating impacts to maintain business sustainability. We are especially focused on preventive systems, through our Risk and Business Management Policy, which classifies and addresses risks in four major topics: Compliance, Business Risks, Internal Controls and Financial Risks. *(Read more about risk management on page 54.)*

Capital structure

Our priorities are optimize cash management, ensuring liquidity and availability of investment resources; safeguard adequate working capital; and to guarantee financial resources (capital and debt) pursuant to our strategy. Capital management is covered in more detail on page 64.

78%

of the refined zinc flow was delivered by rail to the ports of origin or internal customers

In the safety aspect, we reduced the internal accident rate by

13%



Employees from Atacocha

Technology, automation and innovation

The technology acts as an enabler of our growth and operational excellence strategic axes, since it makes our operations safer, minimizes waste and optimizes production. Our efforts to be innovative have been recognized every year by the *Valor Inovação Brasil* yearbook; in the fifth edition (2019), we reached the position of most innovative company in the Mining, Smelting and Steelmaking category.

Our investments in research and development reached US\$ 8.9 million in 2019, compared to US\$ 9.2 million in the previous year. Aiding in the development of our innovation projects is access to funding from the *Financiadora de Estudos e Projetos* (FINEP) (Financier of Studies and Projects) program, which we execute in partnership with other institutions, such as *Empresa Brasileira de Pesquisa e Inovação Industrial* (Embrapii).

As a result of investments in innovative processes, we were the first mining company to operate with an electric scoop in Atacocha, following the global trend of using vehicles that dramatically reduce greenhouse gas emissions, thereby generating environmental benefits and reducing the energy consumption of fans in mines, leading to less noise and higher energy efficiency. Initiatives like these make Nexa a potential playing field for innovation, allowing suppliers to dare to propose new ways of working that make our operations more efficient and productive.

Our innovation pillars

- **People** – make it happen
- **Intelligence** – anticipates trends, reflects on the future of mining
- **Processes to innovate** – plans execution together with the areas involved
- **Results** – accountability and incentives for new projects

In 2019, on this pathway that anticipates the future of mining, we helped found the Mining Hub, which joins together 22 mining companies, various suppliers in the sector and the Brazilian Mining Institute (Ibram) team. The initiative takes place in Belo Horizonte (MG), designed to be a direct channel of open innovation, a congregation of the trends in the sector and relationships among members. For the same purpose, we helped found the Hub of Innovación Minera in Peru.

Based on this initiative, we have already moved on to a project to use waste materials in Vazante to build houses in partnership with a startup selected during the 1st Waste Challenge Cycle at the Mining Hub, in Brazil. Tests were carried out using different proportions of Vazante tailings in the composition of concrete slabs for civil construction. The resistance tests proved the technical feasibility of the product. .

Mining Lab Platform

The Mining Lab Program has sought innovative mining and smelting solutions for our operations in Brazil and Peru since the end of 2015, constituting the main tool for open innovation in Nexa's strategy.

After the first few editions, we arrived at the current format: to be a continuous challenge for innovation, with registration open throughout the year. Hence, entrepreneurs can register an innovative idea for the sector without necessarily fulfilling the requirements of any of the categories proposed by the company.

Based on the previous editions experience and good results, last year the company sought to attract more international partners approaching the main sources of global innovation. This is an initiative that injects oxygen into the company's environment and makes room for the development of new ideas, within the intelligent mining concept and the innovative nature of The Nexa Way.

In these four years, we have prospected 599 innovative projects in different fields, such as circular economy, renewable energy, industrial automation, nanotechnology, effluents and water management, artificial intelligence, logistics, legal knowledge management, mineral exploration, employer branding and local and social development. To date, we have selected 31 companies from Canada, Israel, Chile, the U.S., Brazil and Peru to develop transformational projects (see the table below for the projects selected in the latest edition).

The Mining Lab challenge ended up expanding over the years and turns to a platform that has several programs: Mining Lab Challenge, Mining Toons,

University Challenges. They are marathons in a variety of professional spheres for speedy resolution of internal and sector problems.

Projects under development

All selected projects must pass through the Research & Development (R&D) phase to validate the business model and technology in specific scenarios within our operations. If the R&D results are proven, the project will move to the industrial implementation phase.

We currently are initiating the industrial phase of projects that help us at strategic points reduce our waste generation and transform tailings into products, reduce greenhouse gases (GHG), migrate our energy matrix to renewables, enhance safety in deep mining operations and reduce costs.

Among them, rock stability is a highlight, in partnership with the Canadian Rockmass Technologies startup. In December 2018, the new technology for the evaluation of structures was tested in Vazante and Morro Agudo. The tests validated the technology and the expected benefits, which were reinforced throughout 2019 with the large-scale application of Axismapper. The equipment eliminates the use of paper on work fronts during geotechnical assessment operations, hence progressing the automation of our processes. The commercial version was ready at the end of 2019. After further tests, we confirmed that we have obtained more reliable data, higher productivity and greater safety at critical points. The next stage of the project will be to hire the company as a Nexa supplier. The device started operating in 2019 and testing will continue in 2020 at the Morro Agudo and Vazante mines.

Another example is the Brazilian startup ZEG, which has an innovative and patented solution that transforms solid waste into steam. The initiative seeks to reduce the use of fossil fuels and the impacts caused using these inputs, using technology that replaced up to 65% of the natural gas volumes used in the Juiz de Fora plant's operations. Pre-tests validated the post-implementation financial, environmental and social gains. In addition, the project integrates Nexa and ZEG into local communities, reutilizing waste with high environmental impacts and generating local jobs and income.



Employees from Cajamarquilla

Mining Lab Challenge – 2019 Cycle

Company Name	Area	Country	Proposed solution
R&D Solutions/JMM	Circular Economy/Waste Management	Brazil	New process for the treatment of tailings from Vazante making use of magnetic nanocomposites, developed to allocate part of the tailings outputs to other industries and reduce the volume generated.
O2Eco	Circular Economy/Waste Management	Brazil	Implementation of a process to reduce the concentration of heavy metals inside the Três Marias mine.
Renix	Circular Economy/Waste Management	Canada	Use of alternative technology for the removal of solids in the effluents at the Juiz de Fora and Cajamarquilla plants. The treated waste will be reused in the process, helping to reduce the use of water and the volume of waste discarded.
P2W	Circular Economy/Waste Management	Israel	Development of a route to reduce the concentration of unwanted substances in the Três Marias and Cajamarquilla effluents.
Ecomaterials Inc.	Energy	Canada	Development of equipment capable of recovering the energy released during slag cooling and using that energy to dry the system's inputs at the Cajamarquilla plant.
Key Process	Mineral Concentration	Chile	Optimization of the zinc flotation process in order to reduce the amount of water used and make use of a raw material with a larger grain size.
Gove	Local and Social Development	Brazil	Feasibility assessment and subsequent implementation of a digital platform in Três Marias municipality , seeking to promote greater efficiency, sustainability and transparency in public administration.
Morada da Floresta	Local and Social Development	Brazil	Feasibility analysis and subsequent implementation of an integrated system for organic waste selective collection and composting from large generators.
Cedrotech	Legal Knowledge Management	Brazil	Development of a virtual assistant capable of making our employees' communication with the project management areas more efficient and practical.

R&D Projects SDG 8.2

Our innovation projects are also carried out in the scope of Research & Development (R&D), highlighting the following, which are in the testing phase:

Concrete Project – Development of a technological route to use the final waste from the zinc processing of Três Marias in the production of sulfoaluminous pre-clinker, by means of heat treatment, for application in concrete. The tests performed demonstrated the technical viability of the process and the product

generated. The consumption potential of this waste is around 30% of what is currently generated. An industrial test is planned for 2020 in one of the largest Brazilian concrete companies to evaluate the product on a larger scale.

Synthetic granite – Study conducted in partnership with a startup selected in Mining Lab 2, which proposed the transformation of the waste generated at the Três Marias Unit into a synthetic granite, through a pyrometallurgical process. A pilot test was contracted with a partner institution, promoted by Embrapii, to

produce a batch of synthetic granite pieces. Analyses of product performance will be carried out according to ceramic standards, the refinement of the mass and energy balances of the process, in addition to the evaluation of the potential market for the product.

Transformation of Vazante waste into product – A technological route was developed, in partnership with USP and fostered by Embrapii, to separate the hematite contained in Vazante’s fresh waste (current generation) for use in other sectors, such as the steel industry. The project also has high potential for processing the tailings stored in dams.

User experience

Created in 2017, the User Experience program seeks to bring to the corporate environment incremental innovations from solutions already available in the market. In 2019, in addition to implementing and expanding initiatives received from the full collaboration within the company, the program began to increasingly focus on the operations in the plants, applying methodologies such as user experience and journey and design thinking. Furthermore, a process was started to strengthen ties with universities, researchers and startups at different levels of maturity.

User Experience Solutions

Unit	Solution proposed in 2018	Evolution of the project in 2019
Vazante	Use of robots offers greater assertiveness for monitoring loads and going to the correct ore pile.	Artificial Intelligence training with analysis of 568 loads resulted in 75% assertiveness. The project also was implemented in December 2019 in Cerro Lindo.
Vazante	Reduced purchasing and inventory costs using 3D printing for spare parts.	Reduced purchasing and inventory costs using 3D printing for spare parts.
Três Marias	Training solution using immersive Virtual Reality technology (glasses and 360° display).	Improved training effectiveness by applying simulation to a real Nexa plant. Forklift operation safety training application.
Corporate	Implementation of the Chatbot solution to support employees, answering doubts and questions related to vacations and benefits.	Advance in the development of the virtual assistant. It will be tested internally as of February 2020.
Corporate	Preparation of Nexa for the energy billing scenario in Settlement Price for Differences (PLD) Hourly and for the Smart Factory scenario.	Expected reduction of around 15% in energy costs.

Automation

Pursuant to the Automation and Information Master Plan (PDAl) for the digital transformation of our current production units as for new units, we are highlighting the following projects:

El Porvenir Concentrating Plant

In order to reduce operational variability and increase capacity utilization, the project contemplates the automation of comminution, flotation and reagent areas. Flotation uses a computer intelligence system for advanced control through image analysis. It seeks the standardize operational and process controls, while also reducing the direct intervention of operators in the command of equipment and improve safety rates.

The great challenge of the project is the changeover from the current local manual, operational model to one with remote operation from a local control room. The project is in the implementation phase, starting operations in June 2020.

Automation of Cerro Lindo fans

The project includes the monitoring and controls of the main fans in the underground mine from the mine control room. For the main air extracting fans, monitoring also includes the content of carbon monoxide and nitrous gases, oxygen and circulating air temperature. In the implementation phase, it is scheduled to be put into operation in July 2020.

Fleet management and mine operation in Vazante

In 2019, we implemented the fleet management and mine operations system, known as the dispatch system. It helps manage the activities that take place on the equipment and status of the underground operations fronts, including the performance of teams and operators. The main information, with data input from tablets installed in all mine production and development equipment, is centralized in the surface mine control room. These speeds up actions both during shifts and shift changes, occasions when the main activities of each equipment, operator and front are already programmed and aligned with each mine's planning actions.

The system also permits integration of all production and quality data, including automatically generated reports with all key indicators (KPIs) for mine control and planning and interconnection with the Manufacturing Execution System (MES) managing real-time information. With the solution, production increases and cost reductions are expected, coupled with better activity planning and control. The system is scheduled to be implemented in Cerro Lindo in 2020, and in 2021 at Aripuanã.

Employess from
El Porvenir





Employees from
Lima office



Corporate Governance

Business transparency, fairness, accountability and responsibility are principles that our organization highly respects and which we reaffirm every day, in line with international standards related to good corporate governance practices. We extract what is essential to the present, with a responsible view of the future, designed to generate value for us and for society. We go beyond efficiency and technical rigor; we seek to win over the trust of people and the markets. Our main policies are established by the Board of Directors and supported by four advisory committees: Finance; Compensation, Nominations and Governance; Audit (composed entirely of independent directors); and the newly created Sustainability committee. GRI 103-2, 103-3

We have been a publicly traded company since 2017, with shares traded on the New York/NYSE (United States) and Toronto/TSX (Canada) stock exchanges. Even before the company's initial public offering, we already had structured governance bodies to guarantee autonomy and speed in decision making and the definition of business strategies.

Our governance model is constantly improving, allowing us to generate more value for shareholders and society. In addition to the creation of the new Sustainability Committee to support the company in adopting and monitoring safe and sustainable operating and commercial practices, the Board now comprises ten members, one more than in 2018.

Governance structure

GRI 102-18

Our governance structure is formed by the Shareholders' Meeting, the Board of Directors, the Advisory Committees and the Board of Executive Officers.

Shareholders Meeting

It is our main decision-making body, empowered to amend the Bylaws, elect or dismiss members of the Board of Directors, approve accounts and financial statements, and other matters that are vital to our business interests.

Board of Directors (BoD) GRI 102-22

It strives for the fulfilment of the business objectives and monitors its performance, seeking of business longevity. Its responsibilities include: establishing the company's general guidelines, defining mission, strategic objectives and direction; conducting the annual adoption and approval of strategic planning; approval of transactions related to Capex investments and other relevant financial transactions, such as loans, mergers, incorporations or joint ventures, in accordance with the

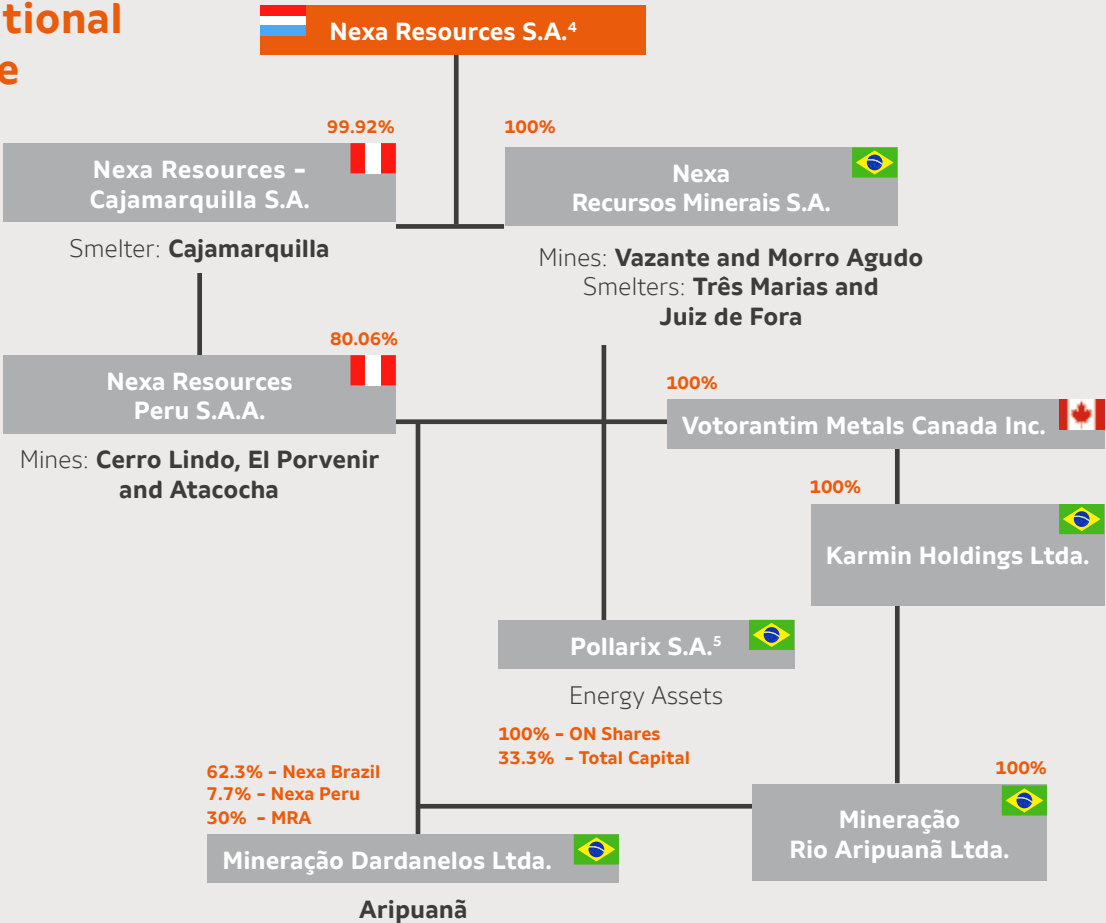
limits established in the Bylaws; evaluating the CEO's performance and effectiveness; oversight and assurance of the company's governance and sustainability practices.

Our Bylaws require that the Board of Directors be comprised of at least five and at most 11 full members, at least three of them independent, in order to comply with the rules established by the stock exchanges in which we are listed. The members' term of office is one year, with the possibility of re-election.

Currently, the Board of Directors is made up of ten members (two women and eight men), of different nationalities – Brazilian, Canadian, American, Colombian, South African and Chilean. Four of them are independent members. In 2019, one member of the Board withdrew, and two new ones joined, making it more diverse and expanding its representation to shareholders. No member, including the Chairman of the Board, exercises an executive function in the company and all receive compensation. GRI 102-23

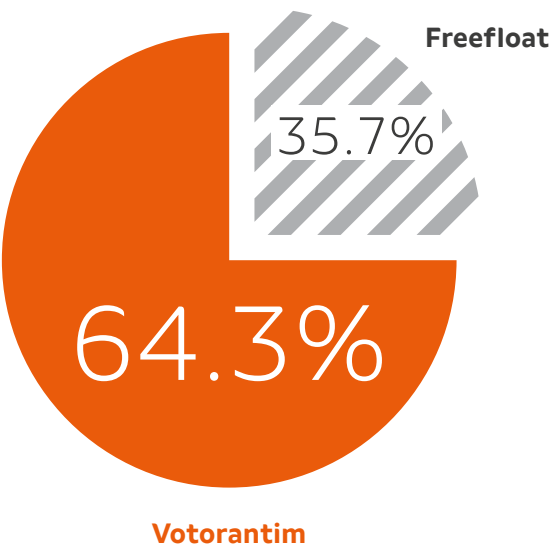
More information about the duties of the Board of Directors and the curriculum of each member can be found at <https://ri.nexaresources.com/BoardofDirectors>

Organizational Structure



⁴ Nexa Resources has a direct ownership interest of 0.17% in Nexa Resources Peru S.A.A. and an indirect stake of 80.06% through the Cajamarquilla unit; 15.79% of shares are in free float and the remaining 3.97% of the shares are held in Treasury. Excludes the investment class shares.
⁵ Nexa owns 100% of the common shares and 33.3% of the total capital stock of Pollarix.

Capital Structure GRI 102-5



Governance Structure



Board of Directors

Luís Ermírio de Moraes
Chairman of the Board (Compensation, Nominating and Governance Committee)

Edward Ruiz
Independent Member (Audit Committee and Finance Committee)

João Henrique Batista de Souza Schmidt
Member (Finance Committee)

Diego Hernandez
Member (Sustainability Committee)

Jean Simon
Member (Sustainability Committee)

Jane Sadowsky
Independent Member (Audit Committee and Compensation, Nominations and Governance Committee)

Daniella Dimitrov
Independent Member (Audit Committee and Sustainability Committee)

Eduardo Borges de Andrade Filho
Independent Member (Compensation, Nominations and Governance Committee)

Jaime Ardila
Member (Finance Committee)

Ian W. Pearce
Member (Sustainability Committee)

Advisory committees GRI 102-18

Our Board of Directors has established permanent committees to assist in monitoring the company's performance. Composed of Board members, they cover Audit, Finance, Compensation, Nominations and Governance and Sustainability matters. There are at least four annual meetings held, and periodically one of the members reports on the activities of the committee back to the BoD. Each committee has its own set of internal rules, which establishes roles and mandates, rules and procedures for its operation.

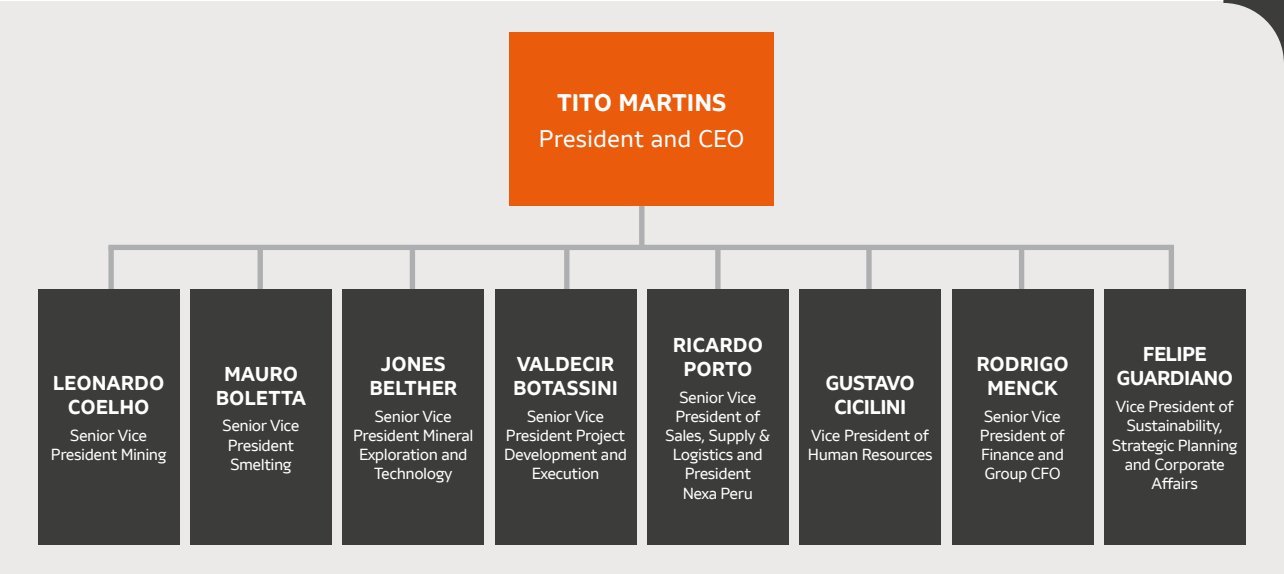
Audit Committee – Comprised of three independent members of the BoD, its objectives are to monitor the integrity of financial statements and internal control systems, monitor the risk management process and establish international governance standards (required by the TSX and the NYSE) and ethics and conduct procedures.

Finance Committee – Comprised of three members of the BoD, one independent. It is responsible for understanding market scenarios and trends, defining strategies and financial policies, evaluating and monitoring annual investment plans, proposing guidelines for cash management and the Company's liquidity position.

Compensation, Nominating and Governance Committee – Composed of three BoD members, two of whom are independent. This committee is responsible for evaluating compensation models, recommending candidates for CEO and the Board of Directors, assessing the performance of the Board of Directors, the CEO and each of the Advisory Committees, and developing corporate governance guidelines and principles.

Sustainability Committee – Composed of four directors, one of whom is independent. It is responsible for establishing guidelines, supporting and monitoring the company's operational and commercial practices so that they are safe and sustainable and that maintain high standards of health, safety, respect for the environment and corporate social responsibility

Executive Board



Executive Board

Comprised of the president and eight officers, who meet monthly to monitor the strategic plan, discuss financial and non-financial issues and outline tactical plans for their teams. Our Board of Executive Officers is made up of leaders who are able to act globally in key areas of business and in relationships with all stakeholders. Its objective is to ensure the development and execution of the strategic and budgetary plan, based on guidelines received from the Board of Directors. In 2019, the Human Resources officer was substituted.

disseminating this program, are linked to the Financial Department, with the support of Internal Audit. Compliance-related issues are reported to the Audit Committee, which is responsible for periodically bringing them to the attention of the Board of Directors.

One of the main pillars of the Compliance Program is the Nexa Code of Conduct, essential in guiding activities and supporting decisions made at all levels of our Company. Based on the century-old values of the Votorantim Group, this document was revised in 2018 and guides our internal behavior and the way we interact with different stakeholder audiences.

The Code of Conduct is a public document, shared with all stakeholders, including employees, suppliers, customers, communities, NGOs, government entities, shareholders and other individuals and organizations with whom we interact, to ensure that we achieve excellence in all our practices. Our beliefs and our values are detailed on the internet (www.nexaresources.com/beliefs-and-values). GRI 102-16

In 2019, we launched the integrity due diligence process, which consists of assessing all third-party employees from the point of view of compliance with our program. Thus, we will have a more effective process in risk management and mitigation.

Among the achievements of the year, we also obtained Sarbanes-Oxley (SOX) certification, since we have implemented internal control and disclosure systems as required by U.S. legislation, essential for companies listed on the New York Stock Exchange, such as Nexa.

Following the guidelines for reducing conflicts of interest within the company, in the second half of 2019 a website was created for employees to share potential, actual or apparent deviations from the Code of Conduct, which could be characterized as a risk of favoritism or bias in decision-making situations.

Training in the new policies SDG 10.3

On September 5, 2019, simultaneously in Brazil and Peru, we held another Compliance Day, an annual event to engage the leadership and strengthen the importance of their participation in our program. The event involves executive officers, managers and general managers.

At the same time, we modernized our training platform, providing three mandatory e-learning courses for administrative personnel (Code of Conduct, money laundering prevention and anti-corruption). As for operators, we prepared a video class on the Code of Conduct, which is widely disseminated for generating greater adherence. This approach allows higher engagement rates of the in-company community with our Compliance Program. The four policies – Compliance; Anti-corruption; Antitrust/Competition; and Money Laundering and Terrorism Financing Prevention – and the nine internal procedures that detail the management of these issues on a daily basis are available on the company's website (<https://ri.nexaresources.com/documents>). GRI 205-2 SDG 16.5

No cases of corruption or violation of antitrust laws involving employees or business partners were confirmed in the period. GRI 205-2, 205-3, 206-1

Information and reporting channels

GRI 102-17 SDG 5.1

Annually, we prepare and disseminate information to employees on the use and operation of the Ethics Line and the Compliance area, in addition to face-to-face training that is given in corporate units and offices. The main messages on Compliance policies and the Ethics Line channel are also disseminated through e-learning sessions. To make communication even easier, a telephone number was created and communicated to address doubts about ethics and conduct through WhatsApp.

The Ethics Line remains in operation so that the internal and external audiences can report possible violations of the Code of Conduct or any policy, procedure, law or regulation. It was created to be impartial and transparent, in addition to ensuring the confidentiality of information, safeguarding the identity of anyone who accesses it and promoting the best workplace environment for everyone.

Through this channel it is possible to fully and anonymously report any suspicion of financial crime, fraud, corruption, discrimination, harassment or other types of ethical violations. Available in Portuguese, English and Spanish, the service can be accessed through the electronic address: <https://secure.ethicspoint.com/en/ethics-line> or by phone (Brazil: 0800-892-0741; Peru: 0800-50-000 (Spanish) and 0800-50-288; United States: 1-855-888-9926; Austria: 0800-200-288; Canada 1-855-888-9926 and 1-855-350-9393; and Luxembourg: 800-201-11 (English and French).

The channel is managed by a specialized, globally recognized outside company, which performs the initial screening of all reports received to ensure that there is no conflict of interest in the handling of complaints. The Audit Committee and the organization's leaders, supported by the Internal and Legal Audit areas, decide how to deal with each report received, from its initial understanding, interviews with the parties involved, detailed investigation and conclusion as to the merits or lack thereof regarding the complaint, with the possible application of disciplinary and orientation measures.

Risk management

GRI 102-15, 103-2, 103-3

We consider it essential for our businesses to identify, assess and mitigate the risks raised in our surveys. Since 2016, we have followed the Enterprise Risk Management (ERM) Policy, which addresses the main risks in all corporate areas and operating units and equally is applied to subsidiaries and controlled companies.

We divided risks into four major topics: compliance; business risks (operational and strategic, including socio-environmental aspects, and project risk); internal controls; and financial risks. The risk

matrix is reviewed annually to ensure it is always aligned with our strategic plans.

For risks considered critical and high, we draw up action plans with deadlines established for completion. Our risk monitoring actions involve, in addition to the area directly responsible for the topic, the Risks, Internal Controls and Compliance team, the Financial Executive Officer's office, the Board of Directors and the Audit Committee. For risks under this classification, monitoring is conducted opportunely by the areas involved. The

details of the risks we manage can be found in the 20-F form, submitted to the New York Stock Exchange and accessed at ri.nexaresources.com/regulatory-filings.

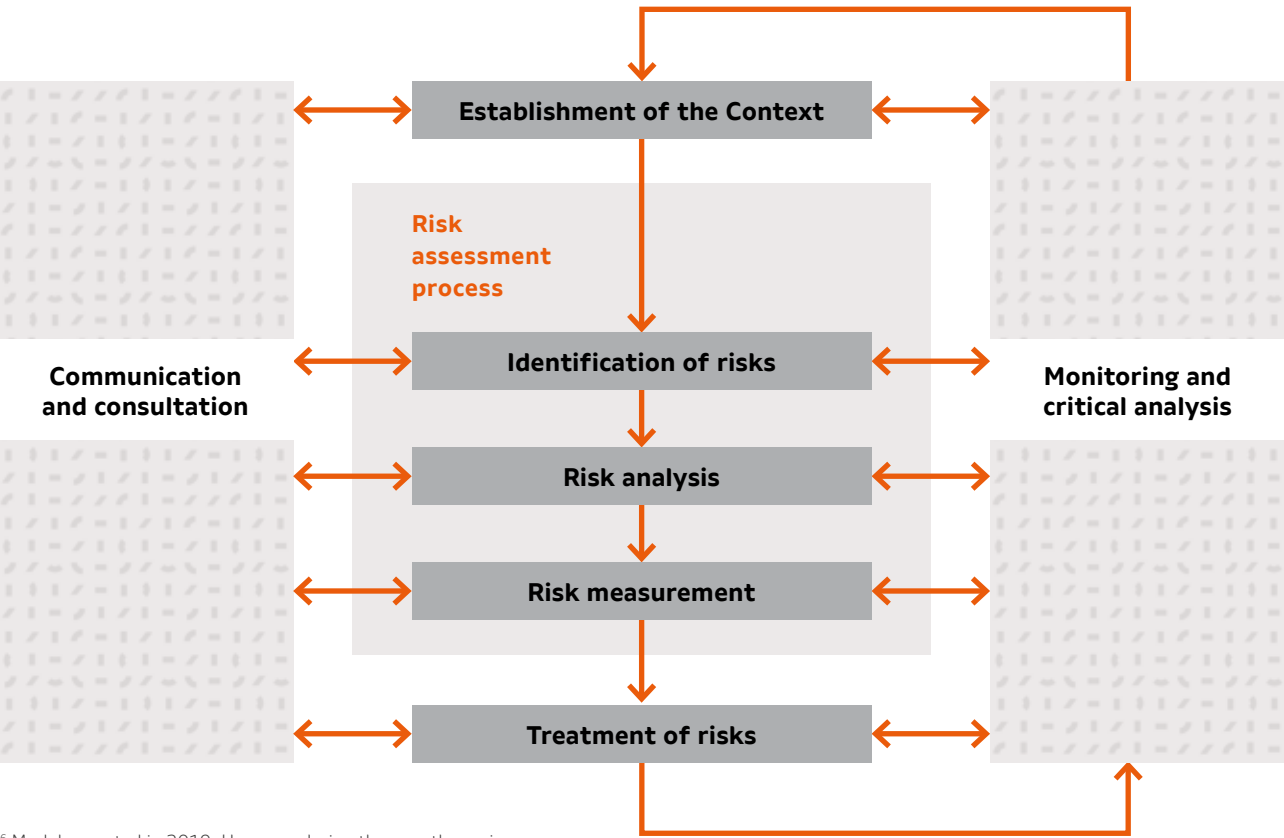
Training

In 2019, we made progress in identifying operational risks and exposure to the market, as well as improving our internal control system, by simplifying the number of controls, which were reduced by almost half while maintaining the same effectiveness. We also train employees in the identification of risks, through visits by our risk management team to the units, educational lectures and the appointment of those responsible for each risk.

We publish an updated Risk Management Report three times a year, which outlines the main factors mapped in the operating units and corporate areas and the respective actions that are underway to mitigate them. Thus, we were able to give the Board and investors a broader view of all the initiatives and teams involved in the management of risks related to the business.

In 2019, we conducted training on the B Wise tool for all our employees and migrated risk management information to the new platform. As of 2020, the risk assessment process will be carried out through B Wise, in order to gain efficiency in our risk assessment and monitoring process.

Business risk management model⁶



⁶ Model executed in 2019. However, during the year the review of the risk management policy and manual was initiated.

Employees from Cerro Lindo

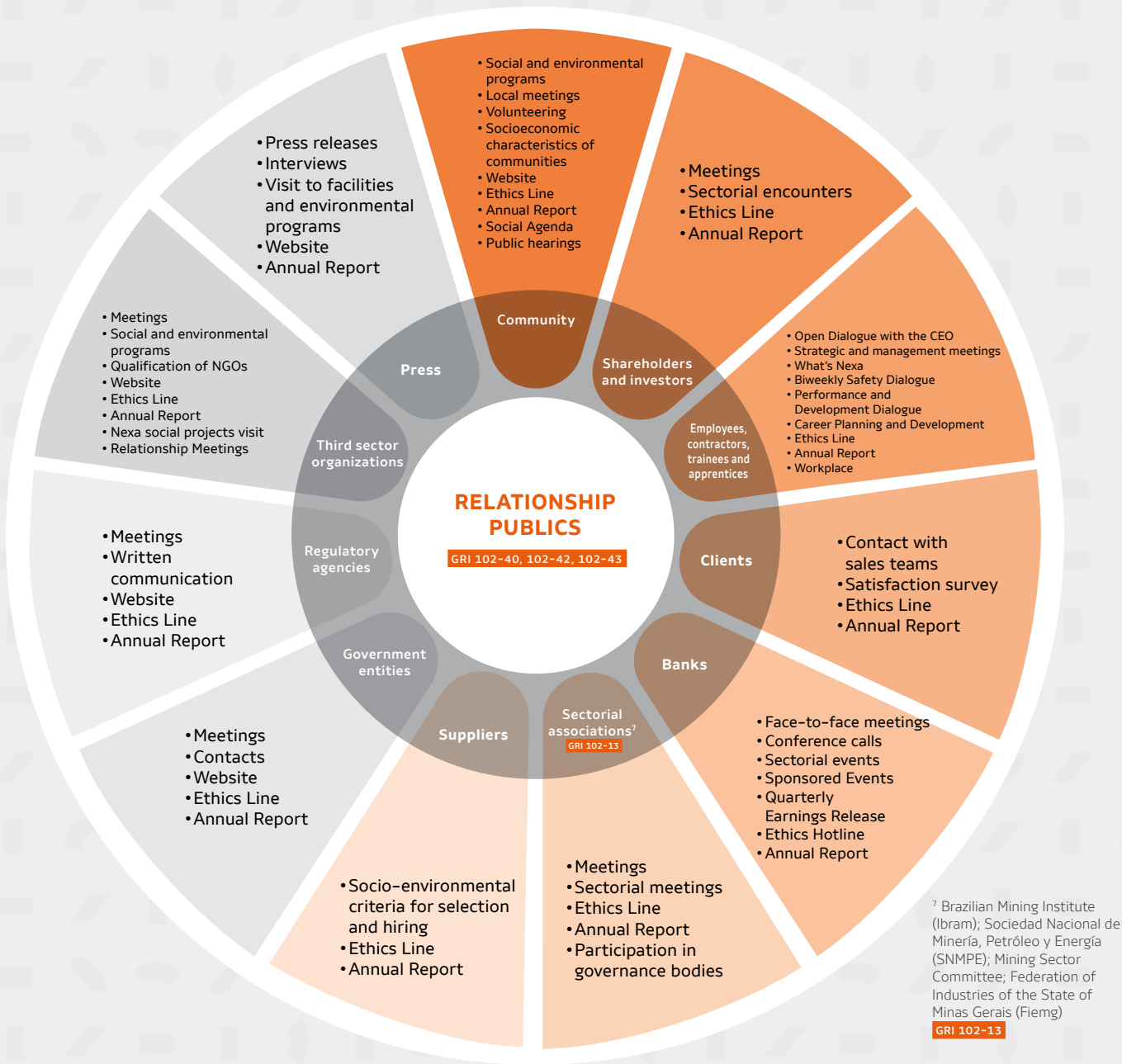


Stakeholder engagement

We continually improve our relationships with all stakeholders as a way of maintaining the sustainable growth of our business and a permanent, open and transparent dialogue with each stakeholder. We consider the stakeholders that represent higher impacts on our operations and operational strategy to be the most important, as well as having a greater influence

on our business. These groups include shareholders and investors, communities, employees and clients. However, we view banks, suppliers, sector associations, government authorities, regulatory agencies, third sector organizations and the press with equal respect and consideration. We want to be increasingly closer to these groups by promoting constant

dialogue, through our participation in forums and sectorial meetings, holding events with our business partners and promoting meetings with the communities neighboring our operations and their leaders to collect suggestions and complaints, clarify doubts and provide them with information about our ongoing projects. We believe that this proximity leads to the co-creation of a relevant long-term legacy.



Our impacts

	Mineral exploration	Greenfield	Mining	Processing	Smelting	Sales	Decommissioning ⁸
Social							
Jobs and income	+	+	+	+	+	+	-
Local Development (Positive agenda)		+	+	+	+		+
Increase in cost of living		-	-	-	-		
Local infrastructure overload ⁹		-	-	-	-	-	
Environmental							
Impacts on biodiversity ¹⁰	-	-	-	-			
Recovery of degraded areas		+	+	+			+
Noise		-	-	-	-		
Waste		-	-	-	-		
Greenhouse Gases	-	-	-	-	-	-	-
Other gases (NOX, SOX, etc.)		-	-	-	-	-	
Particulate matter		-	-	-	-	-	
Effluents			-	-	-		
Disposal of mining and metallurgical waste			-	-	-		
Water ¹¹			-	-	-		
Economic							
Tax on products and services	+	+	+	+	+	+	
Tax on ore withdrawn CFEM			+	+			
Cash generation			+	+	+	+	
Value creation ¹²		+	+	+	+	+	

+ Positive impacts - Negative impacts

⁸ Decommissioning considers the moment of closure of the activities of the units.
⁹ Includes the circulation of trucks on local roads, public housing infrastructure, health, mobility and education.
¹⁰ Impact on fauna and flora, including plant suppression.
¹¹ Impact on the river course, lowering of water bodies, in addition to the use of water.
¹² Added value to the cities in which Nexa is located.



Employees from
Juiz de Fora



Performance

Economic-financial

Operating results

In 2019, we met expectations for metal production and sales, in line with the projections we released throughout the year.

The production of zinc contained in the concentrate totaled 361 thousand tonnes, 3% below the volume produced in 2018, due to the lower average zinc grade, from 3.3% in 2018 to 3.2% in 2019, and to lower

treated ore volume in the mines in Peru. Copper and lead production followed the same trend and decreased by 2.2% and 1.8%, to 38 thousand and 51 thousand tonnes, respectively. Our total production of metals, calculated in zinc equivalent, corresponded to 564 thousand tonnes, a decrease of 1.9% over the previous year.

During the year, our smelters continued to deliver positive performances with sales of metallic zinc and zinc oxide reaching 621 thousand tonnes, 1% higher than that recorded in 2018. This result was driven mainly by the higher sales volume at the Cajamarquilla and Juiz de Fora units, which increased by 2.4% and 9.4%, respectively.

Employees from
Cajamarquilla



Production of metal contained in the concentrate (2019)

	Zinc (thousand t)	Copper (thousand t)	Lead (thousand t)	Silver (thousand ounces)	Gold (thousand ounces)
Vazante	139.0	-	1.0	333.1	-
Morro Agudo	24.4	-	4.7	22.6	-
Cerro Lindo	126.3	37.7	12.3	3.250.5	4.5
Atacocha	16.7	0.0	16.5	1.882.1	9.3
El Porvenir	54.7	0.5	16.9	3.412.7	11.2
TOTAL	361.1	38.2	51.3	8.901.0	25.0

Sale of Smelter products (2019)

	Metallic Zinc (thousand t)	Zinc Oxide (thousand t)
Juiz de Fora	86.1	-
Três Marias	157.7	38.2
Cajamarquilla	340.8	-
TOTAL	584.5	38.2

Performance

Financial results

In 2019, net revenue from our operations totaled US\$ 2.3 billion, 6% lower than the US\$ 2.5 billion recorded in the previous year, mainly due to lower metal prices in the London Metal Exchange (LME), which were partially offset by higher metal sales volumes. LME average zinc, copper and lead prices decreased by 13%, 8% and 11%, respectively.

We recorded a loss of US\$ 159 million compared to a net gain of US\$ 91 million obtained in 2018, mainly due to the US\$142 million non-cash impairment loss recognition in 3Q19 related to Cerro Pasco.

During the second half of 2019, we implemented initiatives in The Nexa Way program, which we expect to generate US\$120 million in annualized EBITDA improvements throughout 2020 and 2021 at a non-recurring cost of approximately US\$41 million, which is included in our general and administrative expenses in the period.

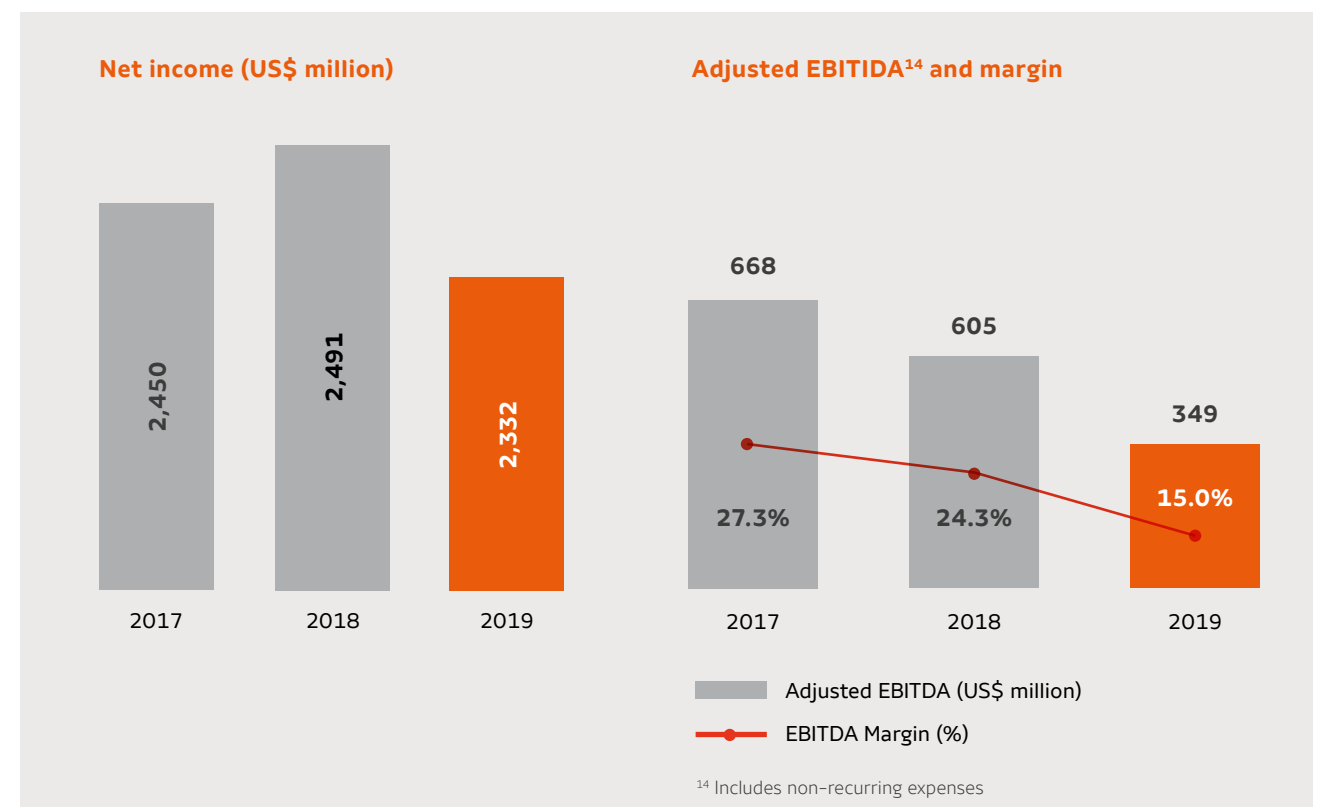
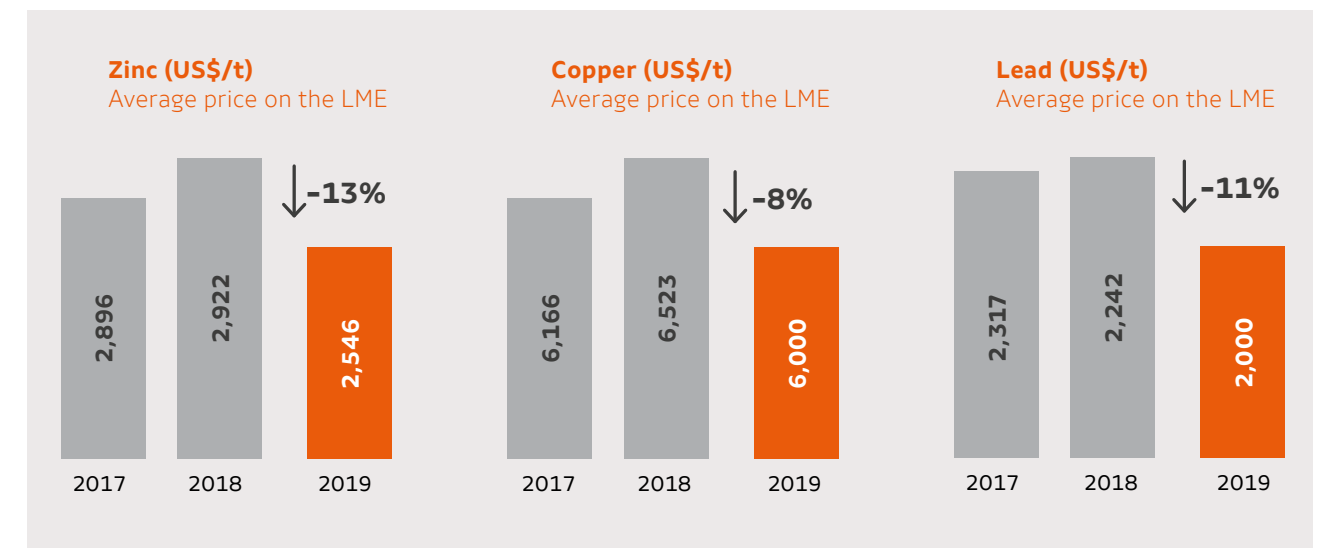
Our adjusted EBITDA, which considers non-recurring expenses, totaled US\$ 349 million, with a margin of 15% (US\$ 605 million in 2018, with a margin of 24.3%, including the positive effect of US\$34 million from tax credit recognition). Excluding non-recurring expenses for both periods, adjusted EBITDA was US\$402 million, a result 30% lower than the US\$ 571 million achieved in 2018. The year-over-year reduction was mainly explained by lower LME prices, higher operating costs; partially offset by the U.S dollar appreciation against Brazilian real, and increase in by-products credits.

The cost of sales in 2019 was increased by 3% year-over-year (US\$ 1.8 billion), reflecting the higher operating costs in the mines (maintenance and third-party services), partially offset by lower raw material costs and better recovery rates in the smelters.

Financial Results (US\$ Million)

	2017	2018	2019	2019 X 2018
Net revenue	2,449.5	2,491.2	2,332.3	-6.4%
Cost of products sold	-1,752.8	-1,888.9	1,944.7	3.0%
Sales, general and administrative expenses	154.5	159.6	216.5	35.7%
Impairment	-	-3.3	-142.1	-
Other operating income ¹³	-47.9	21.5	27.0	25.7%
Depreciation, amortization and depletion	270.5	267.2	317.9	19.0%
Adjusted EBITDA ¹³	667.5	604.8	349.0	-42.3%
EBITDA Margin (Adjusted EBITDA/NR)	27.3%	24.3%	15.0%	- 9.3 pp

¹³ Data published in 2018 has been revised. [GRI 102-48](#)



Liquidity and indebtedness GRI 102-7

As of December 31, 2019, our consolidated gross debt amounted to US\$ 1.5 billion, 5.9% higher compared to the balance of December 31, 2018 (US\$ 1.4 billion), mainly due to the 5-year export credit note agreement contracted in October. Net debt stood at US\$ 783.6 million (US\$ 221.6 million in 2018). At the end of the period, 92.1% (or US\$ 1,389 million) of the gross debt was denominated in US dollars and 7.9% (or R\$ 119 million), in Brazilian reais.

Only 2.2% (US\$ 33 million) of the total debt matures in 2020, while 40.7% (US\$ 614 million) matures between 2021 and 2023 and 47.2%, after 2026. The average maturity of our debt is 5.2 years (at an average interest rate of 4.6% per year), and the total cash is sufficient to cover the payment of all obligations in the next five years. Our financial leverage, which is measured by the ratio of net debt to adjusted EBITDA for the last 12 months, ended 2019 at 2.26x, due to the lower adjusted EBITDA in the period and the increase in net debt.

Cash flow

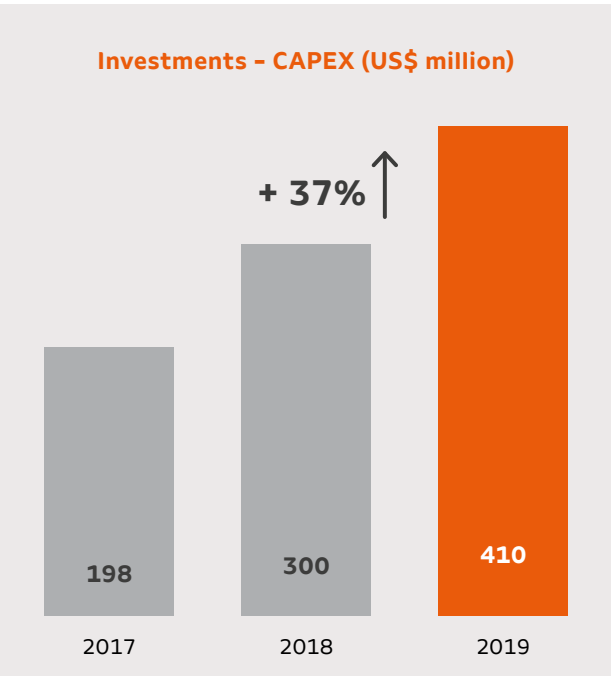
Our cash position as of December 31, 2019 was US\$ 757 million, considering cash and cash equivalents plus financial investments. This represented a decline in cash flow of US\$ 334 million, mainly explained by dividend payments in the first quarter of 2019, capital investments, especially in the Aripuanã project (US\$ 124 million), and the payment for the acquisition of Karmin.

CAPEX Investments (US\$ Thousand)

	2017	2018	2019
Expansion	48,825	90,506	188,394
Modernization	21,363	14,990	18,375
Sustaining	59,439	90,250	137,718
Health, Safety and Environment	62,060	89,051	57,298
Others	5,905	14,921	8,467
Total	197,638	299,713	410,253

Investments

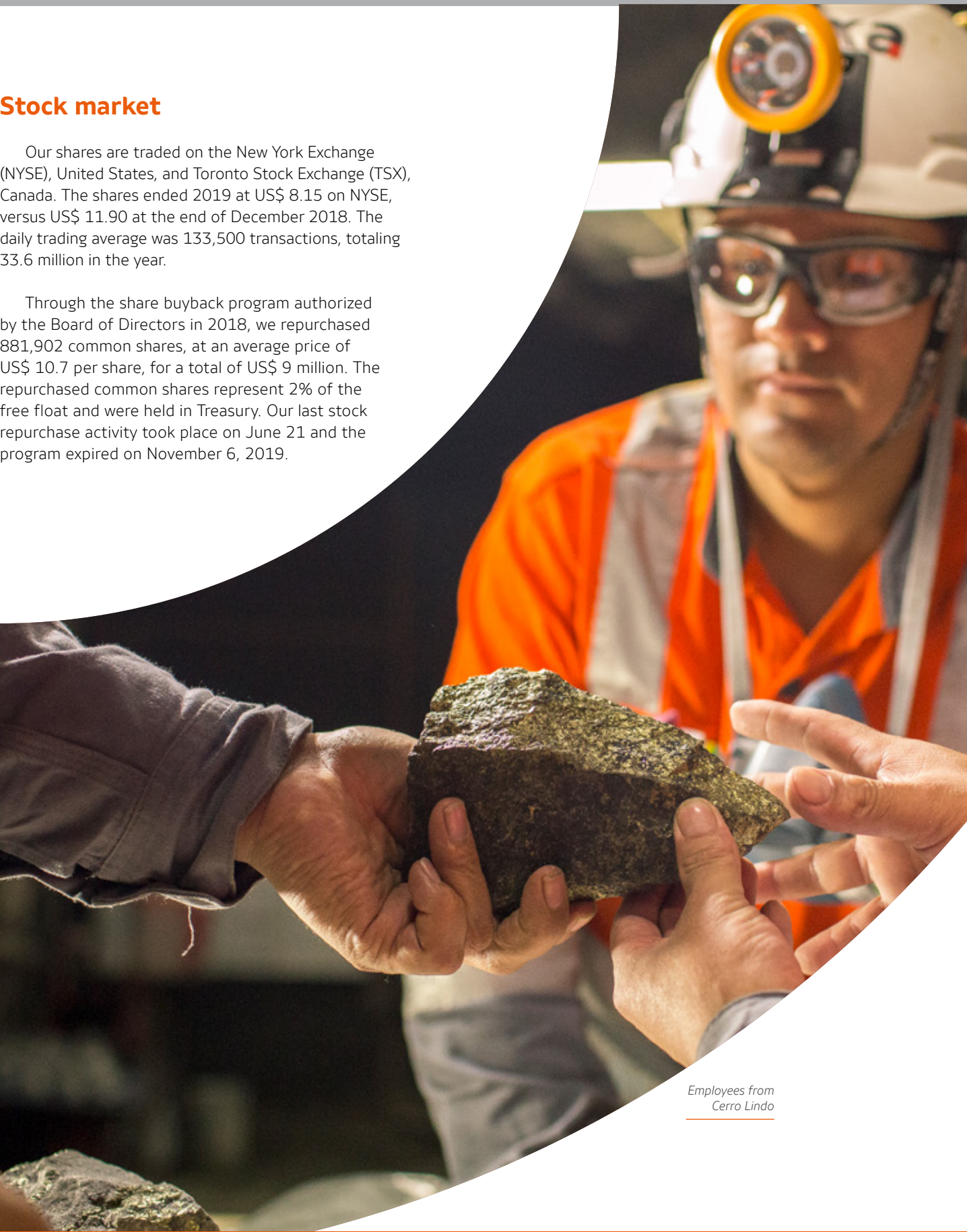
Our investments in operations (Capex) totaled US\$ 410 million in the year. Of this amount, 30% was related to the Aripuanã project (US\$ 124 million) and 7% to the Vazante mine deepening project (US\$ 28 million), our main investments in the period. The larger volume of investments was already foreseen since we obtained the installation license for Aripuanã, in December 2018.



Stock market

Our shares are traded on the New York Exchange (NYSE), United States, and Toronto Stock Exchange (TSX), Canada. The shares ended 2019 at US\$ 8.15 on NYSE, versus US\$ 11.90 at the end of December 2018. The daily trading average was 133,500 transactions, totaling 33.6 million in the year.

Through the share buyback program authorized by the Board of Directors in 2018, we repurchased 881,902 common shares, at an average price of US\$ 10.7 per share, for a total of US\$ 9 million. The repurchased common shares represent 2% of the free float and were held in Treasury. Our last stock repurchase activity took place on June 21 and the program expired on November 6, 2019.



Employees from
Cerro Lindo

People GRI 103-2, 103-3

Intelligence, enthusiasm and courage are the attributes of the Nexa brand that drive us to think, act and do things differently, aiming to sustain our strategy of improving performance and maintaining our competitiveness.

We manage people according to three strategic focal points conducted by the Human and Organizational Development (HOD) area: maintaining an inspiring leadership, capable of effective talent management; building and ensuring critical capabilities for the organization; and contributing to increase productivity and the company’s competitiveness.

Cultural change was the main focus of our operations in 2019. We expanded our internal program, called The Nexa Way, with actions aimed at reinforcing aspects of courage, enthusiasm and intelligence to introduce more agility, autonomy and flexibility. To implement it, we created a transformation office with a manager responsible for the program’s planning and execution, and 19 work fronts were set up. The status of each initiative is shared by the leaders of each front and the transformation manager reports them to the executive board.

Transformation office

22 people 100% dedicated

19 Work Fronts

580 responsible for + 1,750 initiatives (270 already implemented in 2019)

Emblematical results regarding value creation for the company were already seen in 2019. This included cutting the number of approval levels, giving managers greater autonomy; the adoption of some practices focused on sustainability in the offices; reduced red tape, based on a review of the procurement flows; and elimination of some hierarchical symbols, bringing executive officers and general managers into closer contact with their teams.

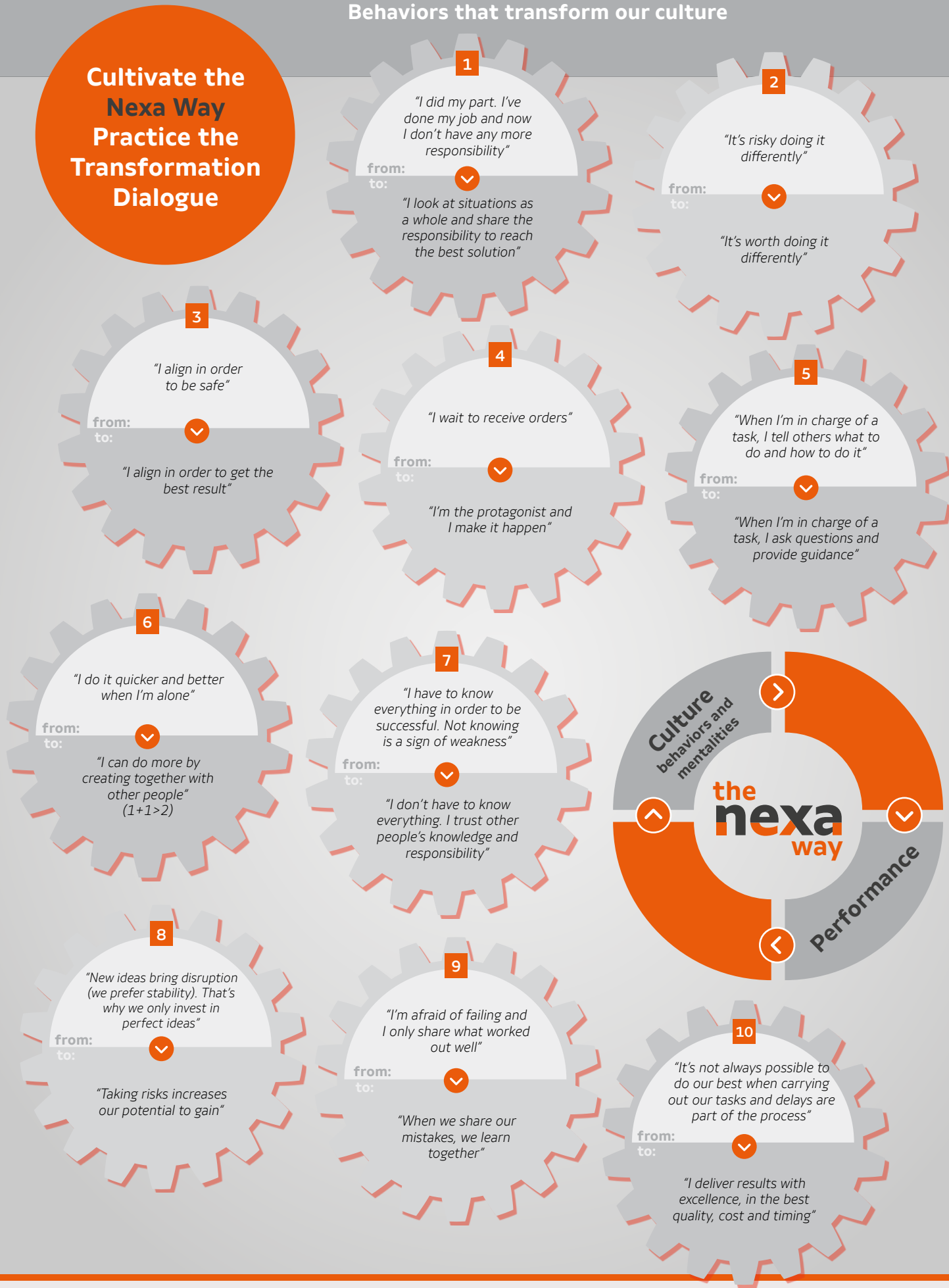
Organizational health

We developed an initial organizational health survey designed to support the program, which measured employee satisfaction and motivation and also served as a checkup of our alignment with the best market practices. The first survey took place in January 2019 and delivered the necessary inputs to determine the program’s guidelines.

Forty-one initiatives were established, involving four main themes – leadership, reward and recognition, new ways of working, environment and diversity – to support this cultural transformation in the organization. Over the course of 2019, two project phases were planned and implemented. They contained 13 initiatives, including those that helped build the ten desirable behaviors in the organization, such as the plurality program, recognition actions, a leadership development program and a new performance evaluation initiative, among others.

In November, a new organizational health survey round was conducted, leading to a three percentage point increase in relation to the survey carried out in March of the same year. Our score of 76 was above the market average (73), with the most prominent attributes being innovation and training, motivation and external guidance.

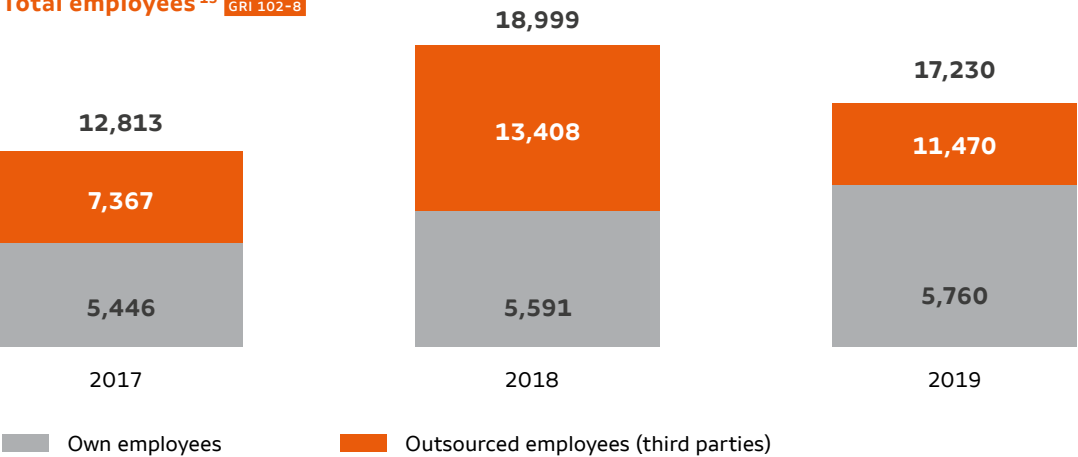
Cultivate the Nexa Way Practice the Transformation Dialogue



Employee profile

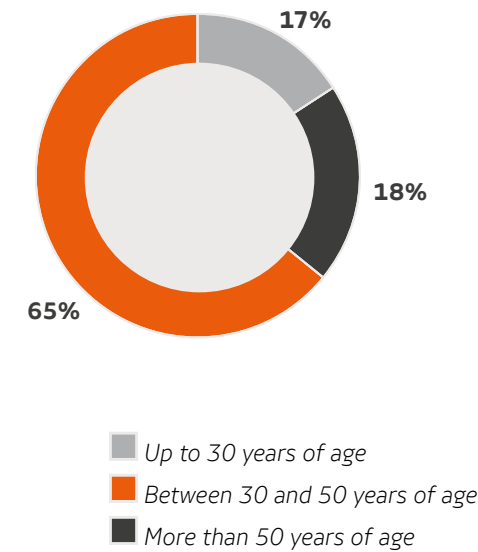
The nature of our operations makes us have a workforce largely formed by outsourced labor, especially in Peru. We ended 2019 with 5,760 own employees, of which 3,310 were allocated in Brazil, 2,427 in Peru and 23 in other countries, in addition to 11,470 outsourced employees. Of the total number of employees, 65% belonged to the 30-50 age group and performed operational functions. In addition, the proportion of women was 13.1%. GRI 102-8

Total employees ¹⁵ GRI 102-8



¹⁵ The number of intern and apprentice are not considered

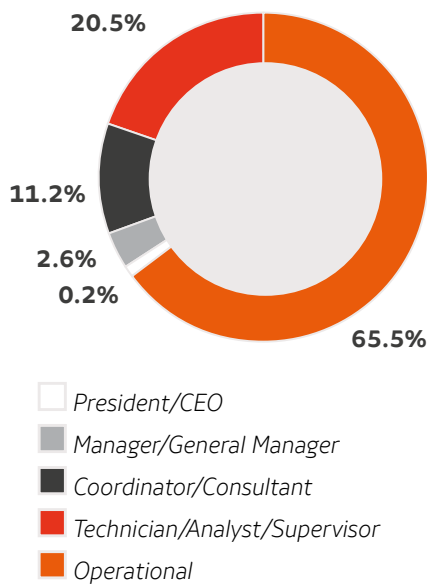
Employees by age group GRI 405-1



Plurality

At Nexa, we are creating an increasingly pluralist environment that encourages inclusion and diversity. We understand that to be pluralist is to recognize and value people and their differences. Because we believe in being socially fair to the important social groups in society who nevertheless are under-represented in the business hierarchy, in 2019 we expanded the concept of diversity and started to address other inclusion issues that go beyond gender and people with disabilities. We foster a

Employees by functional category GRI 405-1



diversity of opinions and thoughts, because the more diverse and more integrated our differences, the greater our potential to transform and innovate.

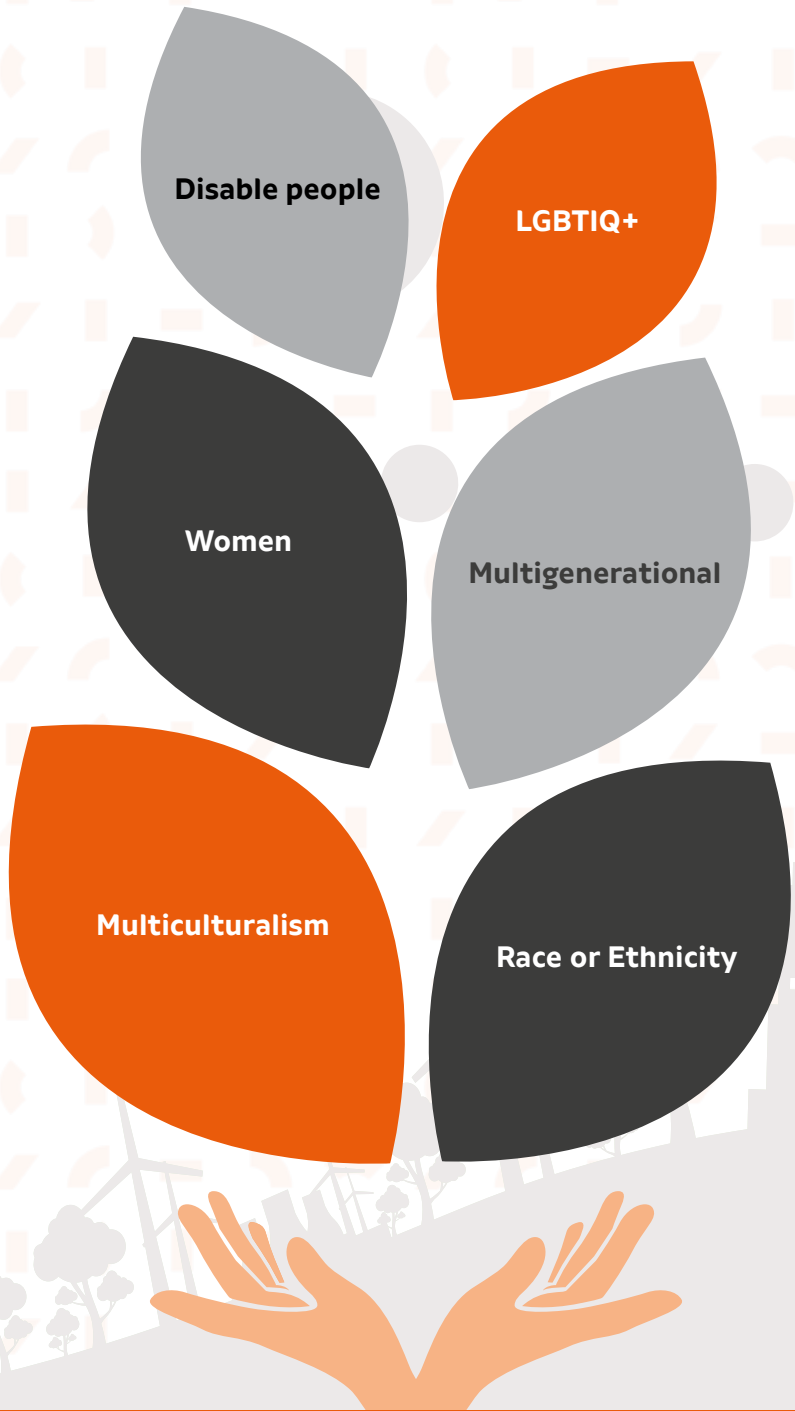
To be pluralistic is to represent and be represented by different social groups in all our organization's areas and positions; it is to coexist with a multiplicity of ideas, origins, races, ethnicities, genders, orientations, identities; and make this coexistence intrinsic to our culture, our way of thinking, creating and working. It means breaking with the barriers in our sector, doing it our way to make a difference.

We have an active Diversity Committee – with several activity levels: Strategic Committee, Corporate Committee and nine Local Committees – which coordinates the implementation of various actions aimed at uniformly and consistently promoting diversity throughout all our units.

The committee's main function is to foster initiatives and support the efforts to meet specific goals in relation to different diversity issues. One of the first goals is to have 20% of women employed in the organization, a significant percentage when considering the traditional characteristic of the mineral sector, of being made up mainly of men. In 2019, we reached 13.8% of women in our workforce, advancing 1.4 percentage points. At the new unit in Aripuanã, we will already start up activities with 51% of women in the labor force, which will underscore Nexa as having one of the first mining operations in the world with a massive presence of women.

We want to be plural

Because the more diverse we are, the better able we are to do things differently



Performance

Material Topic
People

GRI 103-2, 103-3 SDG 5.1, 5.5, 5.C, 8.5, 10.2



6. STIMULATE



Employees from Cerro Lindo

Target	2017	2018	2019	Form of measurement
Reaching 20% of women throughout Nexa Resources by 2025 Base Year: 2014	10.5%	11.7%	13.1%	Total women/ Total employees

Personnel management challenges

In Aripuanã, we followed our strategic plan for hiring employees, seeking and qualifying local labor, with short and medium-term courses, offered in partnership with Senai/MT. In addition, the HOD area is working on identifying local infrastructure needs, such as building homes, expanding hospitals, improving or building

schools, in order to attract employees hired from outside the region and contribute to local development.

We did not register any strikes in our units that lasted for more than seven days during the year, which demonstrates our ability to establish an open dialogue with employees and labor unions. **GRI MM4**

Qualification and training

GRI 103-2, 103-3, 404-2 SDG 4.4

We seek to maintain an inspiring, safe, diverse and challenging environment that encourages employees to share ideas and experiences and to evolve individually and professionally. We offer training and competency programs and encourage employees to talk to their managers about the skills and attributes to be developed for their evolution in the company. It is a personnel management model that encourages open dialogue, transparency and career development possibilities, strengthening our strategies and stimulating professional growth. This is how we build a company that attracts and retains talent. **GRI 404-3**

During the year we offered more than 153 thousand training and qualification hours to our employees in Brazil and Peru, with an average of 31 hours per employee and investments of more than US\$ 1.9 million, maintaining almost the same proportion that had been invested in 2017 for this purpose.

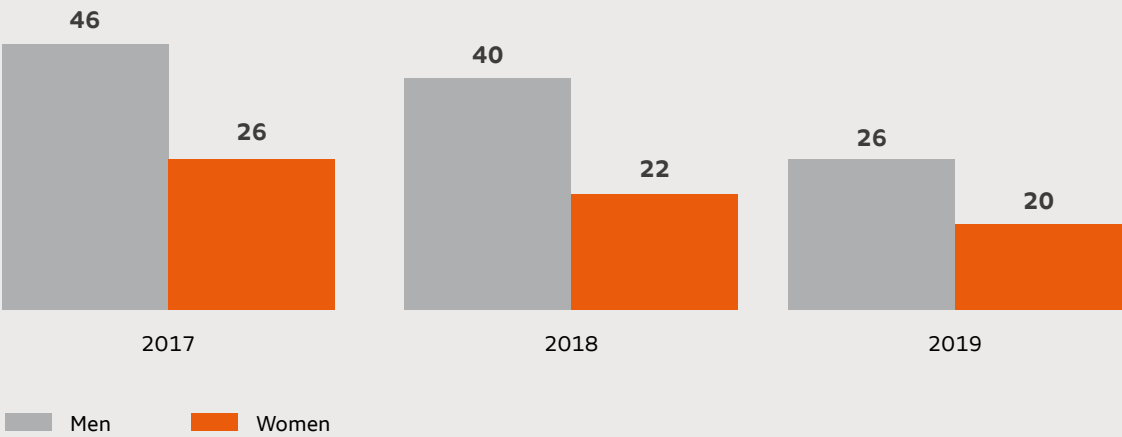
To develop a strategic focus, our Master Plan contains 11 critical capabilities that ensure business continuity. In 2018, the maturity level of each of them was assessed. We identified that for the five prioritized in the last two years – talent management, operational excellence,

mineral exploration, capital sources and project execution – at least 75% had achieved maturity. As a next step, we will update the Master Plan to develop new, ongoing capabilities in the organization.

In addition to the constant development of the leadership, we offer our teams technical training. The following programs are notable:

Mining Development – A structured project to create more integrated spaces and processes, with a focus on the continuous development of personnel working in mining, through knowledge sharing. One of the initiatives within this program is the Short-Term Assignment (STA), a temporary, short-term mobility process designed to promote individual development, transfer knowledge and an exchange of best practices between units and countries. In 2019, eight employees participated in this program, operating for a period of five months to one year.

Average hours by gender of training per employee **GRI 404-1**



Performance

Mining Experts – Its main objective is to provide technical and specific knowledge to bolster operational performance. In March 2019, the key competences for the development of mining in Brazil and Peru were defined and job positions were created to attract market professionals. The program also provided an opportunity for employees who already were on Nexa’s staff. The 13 selected for the project participated in a moment of integration, between July 8–12, during which they discussed the challenges of the organization, got to know the Cerro Lindo unit and interacted with local leaders, promoting an exchange of cultures. They currently are undergoing development training to ensure they have appropriate technical knowledge and aligned leadership profiles.

The Nexa Way Experience – The pilot project, implemented in 2018, brought to employees the possibility of participating in a challenge focused on combating unnecessary red-tape, working in a different format through an autonomous, self-managing group based on the agile methodologies concepts. Seven

individuals were selected out of 28 applicants to continue the project. A second round of the challenge was launched to address the issues of simplification in the São Paulo office (25 applications), Brazil-Peru integration, in Lima (30 applications) and innovation, in Cerro Lindo (19 applications). The projects proposed in the second round will be analyzed in 2020.

Cultivating Leaders – We have continued globally with the leadership development program, which aims to reinforce cultural transformation and train executives as leaders. Since the beginning of the program, more than 700 leaders have been trained in Brazil, Peru and Luxembourg. During the year, topics such as new ways of working, empathy and the 10 Nexa Way behaviors were presented.

Ability to Execute (A2E) – In 2019, all of Nexa’s operational and leadership audiences underwent Nexa Way training, supported by the A2E concept. The sessions were supported by an internationally renowned consulting firm, designed to develop 15 skills that can help to speed up the transformation process. The training was multiplied for our internal public, which made it possible to maintain knowledge in the company.

Employees from Juiz de Fora



Employees from Três Marias

Performance

Material Topic:
Safety and health

GRI 103-2, 103-3 SDG 16.1



1. RESPECT



Employee from Três Marias

Safety

Target	2017	2018	2019	Form of measurement
Register an accident frequency rate with or without lost time equal to or less than the first quartile companies (best 25%), benchmark of the mining and smelting sector, by 2025. Base Year: 2014	2.46	2.23	2.15	Number of accidents with and without lost time X 1,000,000 / man-hours worked

For us, safety comes first. This topic, in addition to being one of the most important for the company, is the main driver of our culture. Our policies, programs and tools are built and implemented to promote an environment that preserves the physical integrity of all of our own employees and third parties, so that they return safely to their homes, families and loved ones. We want to influence this and the next generations to consolidate a mining sector based on safety and the preservation of life. [SDG 8.8](#)

We care for the health and safety of our employees and treat this issue as a priority within our organization.

For this reason, in 2019 we promoted the full integration of these areas. They have started to act together, based on a more comprehensive point of view, to ensure everyone's physical integrity in a healthy environment, designed for achieving collective well-being.

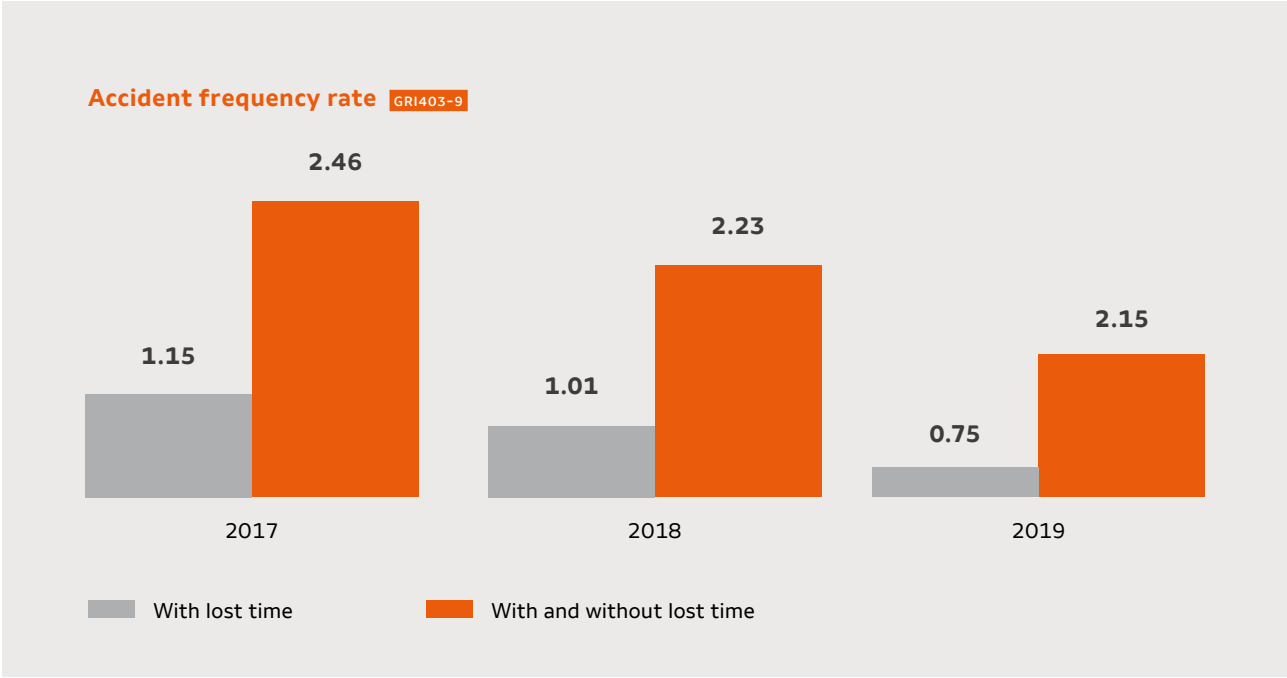
We followed up on our safety goals, which consist of eliminating fatalities, reducing the severity and number of accidents and raising the safety culture standards in all our units, especially in Peru, where we concluded a program specifically structured for this purpose.

Performance Indicators

When comparing our accident frequency rate with and without lost time to that of the industry, we came in below the first quartile, maintaining the goal of being among the companies that present the best indicators. Even so, we are still falling short of our internal expectations and are working hard to improve our performance in this field.

Two years ago, we established an internal indicator, the Nexa Internal Rate (TIN), to measure our safety effectiveness. TIN merges the variable remuneration of the operational and corporate managers with those of the professionals who work in the units. In addition, in the case of fatalities, sanctions are applied to the executives in the form of reduction in points needed to meet the annual goal.

The Frequency Rate with and without lost time (TFCSA) in 2019 was 2.15, computing accidents of own employees and third parties, representing an improvement over 2.23 as registered in 2018. The Severity Rate (TG) was 148.8, mainly affected by the fatal accident in Peru, which occurred at the Cerro Lindo unit.



Safety initiatives GRI 403-5 SDG 16.1

We have adopted 12 initiatives, called Golden Rules, to ensure the safety of our own and outsourced employees. These are based on critical risk standards and other safety management tools the company has implemented, such as the use of seat belts, restrictions on the use of cell phones and a ban on working under the influence of alcohol or drugs. Failure to comply with any rule may lead to a warning, suspension or even termination. The identification of non-compliance with a rule goes through a structured process, with evidence gathering, evaluation and, if deemed applicable, a penalty.

For 2020, our Sustainability Master Plan foresees health and safety initiatives for the transformation of culture and behavior, to improve our infrastructure for routine activities and for the management of the area. They were segmented into Crucially Important Goals (MCIs), which were broken down into 18 projects to be developed over the next five years.

The main initiatives in 2019 were as follows:

Peru Safety Plan

Created in 2017, this program has the objective of eliminating all fatalities, reducing the number and severity of accidents and enhancing the safety culture in the units around the country. Over two and a half years, 244 initiatives were developed in 30 projects, based on the eight pillars defined for the Peruvian Security Plan to support risk mitigation (Leadership training and awareness raising; Strengthening the health and occupational safety structure; Implementation of the Third Party Management Program; Improvement of wellness conditions and work regime in the units; Standardization of processes and procedures and improvement of emergency plans in mining units in Peru; Team training and awareness raising; Synergy with Digital Mining actions, focusing on Safety; Master Plan for Industrial Automation (*Plano Diretor de Automação Industrial* - PDAI).

At the end of 2019, we ended the cycle of mapped activities and conducted a critical analysis of the final result, concluding that the objectives had been achieved. A few unfinished actions, for exceeding the scope of this plan, were incorporated into the Sustainability Master Plan, ensuring continuity. Our effort to improve the safety of operations in that country was recognized by the Peruvian Mining Safety Institute (*Instituto de Seguridad Minera* - Isem), which recognized the Atacocha unit for the lowest accident rate and absence of fatal accidents in the Underground Mining category in the last 12 months of operations.

3rd Mining Safety Seminar

For the third consecutive year, we held the Mining Safety Seminar at our Vazante unit, as part of the effort to bring together the largest mining companies in the country to debate work safety issues. Based on our goal to strengthen the safety culture in all units and to be a benchmark company in this regard, the event features panels for the exchange of experiences and the sharing of knowledge and practices related to the topic. In 2019, some 400 participants from 91 companies attended, with 21 hours of discussions held.

Safe Behavior Program

It involves efforts to raise the awareness and behavior of people in the workplace, creating a mutual assistance observation network and continuous feedback about observed behavior, encouraging safe practices, identifying risky conduct and promoting required corrections. This is a program that values dialogue, getting closer to people, critical analysis and delving deeper into the causes of behavioral deviations. In 2019, our efforts were aimed at leveraging the Safe Behavior Program in Peru's units by training experts, coaches and observers. It also involved implementing Executive Committees and establishment of a Steering Committee in that country.

Strengthening Alliances

The program was born at the Três Marias Unit in 2018, the result of the need to develop a tool to hold the alliance between leaders and team members in high regard and reaffirm each person's genuine commitment to life. On an individual approach basis, leaders record the observed behavior. The information is used as part of a structured dialogue between the leader and team members, in which agreements and commitments are established to create and strengthen genuine alliances between people. The data also is used in the employee assessment cycle. For their part, the Daily Safety Dialogues are used to develop leadership qualities and share knowledge. At the Três Marias unit, in 2019 supervisors monitored 3,694 critical activities and made 4,275 safety approaches. 779 risk perception workshops were also held. In 2020, the program will be introduced and implemented in other units.

More HSE Talent

Begun in 2018, this initiative seeks to attract, develop and retain health, safety and environmental professionals who have the potential to assume leadership positions in these issues and, thus, facilitate the succession process in the company's main areas. The program is designed to speed up education and training, with each participant given both an individual and a collective project to develop and implement. Professionals are regularly monitored by a local or corporate mentor, who supports their development process. In 2019, the program's six participants completed the job rotation stage, being transferred to other work areas in different functions to understand their distinct dynamics and become prepared for future challenges.

Outsourced employees safety GRI 403-7

The safety topic is observed with the same rigor and importance for both own and outsourced employees. Therefore, we strive for everyone to be given access to the same information and the same training. Hence, we continue to implement actions ranging from the selection and contracting of the strategic partners through to the training of operating professionals and the leadership group for these companies, risk management in the activities, consequences management and the recognition process for companies and professionals that best meet our standards.

This concern is even stronger in our Peruvian units, where 75% of the labor force is made up of outsourced employees. At the same time as this becomes a challenge, we have a strong sense of leadership and great respect for Peruvian culture, which contributed to the success of the training and qualification of leaders in the mining units.

In 2019, we launched the 100% Safe campaign to raise the awareness of employees of partner companies about safe behavior, encouraging reflection on the actions of each person in routine tasks. The motto of the campaign called on outsourced employees to make this reflection, as well as to act in accordance with The Nexa Way: "Stop and think about the consequences of your attitudes. Do it with courage, enthusiasm and intelligence." The initiative featured several actions, such moments of group conversation in internal and outside work locations and a blitz event in the community.

Employee from Três Marias



Performance

Material Topic
Safety and health

GRI 103-2, 103-3 SDG 3.4, 3.5, 3.9, 8.8, 16.7



Occupational health

Employees from Morro Agudo

Target	2018	2019	Form of measurement
Implement health promotion actions in 50% of the local communities where Nexa is located, by 2025. Base year 2018	10%	42%	Percentage of annual implementation of the activities in the units.

We want to be recognized as an organization that values health and quality of life at work through disease prevention actions and promotion of health, wellness and quality of life. And we carry out these activities through efficient management of health risks, encouraging healthy lifestyle habits in an organizational climate favorable to creativity, attraction and retention of talents. In addition, of course, to being committed to maintaining an environment in which own and outsourced employees can carry out their professional activities with quality and balance in the various aspects of their lives.

In 2019, we continued the Live Better Program that had been established in 2017, based on six pillars: physical, psychological, environmental, interpersonal relationships, independence and spirituality. Its premise is for balance and education in health, well-being and quality of life, the formation of a knowledge base

and expansion of the perception for decision making and lifestyle choices. It covers 100% of Nexa's units, with corporate actions and initiatives from each unit, according to the local reality and the risks related to the lifestyles of employees and their families. In 2019, 88% of our units implemented actions related to health and well-being in local communities. **GRI 403-6 SDG 3.4**

During the year, actions related to the Habitability Plan at the Pasco and Cerro Lindo complexes were particularly notable. Toward this end, we continued programs that had been initiated in 2018, allocating US\$ 8.3 million to investments for the expansion and construction of new accommodations. In addition to the adjustments, there were gains in several dimensions, including adapting the plants to the needs of a larger population of women in line with the goal of hiring women for mining operations in Brazil and Peru. The

plan foresees the completion of all ongoing actions by September 2020.

Shared Management

Within our Health and Safety Master Plan, we continue to diagnose occupational risks and apply the early diagnosis protocol for occupational diseases. This is our shared management model for Occupational Hygiene and Health, a program that aims to mitigate risks, sharing knowledge and responsibilities with preventive methods and practices with all employees.

The program is managed by the Corporate Quality of Life Committee, composed of representatives of Health and Safety, HOD and Corporate Communication, as well as representatives of the units, defined by each local committee. The corporate committee defines the guidelines and actions that must be implemented in all units. For their part, the local quality of life committees are responsible for implementing corporate and local actions pursuant to the demands of each unit.

GRI 403-3, 403-4 SDG 16.7

We reached 42% of our goal to implement, by 2025, health promotion actions in 50% of the local communities where Nexa has operations. Actions benefitted communities near the units of Aripuanã (Community Health Agents Program): Juiz de Fora (health

education for the Igrejinha community), Três Marias (global action); El Porvenir (service in the community of San Juan de Milpo); Morro Agudo (emergency care for the community near the unit); and at the São Paulo and Vazante administrative offices (blood donations).

Global Emergency and Disaster Response Plan

In 2019, in all operating units, with support from internationally renowned consultants, we verified our emergency response conditions at all operating units in Brazil and Peru. The consultants helped survey the strengths and weaknesses of our process. All the identified improvement possibilities are being managed, including the acquisition of fire prevention and fighting equipment, upgrading of the infrastructure to attend medical emergencies, training and capacity building of emergency first responders and continuation of hiring specialized emergency services for our facilities.

The Emergency Response Plan (PAEs) were delivered, with management training and simulated exercise (Table Top) of all units in Peru and part of the units in Brazil with the exception of Aripuanã and Juiz de Fora, which the plan is under development. A Global Emergency Response Plan should be implemented in 2020, to align the actions of the individual unit plans with the corporate Crisis and Business Continuity Management Plan.

GO NEXA

In 2019, we implemented a challenge to encourage behavioral change and the practice of physical activities, called Go Nexa. Some 1,900 people enrolled in the program. They all filled out a form to help set up teams with varied and heterogeneous profiles. Among the 1,037 effective participants, 48% had not practiced physical activities

before the challenge. The teams went through a qualifying phase and weekly rounds of internal competitions.

At the end of the year, during the awards event, the three winning teams were recognized for their efforts. An outcome of this activity is our encouragement of physical exercises and the reduction of health risks for our employees. In addition, Nexa's overall health index rose by 14% in three months, from 6.4 to 7.4.

GO NEXA RESULTS

3% own and outsourced employees

10 people lost 10kg!

5 people quit smoking

-520kg eliminated

12 people stopped taking sleeping pills



Environment

GRI 103-2, 103-3 SDG 11.6

Operating our units responsibly, preventing impacts on the environment and using natural resources consciously, are some of the actions we are taking to be a company recognized for its sustainable conduct. Moreover, it forms the basis for building the mining of the future, integrated with the demands of the communities and sharing value with our stakeholders. We want to be eco-efficient, producing more and producing it better, with fewer resources and less waste generation and water consumption. We seek to achieve the best environmental performance possible, whether in our administrative centers, mines or smelters. Our environmental goals are:

- 75% of recirculation and lower specific use of water;
- Reduce the specific emission of greenhouse gases by 5%;
- Decrease the disposal of tailings in dams and reduction by 50% in the specific generation of mining and smelting waste;
- Ensure that 100% of the units have a pre-prepared future-use alternative study and an updated decommissioning plan, in line with the sector's benchmark standards.

Our integrated management system, based on an Integrated Policy, establishes the guidelines that govern the conduct of the businesses, with a focus on quality management of environmental, health and workplace safety and social responsibility issues. In addition, we strictly follow all environmental laws and regulations pertaining to our business in each country where we operate. SDG 13.2

All of our operating units are ISO 14001 certified and, hence, follow globally recognized systems and compliance standards that support us to meet our goals. Every year,

each unit undergoes an assessment to assure compliance with legislation and environmental commitments, conducted by an outside company. Every two years, the units' Environmental Management System is audited internally. Moreover, each year, a self-assessment is carried out to identify opportunities for improvement and, following the Precautionary Principle, to ensure that we adopt appropriate measures to prevent environmental degradation. GRI 102-11

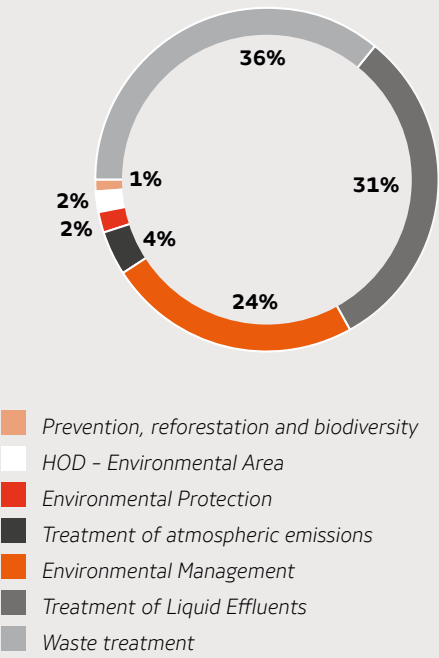
Environmental investments SDG 7.A

Aware of our role in helping to minimize the effects of climate change, we invest in programs that seek to lower carbon emissions, reduce energy consumption and optimize water use. We continuously seek innovative projects that bring improvements in equipment and processes, with significant gains for the environmental area.

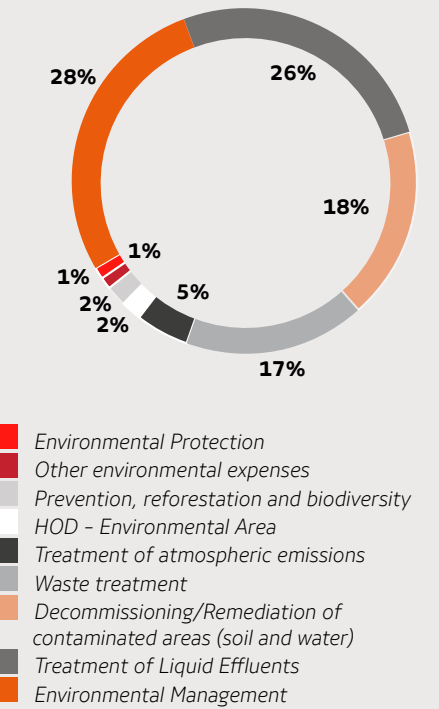
We also believe in the strength of Environmental Education Programs (PEAs), which have trained environmental monitors in Três Marias for 13 years, contributing to the greater awareness of the population, especially young people, about environmental causes. In this year's edition of the Young Scientists program, one of the actions was focused on water monitoring. Another outstanding project is *Vazante Verde*, executed in partnership with Vazante Municipality and *Legado Verdes do Cerrado*, which seeks to encourage the preservation of native species from the Brazilian cerrado (savannah lands) and foster the well-being of the population. Since 2018, 843 seedlings of angico, aroeira, jenipapo and ipê-Amarelo species were planted, within the overall goal of planting 10 thousand new trees by 2023.

In 2019, our investments in the environment totaled US\$ 89 million. Of this amount, 36% went toward waste disposal projects, 24% for environmental management and 31% for wastewater treatment.

Environmental Investments GRI 103-2



Environmental Expenses (Capex and Opex) GRI 103-2



Performance

Material Topic
Waste

GRI 103-2, 103-3 SDG 9.4, 12.4, 12.5



7. ASSUME



8. DEVELOP



9. PROMOTE



Dry stacking in Cerro Lindo

Target	2016	2017	2019	Form of Measurement
Reduce 50% of the specific quantity of mining waste generated ratio (calculated by the tonne of generated waste/tonne of product) and/or sent to landfills Base Year: 2014	10.07	10.59	10.47	Total waste generated and disposed of (dams, tailings deposits, mine interiors, batteries, etc.) per tonne of product
Reduce specific waste generation (tonne waste/tonne product) Base Year: 2014	10.34	10.61	10.57	Total waste generated (mining-metallurgical + industrial) per tonne of product

The generation of solid waste is a matter of global concern. Being aware of the impact of mining and our business, we are maintaining our commitment to develop new technologies allowing us to reduce our volumes of waste and transform them into secondary products that can be sold.

In 2019, our operations generated about 21 million tonnes of mining and smelting waste, 90.2% of which were hazardous and 9.8% non-hazardous, an addition of 8.9% compared to 2018. In the last year, we have observed a subtle decrease in the volume of waste per tonne produced, which went from 10.61 to 10.57 tonnes due to the proportional increase in production in our smelters. **GRI MM3**

We have examples of several products under development, such as the production of sulfoaluminous pre-clinker for application in concrete and synthetic granite for civil construction, that is produced from the waste from the Três Marias unit; and the separation of hematite from Vazante tailings for use in the steel industry (details on the projects are on page 40 - Chapter Technology, automation and innovation).

Recovery and reprocessing

Among the projects that we have developed in recent years is the recovery of barity from zinc mining waste in Cerro Lindo. In 2019, pilot tests were carried out in the United States for optimizing the consumption of reagents and boosting barity recovery. The concentrate produced was sent for analysis in two laboratories certified by the American Petroleum Institute (API), with excellent results in terms of chemical and physical purities. We completed the basic engineering of the demonstration unit with a waste handling capacity of 100 tonnes per day. The next steps are related to the validation of the price of barity concentrate, subsequently updating the project's financial model to take a final decision on the effective implementation of the project.

At our materials recycling unit in Juiz de Fora, we aim to increase the percentage of production from secondary materials to 33% in 2023 and 40% in 2025. In 2019, we recycled 16% of waste from Electric Steelmaking Powder,

0.13% from brass oxide, 1.2% from imported Waelz oxide and 0.7% from low-grade silicate.

In Morro Agudo, we transformed all the tailings into a secondary product, calcareous agricultural powder, a raw material for Zincal200. The tailings from the operation is sedimented, part of which is reused in the plant, part of which is sold as Zincal, a product used in agriculture to lessen soil acidity and increase productivity. In 2019, we started to sell more Zincal than the volume produced at the unit, which allowed us to reduce the volume of old tailings that had been stored. In the last year, we surpassed the mark of 1 million tonnes of limestone sold and doubled the reprocessing of old tailings at the plant. In addition to representing revenues of some US\$8.7 million (15% of the unit's total), the process eliminates the need to build new containment structures, leading to economic and environmental gains. **GRI 102-2**

In Vazante, we developed the mechanized mining method and the mineral processing technology to produce zinc by rejecting the Aroeira dam. In 2019, approximately 46 thousand tons of tailings were reprocessed, generating approximately 1.5 thousand tons of zinc concentrate and 44 thousand tons of dry tailings. The extra zinc production contributed to the unit and the community of Vazante, generating more direct and indirect jobs. In this process, the tailings removed from the dam are transformed into concentrated zinc and part into dry waste disposed in a pile, hence safer and more sustainable process.

Volume of waste (thousand tonnes) **GRI 306-2, MM3**

		2017	2018	2019
Hazardous	Mineral-smelting waste (sterile)	1,704.91	2,357.12	8,749.86
	Mineral-smelting waste (tailings)	9,661.73	10,670.60	10,172.39
	Industrial waste	3.28	3.01	5.24
Non-Hazardous	Mineral-smelting waste (sterile)	4,539.35	5,209.27	1,010.03
	Mineral-smelting waste (tailings)	958.88	1,012.58	1,043.04
	Industrial wastes ¹⁶	16.08	15.57	104.65

¹⁶ The increase in volume reflects the uptick in shipping of this waste for recycling process

Dam management and tailings deposit

While we are aware that the management of dams and tailings deposits is one of the main risks associated with mining activity, and despite the fact that we already apply safe tailings disposal practices, in 2019 we conducted a new and thorough review of our dam management policy that goes beyond the requirements of Brazilian legislation. We included the installation of sirens and ran mandatory mass evacuation simulations with the population living in the surrounding areas of our operations and we speeded up the introduction of dry tailings deposits at the Vazante unit. In 2020, we will conduct a second audit of our dams to ensure that all safety rules are being observed.

We apply guidelines from the International Commission on Large Dams to control and monitor our 47 dams and tailings deposits (23 in Brazil and 24 in Peru). In addition, we have strengthened our governance model in dam management by establishing clear rules (the 6 Golden Rules for Management of Dams and Tailings Deposits), which are mandatory and shall take effect in beginnings of 2020. In the event of transgressions, each case will be evaluated by a local committee, which will decide the disciplinary measures to be adopted.

Currently, we use three methods of waste disposal in our operations: dams, dry stacking and return to the mine, filling the spaces from which the minerals have been removed (backfill). For all methods of control and monitoring we follow the laws in force in each country where we operate.

Some operations may combine one or more disposal methods. In the Atacocha, El Porvenir and Cerro Lindo units in Peru, we adopted the backfill system, whereby 46% of the tailings return to the Pasco Complex (Atacocha and El Porvenir) mines and 38% to the Cerro Lindo mine, in which part of the waste is filtered, separating water and solids. The water is recirculated, whereby the filtered waste is sent to the piles to be compacted. This same model will be adopted in the Aripuanã operation, under construction. At the Vazante

mine, we began to use the dry stacking method, reducing environmental impacts and risks to the operation. And we already have a dam decommissioning plan for this unit, described on page 101.

Prioritization

Of our 47 dams, 24 are either paralyzed or in the decommissioning phase. We prioritize the reuse of the materials, through new technologies. When this is not technologically applicable, the material is disposed of in such a way as to reduce the environmental impact and represent less risk to the population, such as its return to the pit or dry stacking. Dams are resources that we avoid using and, when necessary, we build in a single stage, through the downstream elevation or center line models. Currently, about 85% of the tailing generated by Nexa in Brazil and Peru is not destined for dams, and other disposal technologies are used.

The Executive Board regularly monitors the subject, receiving structure stability reports presented at regularly scheduled meetings. We have adopted processes and procedures that form the Integrated Dam Management System (SIGBar) and an Integrated Deposit Management System (SIGDep), permanently monitored by an independent company, which receives inspection data every 15 and 30 days, respectively, to prepare its reports.

In 2019, we installed the most modern siren system (ZAS – Self-Rescue Zone Alarm System, with a sound intensity of 70 dB) in all units in Brazil, and we conducted simulations with local communities to prove its effectiveness. We verify that they are working in accordance with the requirements of the new Brazilian legislation, which provides for a range within a radius of 10 kilometers or a flood wave equal to 30 minutes. We currently are in the process of automating the monitoring of geotechnical instruments. In addition to the online monitoring required by law, we carry out biweekly on-site inspections. In Peru, in the face of the social and legal context, we are evaluating the forms of mass communication for communities. However, all our dams already have an Emergency Action Plan for critical situations.



Vazante unit

Performance

Material Topic
Water

GRI 103-2, 103-3 SDG 6.a, 9.4



7. ASSUME



8. DEVELOP



9. PROMOTE



Employee from Vazante

Target	2017	2018	2019	Form of Measurement
Increase water recirculation to 75% Base year: 2014	66%	66%	67%	% of recirculation based on total water used by the company
Reduce the specific use of new water (m3 new water/tonne of product) Base Year: 2014	31.00	28.00	28.35	Sum of all new water collected and used by the company, including surface runoff, rain, mine lowering, etc.) per tonne of product

The water topic remains at the center of our concerns and is addressed in our Sustainability Master Plan, which outlines the guidelines for the conscious use of the resource. We have goals for continuous water use reduction improvement in all of our operations. We intend to achieve a 75% recirculation percentage by 2025. **GRI 303-2**

In 2019, we reached a rate of 67%, one percentage point above the previous year, gradually moving toward reaching our target. The indicators of the percentage of

recirculation and specific use of new water (m³/ t) are being systematically monitored in an integrated corporate database. Our consumption increased by 3% in the year, justified by the installation of flow monitoring equipment, making the extraction of more assertive values possible.

Among the next steps to improve our index is to start up Vazante's dry stacking of tailings. The technique will allow the adoption of alternatives to recirculate more water or segregate contact water from water that is not used in the unit.

Recirculation

One of the examples of a high rate of water recirculation (about 90%) is the Cerro Lindo unit: all of this resource used comes from recirculation or the sea. The operation has a desalination plant, which extracts salt by reverse osmosis and pumps it to the plant, at an altitude of 2.2 thousand meters. In an area where there is a scarcity of water resources, this technology is important to avoid competing with the population in demand for water. In addition, we encourage and orient the community in the region to store rainwater. **GRI 303-1** **SDG 6.4**

We continually invest in efficient water recirculation programs, since they contribute both to lower new water intake as well as reduce effluent volumes and the environmental impact of disposal. To ensure that our effluents are disposed of after proper treatment, we allocate 26% of the funds destined for environmental expenses for this purpose. **SDG 6.3**

To improve our water management, we entered a partnership with the University of Queensland to use its methodology to measure our water balance and to assist us in increasing our water recirculation rates at the units.

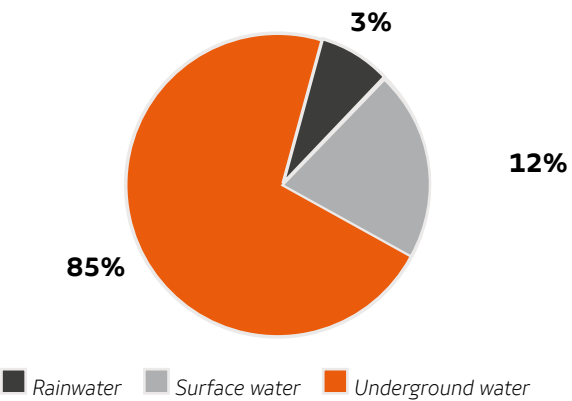
Basic sanitation

Our new projects, like Aripuanã, are already brought into existence with the objective of starting operations with 100% water recirculation. We also started a work on diagnosing water use in the region, together with the Trat Brazil Institute, to support the municipality in solving basic sanitation issues. In addition to Aripuanã, this diagnosis is underway in all of our units in Brazil and Peru, part of our commitment to create a legacy in the communities surrounding our operations, reducing social and environmental impacts with self-sustainable and long-term solutions (*more information about our social management is available on page 90*).

Capture in Vazante **SDG 11.6, 15.1**

We are paying special attention in the Vazante region, not only due to the reduction of rainfall volume in the Santa Catarina River basin, the lowest level in the last decades, but also because of the dolination phenomenon, consisting of depressions with characteristic occurrence in karstic soils (rich in limestone). Hence, we routinely monitor the flow of the Santa Catarina River, conduct piezometric monitoring and we have prepared a dolomitic risk management plan.

Total of water used by source (2019)¹⁷



¹⁷Top three water withdrawals

We also support the study being carried out by the Technological Research Institute (IPT) to evaluate the impact of river drainage in the region, a job designated by the Public Prosecutor's Office (MP) through a Term of Commitment agreement we entered into. In 2019, our responsibility actions were carried out in the project schedule, with the IPT producing and presenting three partial reports to the MP and to us.

Because the Santa Catarina River is one of the region's main water courses, the Vazante Unit also initiated a major project to recover its headwater region, which covers an area of 50 thousand hectares and contains 134 springs. After the diagnosis of the hydrographic basin, made in 2018, we started the first stage — the recuperation of four springs of Córrego Guariroba, one of the Santa Catarina River's main tributaries. In 2019, we proceeded with the construction of fences, totaling 21,855 meters. For 2020, the schedule calls for protecting 27 springs, with the construction of 19,900 meters of fences, to start the installation of flow monitoring points.

Cleanup of the Huallaga River

Concerned about contamination of the Huallaga River, we promoted a campaign to clean up the river through our volunteer program, involving 268 people from specialized companies, Nexa volunteers and local members of the communities surrounding the Pasco Complex in Peru. In five hours of efforts, we collected 30 tonnes of waste over 12.1 kilometers (from La Quinua to Malauchaca), which were transported to a local landfill.

Performance

Material Topic
Energy

GRI 103-2, 103-3 SDG 11.6, 13.2



7. ASSUME



8. DEVELOP



9. PROMOTE



Três Marias unit

Target	2017	2018	2019	Form of measurement
Reduce the emission of greenhouse gases (GHG) per ton of product by 5%. Base Year: 2014	0.879	1.151	0.950	Tonnes of carbon equivalent (tCO ₂ e)/ tonne of product

We know that a low carbon economy allows us to contribute to minimizing climatic variations, avoiding, from the business point of view, changes to project schedules and higher operating costs. In addition, from a social point of view, we help to build an increasingly sustainable society. For this reason, we have set a goal to reduce greenhouse gas (GHG) emissions by 5% per ton of product by 2025.

One of the main actions in this regard is the operation, since 2017, of a biomass boiler at the Três Marias unit, replacing boilers powered by petroleum-derived oil. The equipment provides savings of US\$ 3.8 million per year, with a 30% reduction in greenhouse gas emissions and a 46% reduction in the cost of steam production. The structure uses eucalyptus wood chips produced in the region as fuel. The next step is to introduce the biomass into the unit's operations for steam production. This model, proved efficient in Três Marias, and should be deployed at the Juiz de Fora unit.

SDG 7.2, 9.4, 12.2

At the Cajamarquilla unit in Peru, we are investing in the replacement of diesel oil, fuel oil and LPG with natural gas. The conversion of diesel generators to natural gas also started testing in 2019, which should reduce emissions and fuel costs at the plant.

Energy sources

In the search for a cleaner energy matrix, we signed a new long-term energy contract with the Peruvian state-owned Electroperú S.A., which is expected to supply 240 MW of energy for seven years, starting from January 2020. Thus, we achieved a potential savings of up to US\$ 50 million during the term of the contract and we guarantee that 98% of our energy needs in that country are met by a clean energy source.

In Brazil, we signed a new long-term contract with Furnas, of the companies hold by Eletrobras group, to serve the Aripuanã operation, under a 15-year contract, also starting in January 2020. In Brazilian operations, clean energy represents 74.1% of our consumption.

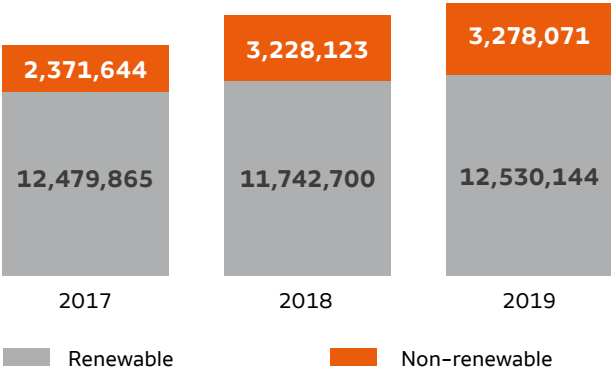
Energy consumption

We consumed 15,808,215 GJ of energy in our operations, an increase of 5.6% compared to 2018 (14,970,823 GJ), with 79.3% (12,530,144 GJ) from renewable sources. This proportion especially reflects the Brazilian and Peruvian electric power matrixes, since both of their bases have a higher share of hydropower sources.

In the year, electricity generation represented 25% of the total electricity consumed. Cogeneration is used for steam boilers and generation in power plants and small hydropower projects, managed by Votorantim Energia (which serves Votorantim S.A.'s subsidiaries and also outside clients).

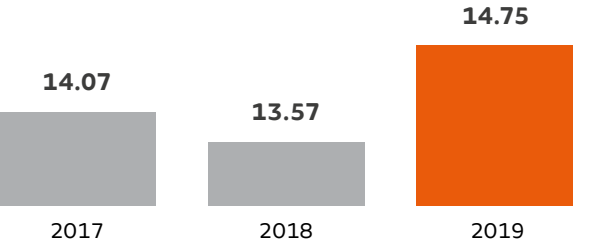
Energy consumption in and outside Nexa

GRI 302-1, 302-2



Energy intensity (Gj/t zinc)

GRI 302-3



Atmospheric emissions

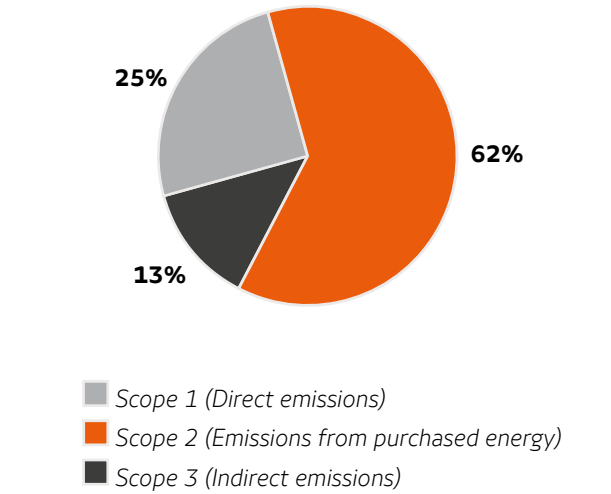
Our greenhouse gas (GHG) emissions totaled 1,017,744 tCO₂e, which meant a decrease of 19.8% compared to the previous year (1,269,674 tCO₂e).

Emissions resulting from the consumption of electricity (Scope 2) corresponded to 62% of the total, and indirect emissions (Scope 3) totaled 132,997.15 tCO₂e, or 13% of the total. Emissions intensity went from 1.15 tCO₂e per tonne of zinc produced in 2018 to 0.950 tCO₂e.

GRI 305-1, 305-2, 305-3, 305-4

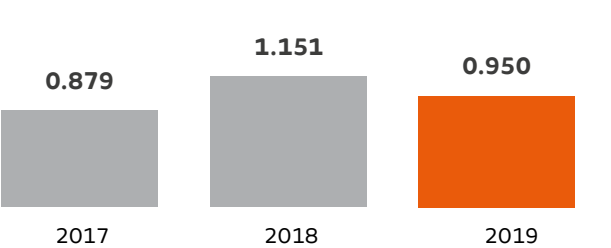
GHG Emissions by scope - 2019

GRI 305-1, 305-2, 305-3



Intensity of GHG emissions (tCO₂/t zinc)

GRI 305-4



Performance

Material Topic
Local development

GRI 103-2, 103-3 SDG 11.6, 13.2



1. RESPECT



4. ELIMINATE



5. ERRADICATE



Social Project in Cerro Pasco

Target	2017	2018	2019	Form of measurement
Achieve 90% efficiency of Local Development Plans	Local Development Plan (LDP) for 100% of the units in Brazil: Ambrosia, Fortaleza de Minas, Juiz de Fora, Morro Agudo, Três Marias and Vazante	Aripuanã Integrated Socioeconomic Plan (PIS); adjustment of the investment portfolio (social projects) of the units in Brazil to the LDPs; socioeconomic characterizations prepared for Cerro Lindo and Magistral, and pilot of the social agenda in Peru (Cajamarquilla); construction of strategic axes for Nexa's social projects	Creation of the Social Management Department; strengthening strategic axes for social projects	Percentage of compliance with each unit's Development Plan

We understand that the social topic is a fundamental lever for the mining sector and, for this reason, we seek an increasingly closer, transparent and constructive relationship with society. We strive to be able to create a positive and structured legacy with the communities where we operate, promoting positive transformations for local development in a harmonious environment, based on respect and empathy.

Symbolizing the importance we give to the topic and with the goal of a more cohesive administration of the plans and actions related to the subject, we created the Social Management Department within the Sustainability Directorate, merging the Relationship area with Communities and Social Projects.

Another important action during the year was the strategic cooperation alliance signed with the United Nations Development Programme (UNDP) for local development. Furthermore, we saw improvement of Human Development indexes in the territories where we operate, in accordance with the Sustainable Development Goals (SDGs).

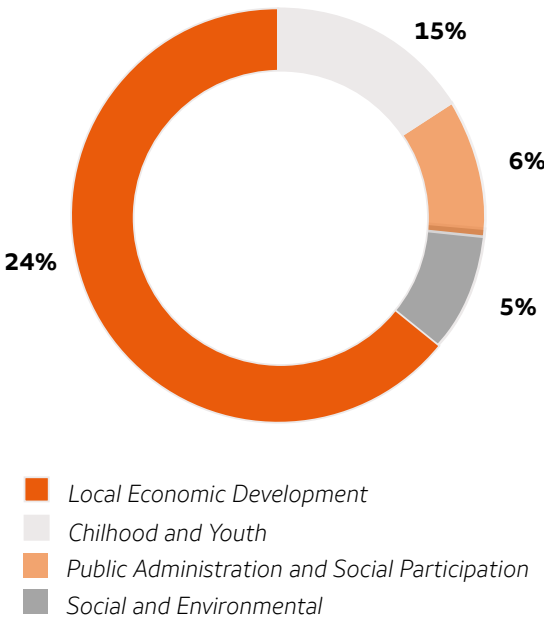
Each year we strengthen actions in the local or micro-regions located around our businesses that lead to improved social inclusion, strengthening, transformation and diversification of the local economies, improvement and innovation in public policies, environmental protection and rational use of natural resources, participation and social mobilization, encouragement of youth leadership, and better infrastructure and public facilities.

Since 2015, we have conducted a process of understanding the needs of each location and interactions with social actors through the dialogue established in the social agenda and the Local Development Plans (LDPs). It was by listening to the communities that we established the four strategic axes that have guided our portfolio of social projects since 2018: Local Economic Development, Public Management and Social Participation, Social and Environmental, Childhood and Youth. For 2019, our projects portfolio was adjusted to meet this new strategy, both in Brazil and Peru.

Our self-funded social investments, using official incentive or market-raised money, totaled US\$ 14.5 million in the year, up 39% compared to US\$ 10.4 million in 2018. **GRI 203-1, GRI 413-1** SDG 4.4, 8.6, 10.2

During the period, we sponsored a total of 145 projects in 17 locations in Brazil and Peru, benefiting more than 44 thousand people through initiatives aligned with our four strategic social action axes. .

Strategic axis actions SDG 1.3, 4.4, 8.6, 10.2



Local Economic Development Axis

We want to contribute to the sustainable economic development of the territories, through the enhancement of their local resources, the qualification of people and environmental protection actions. The projects are the result of the social dialogue held between 2017 and 2018 as part of the Social Agenda, a process of paramount importance in the construction of social projects adhering to the locations where we operate. Here are some examples of this performance:

Fisheries and Tourism Plan SDG 8.9, 12.B, 14.7

We operated in 2019 on the tourism front, introducing a local development tool in two municipalities with a vocation for the activity as identified through sectorial diagnoses. In Vazante, we ascertained the potential of business, religious and speleological tourism in the region, and began supporting the public authorities in a plan to approve popular validation of Municipal Law 1803/19, which created the municipal tourism policy, within the scope of the Public Management Support Project – Municipal Tourism Plan. The process was carried with local cooperation through workshops within the communities, consultations with the government and public hearings, which attracted 176 people from various tourism-related sectors. The effective startup of actions that derive from the approved plan has been scheduled for 2020.

Another ongoing project on the tourism front is *Mais Vazante* (More Vazante) which prepares the accommodations and food services sectors through individualized mentoring actions. We are coordinating and training the 28 main service providers in the municipality regarding customer service, hygiene and cleaning, management and governance, with an impact on the quality of service for more than 130 hotel guests and over 900 people served daily by the restaurants involved in the project.

In Três Marias, the tourism front organized individual mentoring over the year to establish commerce, gastronomic and lodging services in the Beira Rio neighborhood on the banks of the São Francisco River, directly involving 38 sectorial leaders. Supporting these actions, the project put together the Municipal Tourism Plan in cooperation with public authorities and the communities, which prepares the municipality for

ecotourism, another regional vocation. The creation of the Beira Rio – São Gonçalo do Abaeté brand logo as a tourist destination, established as a goal for 2020, the execution of a strategy to publicize the destination. The goal is to boost the income generated by tourism through greater tourist flows in the region.

Paracatu Movimenta – Innovation Ecosystem

Institutional support project for the Paracatu Sustainable Development Agency (Adesp) aims to strengthen the institution so that it is able to lead innovation processes and projects for sustainable economic development in the municipality. In 2019, the association created the Vale do Paracatu Innovation Ecosystem, approved by the Municipal Fund for Sustainable Development, with an investment of R\$ 300 thousand for the works to be developed in 2020.

Rural Technical Assistance

We offer rural agricultural technical assistance to small milk producers in the vicinity of the Morro Agudo unit, in Paracatu, through the Good Rural Practices project, and in the rural area of Vazante, through the Strong Rural Project. In all, 54 small rural producers (90% of milk producers) benefited directly from the project, which represents just over 240 people directly impacted. Small producers received technical guidance from an animal husbandry specialist, agronomist and agricultural technician, with a focus on bolstering productivity through the proper management of pasturelands and the preparation of livestock feed, in addition to the implementation of good management practices for rural properties.

In 2019, Morro Agudo producers recorded a 1.8% increase in the amount of milk produced, despite a 9% decrease in the number of lactating animals. That is, there was a significant rise in productivity. In Vazante, in turn, the project delivered better results in terms of rural property management, reducing milk production costs by approximately 1.7%.

Projects in Juiz de Fora

We have developed two social projects focused on income generation, preparation and access to the job market for young people and adults living in the Igrejinha neighborhood, neighboring our unit in Juiz de Fora. The Community in Action Project, introduced in 2019, offers individual consultancies and training for 30 formal and

informal entrepreneurs from the Igrejinha neighborhood and surrounding region, designed to help strengthen socio-emotional skills and entrepreneurial behavior, hence increasing income. With a similar objective, the *Qualificação* (Qualification) project offered professional training for 40 young people and adults, linking socio-behavioral and technical education for entering the job market. In 2019, a talent bank was consolidated and an employability network activated for selection processes in 2020.

Fostering the entrepreneurial environment

A survey of the commerce and services sectors value chain in Três Marias in 2019 oriented the guidelines for the development of two projects aimed at promoting the business startup environment: the Entrepreneurial Vocation project, in conjunction with the Commercial and Business Association and the Shopkeepers Chamber in the municipality (ACE/CDL), and the Public Management Support Project – Fostering the Entrepreneurial Environment, in partnership with the Economic Development Secretariat.

The actions focused on two distinct fronts: one for strengthening and structuring the strategic planning

governance of the ACE/CDL, with the purpose of engaging entrepreneurs from the trade and services sector to join the association, and the other to structure an integrated planning strategy and proactive approach among government leaders and sector’s entrepreneurs.

The new opportunities to foster the development of new businesses in Três Marias are beginning to materialize through the elaboration and approval of an Action Plan. The initiatives will be fully integrated into the fields of entrepreneurship and social innovation, designed to incorporate 30% of the existing MEIs in the city with ACE/CDL’s activities in 2020.

Another important result was the joint preparation and development, with more than 75 public management leaders from several secretariats related to the theme (among the Três Marias Development Agency, CDL, sector leaders and Development Secretariat), of a draft bill for an establishing a law to create an Entrepreneurial Environment Municipal Plan. The objectives are to facilitate and reduce the red tape involving the setting up and formalization of new businesses in the municipality, benefiting the entire commerce and services sector.



Social Project in Cerro Pasco

Competitive management of the Conchucos Livestock Chain

The project aims to improve the productivity, competitiveness and profitability of livestock chains in the Conchucos Peasant Community close to the Magistral project in Peru. We support the community organization by endorsing and applying its technical capabilities regarding the genetic enhancement of cattle through the adoption of a differentiated management of cattle feed and local hygiene practices. With the contribution of community members dedicated to livestock activities, an efficient management of water resources has been implemented to try to mitigate any type of local water table contamination. The project got underway in 2016 and is expected to be concluded in 2022.

Social Project in Cerro Pasco



Public Administration and Social Participation Axis

In this strategic area, our objective is to stimulate social participation, strengthening citizenship and the pro-activism of civil society while also encouraging better public administration. The final goal is more effective public policy development.

Social Agenda – Community Local Development Network

We have strengthened ties with communities in participatory processes that we have termed the Social Agenda (2017 – 2019). Through it, in dialogue with the entire community, Local Development Plans for units in Brazil have already been drawn up, as well as the overall configuration of social projects. To continue this process, the new stage encourages the formation of a community development network to promote well-being and local

development. The proposal is to invite participants to consolidate a group that strengthens and is able to build joint solutions to their needs. In addition, they act collaboratively and inclusively to achieve common goals autonomously.

Integrated Solid Waste Management

In 2018, the project developed and obtained the approval of Municipal Law 32/2018 that establishes the Integrated Solid Waste Management Program (PGIRS) in the municipality of Vazante. In 2019, the project fulfilled 100% of the Action Plan prepared for the implementation of the PGIRS: formalized the waste pickers association, created and strengthened 11 Environmental Education Centers (NEAs), implemented 16 Voluntary Solid waste Delivery Sites (Levos) in the urban center and rural area of the city and established governance policy between public authorities, the waste pickers association and local entrepreneurs to implement selective collection – which occurred on a daily door-to-door basis.

These actions directly impacted more than 500 people directly and almost 2 thousand people indirectly, approximately 30% of them residing in Vazante. For 2020, efforts will be intensified to strengthen the waste value chain, as well as the waste pickers association, to expand the generation of income from recycling, with the aim of enlarging the volume of solid waste disposed of by the association by 100%. The project also incorporates the organic waste composting front, aiming to reduce 1 tonne of organic waste now destined for landfill just in 2020 alone. The project also is linked to the Socio-environmental axis.

Water Supply System Management

The project is based on a diagnosis of water supply conditions prepared jointly with Aripuanã’s municipal administrators. This analysis pointed to a daily consumption of 404 liters per inhabitant, water losses above 50%, only 40% of micro-measurement, in addition to problems in water distribution and quality. In conjunction with public administrators, an Action Plan (2019/2020) was drawn up whose immediate and short-term goals include actions to improve and modernize the city’s water supply system. The main initiatives include the purchase and installation of 2.8 thousand water meters, renovation of the Water Treatment Station (ETA) and the capture of raw water, re-registration of non-

residential connections and studies for tariff recovery. The immediate impact of the plan will be to permit the financial self-sufficiency of the Department of Water and Sewage (DAE), now dependent on funding from the city government, plus an improvement in the quality of services provided to the more than 11,600 inhabitants of the urban core of the municipality.

Fiscal balance

It aims to support the public administration of Aripuanã, to balance municipal accounts through the control of its expenses and revenues. The project seeks to optimize the impacts of public investment in increasing own revenues, ISS and transfers (ICMS, Royalties CFEM); reduction of pressure on basic infrastructure, equipment and social services; government procurement services; and working towards financial balance, efficiency and effectiveness of government in the use of the municipality’s own resources. In 2019, the work carried out with the administrators and the process for training municipal suppliers guaranteed an increase of approximately 40% in the collection of the municipal ISS tax, with funds that remained in Aripuanã.

Local Development in El Porvenir

In order to strengthen local development processes based on economic, social and institutional management, we focused on supporting the development of spaces for dialogue and interaction with public, private and community institutions. From this, local governments, service providers and users began to manage drinking water services more sustainably, improving their performance in the management of public services and their role in local development, making traditional economic activities competitive.

Volunteering – All of us

Our volunteer program is transversal, present in all operations and offices, contributing to the creation of a legacy together with the community and as support to the initiatives that integrate the four strategic axes of our social management. Its proposal is to promote social participation and the development of networks and local alliances, providing dialogue and greater engagement of communities and businesses for local sustainable development.

It relies on the active engagement of the company's leadership, at various levels, and uses our business strategy as a tool for empathy and social engagement. In 2019, it gained breadth and visibility, expressed by more than 20 thousand hours dedicated to actions, the involvement of around 1.2 thousand direct employees and third parties, in addition to hundreds of people from the community, and approximately 34 thousand beneficiaries.

Some highlights of 2019 were:

We are Talent – Recognizing the different talents and the potential for community impact of our employees, the project emerged at the Juiz de Fora unit as an initiative to share diverse knowledge. There, through continuous workshops, personal and professional development of the internal and external public is fostered. In 2019, cooking classes ("Growing in the Kitchen") were taught to 25 young people in the community, in addition to English, finance and IT classes for more than 30 own and outsourced employees.

Echologic Park La Quinoa – In a region where the options of collective recreational spaces for children are limited, the initiative transformed a plot of land where waste was dumped into a leisure area – an ecological park, actually. Using materials discarded in the operation of the Pasco Complex, we built, together with the community, structures

and toys that benefit more than 200 families from the La Quinoa rural community.

Nexa+Community – The initiative is a partnership between Nexa and the Três Marias community, which mobilized the network of partners and local institutions for a major event to provide free services in the areas of Sustainability, Citizenship, Beauty, Health, Leisure, Culture and Communication. Some 8.5 thousand people were directly benefited, through 25 thousand care actions.

Protagonists for a socio-environmental change – The Lima office, in partnership with Recidar, carried out actions of creative formulation and reform of the collective environments of the Institución Educacional de Malta. The initiative aimed to promote the pro-activism and participation of youths in the construction of a more open and receptive

educational space. The project included design thinking workshops and a hackathon, with the layout developed collaboratively. More than 60 students and two teachers participated directly in the action, indirectly benefiting over 2 thousand primary and secondary school students.

Light Tables to stimulate children's learning – Seeking to enhance teaching and learning, the initiative used recycled materials from the Cajamarquilla operation for the manufacture and installation of didactic light tables at the Institución Educacional La Florida. The light tables follow the Reggio Emilia educational approach, which aims to create a friendly, active and inventive school, a place of learning through research, recognition and reflection of children in early childhood. The initiative directly benefited 55 children from the two early childhood education classes.



Socio-Environmental Axis

We aim to contribute to improving the availability and quality of water, solid waste management and good environmental health conditions.

More water – Morro Agudo Alive

It focuses on initiatives for the preservation of water resources in the Morro Agudo region by surrounding the areas of springs, footpaths and protection areas. In 2019, the project installed more than 3.5 thousand meters of fencing on more than ten rural properties in the unit's area of influence at the Córrego do Batuque Basin region, directly impacting 80 residents on the properties benefited by the project. The goal for 2020 is to incorporate new areas of water springs to be recovered,

with the integration of the work of fencing them off into the activities of the Environmental Education Program and the sharing of information so that producers make progress in the sustainable management of their properties.

People Caring for Water - Vazante

We plan to increase the scope of the People Caring for Water Project, carried out in partnership with the BNDES, which associates the fencing of springs and footpaths with community and school environmental education in the municipality of Vazante. The focus will be on working on environmental issues related to water resources and water management.



Social Project in Vazante

AGP – Basic sanitation (water and sewage)

The project is based on census diagnostics to learn about the water supply and sewage conditions in our units’ areas of influence. From the data and together with the communities, solutions and executive projects will be developed to improve the services offered to the population. The Municipal Basic Sanitation Plans will also be reviewed, contributing to increase access to drinking water and sanitation for the communities surrounding our operations in Brazil and Peru.

In 2019, the diagnosis project surveyed the conditions of water supply and sewage in just over 950 households located in the areas of influence of the Juiz de Fora, Três Marias, Vazante and Morro Agudo units. The project has the support of Instituto Leva Brasil and Reinfra consulting, responsible for monitoring the program in the regions. For 2020, we foresee the development of appropriate solutions to the characteristics of each location, as pointed out in the diagnoses.

Telemedicine

The *Telessaúde* (Telehealth) project seeks to improve the access of the vulnerable population to public health services. For this, we provide a technological solution composed of equipment for local health establishments, with an ultrasound kit and software that sends the images captured by the device to radiologists who provide an accurate diagnosis within 48 hours, recommending the most appropriate care for the patient. The project addresses medical protocols for the second and third trimesters of pregnancy, as well as abdomen protocols. The use of this technology is currently in the implementation and training phase for health personnel. In addition, aided by teleeducation technology, educational campaigns for preventive health are being scheduled.

Childhood and Youth Axis SDG 16.2

Our mission is to contribute to the social development of children and youths, to make them protagonists and social participants, in addition to being trained and qualified for study and work. Hence, we seek to strengthen the social protection network and social participation process.

Youth Art and Culture – A Banca (The Stand)

Igrejinha, in Juiz de Fora, is a neighborhood marked by the high social vulnerability of teens and youths, who daily experience different types of violence and deficient



Social Project in Cerro Pasco

access to their rights. Transforming this reality requires a joint effort to expand perspectives, value education, self-esteem and the role of young people. This project integrates the social action strategy, fostering empowerment, strengthening identity, self-esteem and future perspectives, with workshops and cultural activities based on urban culture, popular education and music for social integration.

Project beneficiaries and family members already perceive the first effects of the projects, with a change in positioning, higher self-esteem and positive behavioral changes that directly impact the family, the school climate and daily life. In two years of operation, the project has already helped more than 50 young people through ongoing workshops and more than 200 teenagers and young people in collective activities, directly benefiting more than 50% of the public of this age group in the neighborhood, in addition to integrating youths from the locality with other social movements in the municipality.

Life Planning

One of the objectives of the Três Marias Local Development Plan is to expand educational opportunities, perspectives and community participation

of teens and youths who attend high school at the Ermírio de Moraes and João Guimarães Rosa state schools. Toward this end, the Life Project integrates the local social action strategy with the curricular module based on the socio-emotional competences proposed by the National Common Curricular Base (BNCC).

The project seeks to make the school environment and learning more attractive through methodologies and cross-cutting themes that dialogue directly with the challenges faced by youths in their daily lives. In 2019, self-assessments, socio-emotional skills assessments and training processes were applied to 1st-year educational managers. In the coming years, the project will be extended to the 2nd and 3rd years. The project currently benefits 950 students and 15 teachers.

Culture of Peace

Project developed in Aripuanã aims to promote the lives of children and young people in a comprehensive way, working with the protection of rights, quality in formal education and access to socio-cultural activities. On the quality front in education, actions are carried out to train teachers, support educational

and school management, in addition to initiatives to reduce conflicts and improve school climate and performance. In the district of Conselvan, for example, one of the areas of greatest social vulnerability in the municipalities, children and teens live daily with violations of rights and violence. The project aims to promote a culture of peace in schools, helping to deal with conflicts in collective coexistence, improving the environment and school performance by strengthening learning and lowering school dropout rates. In 2019, 72% of teachers from the two local schools were trained, benefiting 676 children and teens and 32 education workers.

Safe and healthy schools

The project aims to improve the teaching and health conditions of students at five schools located in El Povernir and Atacocha. It acts in the development of healthy conditions in the school environment, creating a better-quality learning process. Students at educational institutions where we operate improve their skills based on a quality learning process. In addition, with the support of parents who actively participate in management and basic services, the school environment becomes healthier.

Material Topic
Decommissioning

GRI 103-2, 103-3 SDG 11.4



1. RESPECT



Social Project in Três Marias

Target	2017	2018	2019	Form of measurement
Ensure that 100% of the units have prepared a future-use alternative study and an updated decommissioning plan, in line with the sector's benchmark standards. Base year: 2016	83.3%	83.3%	100%	Percentage of total units with alternative future use study and updated decommissioning plan.

Our commitment to the mining and industrial facilities we operate in Brazil and Peru is not limited to the operation time of our mines, extending to an adequate closure of activities, with the aim of creating a legacy for the surrounding community.

We consider this topic to be relevant and part of the business strategy, so much so that it is accompanied by internal policies and involves operational units up to and including the Executive Board. Independent of current legislation, all our operations have future use and decommissioning plans based on the most current technical references and best market practices. They are more complete and committed plans than the current legal requirements.

One of our distinguishing characteristics is planning decommissioning even before the start of operations, as in the most recent case of Aripuanã, where the plan will be completed even before activities startups, scheduled for 2021. We have revised our decommissioning plans in Brazil (2017) and Peru (2018-2019), with estimated expenditures above US\$ 92 million by 2022. Thus, we reached our target of having 100% of our decommissioning plans updated. We have also established a governance practice to ensure that all decommissioning steps will proceed as planned.

Decommissioning plans are documents that contain technical guidelines for safe, complete and efficient decommissioning and include information on actions of an economic, environmental and social nature. Formalizing these data in a document creates a sense of urgency in the population, encouraging pro-activism from the community and public authorities that might not have been achieved during the mine's operational phase.

In 2019, we triggered the decommissioning plan for Vazante and Três Marias. They already have structures to be decommissioned in the context of progressive closure, such as pits and tailings deposits. We also filled in the details for the Atacocha plan, which will get underway in 2020.

Decommissioning of Vazante SDG 15.2

Although there are advanced studies to augment the service life of the Vazante mine in Minas Gerais, we will follow the decommissioning plan filed with the National Mining Agency (ANM), in which the forecast based on probable and confirmed reserves is for operations to continue until 2027. Investments to fulfill the plan are US\$ 19.5 million over the 2019-2023 period.

Decommissioning of Atacocha

In 2019, our focus was to continue the decommissioning of the old Atacocha and Cajamarquilla dams. Studies and detailing of the works were carried out for the physical, hydrological and geochemical stability of the Ticlacayán, Malauchaca, Vaso Cajamarquilla and Chicrín tailings deposits, located near the Atacocha mine in the Pasco Complex in Peru, as was the socio-environmental diagnosis (physical, biotic, socioeconomic environments), identifying the limitations and potential of the areas.

The alternative chosen for future use of the deposits was the installation of greenhouses located along the central highway towards Huariacca for medium-scale flower cultivation for national sale and future export. It will be hydroponic crops for climate protection and pest control, managed by communal companies, benefiting the population near the operation.

The next phase consists of conducting studies for feasibility and the production chain for floriculture, as well as informative lectures and training of farmers to generate new businesses. A pilot project also will be implemented to test the effectiveness of the alternative.

Performance

Material Topic
Human Rights

GRI 103-2, 103-3 SDG 5.1, 8.7



2. ENSURE



7. ASSUME



8. DEVELOP



Employees from Morro Agudo

Target	2017	2018	2019	Form of measurement
100% of the suppliers of critical categories engaged in the socio-environmental risk prevention and mitigation program Base Year: 2014	Regular supplier performance evaluation	Completion of three supplier assessment cycles and identification of improvement opportunities	Maintenance of the evaluation cycles of suppliers in Brazil and Peru. Inclusion of new categories (inputs and engineering) in the monitoring process.	Percentage of suppliers evaluated

We are committed to curbing any and all violations of human rights in the physical, psychological, cultural and social dimensions, which involve violence, abuse or discrimination, especially involving children and teens. Respecting the rights and value of each individual is fundamental to our business and the relationship with our stakeholders.

We encourage everyone to report any situation of violation of human rights by calling 100, the internal contact number. We recommend partner companies to adopt prevention measures and procedures for handling complaints related to human rights violations. At the same time, we ask our partners to make a commitment to comply with our Social Golden Rules, under penalty of punishment. All our employees receive training about our guidelines, based on our Code of Conduct.

GRI 412-2 SDG 16.B

Suppliers

Due to the nature of our business, we deal with a large contingent of outsourced employees (in Peru, this category represents up to 70% of the workforce in local operations). For this reason, the evolution of a strategic partnership is fundamental for better safety, cost and performance management.

In Peru, we began the reclassification of service providers to the mines in order to deepen our relationship based on the issues mentioned above and also seeking innovation. We have already achieved positive results in 2019 and we will continue this work throughout 2020. Regarding safety, for example, we strengthened our policies and developed much more aware suppliers, who proactively report possible accident risks. Meanwhile, in Brazil, the focus during the year was on making the outsourced worker employment contract more flexible, to gain productivity.

The outsourced management system is structured in four pillars (processes, tools, structure and people). There are 25 multidisciplinary fronts in Brazil and 36 in Peru, which work on improving procedures, tools, flows, indicators and greater clarity and definition of roles and responsibilities throughout each stage of

the service management process. Thus, we guarantee, in addition to complying with legal obligations, the constant improvement in the quality of services and cost optimizations.

When a report is filed about non-compliance with the requirements related to the impacts on human rights, an investigation process is initiated to look into the facts and take the applicable actions. Sanctions range from fines to termination. For the period covered by this report, no cases of violation of these conditions were registered.

IN SEARCH OF INNOVATION

The closest and long-term relationship with our strategic suppliers allows us to develop innovative solutions for our business that do not depend on the registration of ideas and projects on our formal innovation platforms, such as the Mining Lab.

In December 2019, for example, we signed an agreement with a supplier in Peru to help us develop new technology to replace the blasting process in mines, thereby improving worker safety and the environmental impact.

Another project in progress with a large Brazilian supplier consists of increasing our agility and efficiency in transporting ore and tailings. This is what we call Supply Collaboration, a form of relationship that we want to increasingly foster.

Evaluation

GRI 103-2, 103-3 SDG 8.8

Since 2018, our main suppliers have undergone a quarterly assessment cycle considering four dimensions: performance, health and safety, environment and legal compliance. In 2019, we included inputs and engineering suppliers in these formal evaluations. The dimensions have indicators and weightings that will make up the supplier’s overall score, with safety now given greater predominance than the other dimensions. The sustainability and compliance requirements are disqualifying factors; therefore, they do not fall within the scope of the assessed dimensions.

In the latest cycle, our suppliers underwent a mandatory assessment based on criteria that included contract value and relative importance to the business. Some 127 suppliers in Peru and 250 in Brazil were evaluated. Suppliers that do not meet a minimum score of 7 in the global assessment and do not follow our recommendations for improvement, are substituted after three consecutive cycles with results below expectations. In partnership with the supplier, the contract manager is responsible for preparing a recovery action plan, taking into account each dimension that the supplier does not score as expected, as well as monitoring the execution and the results of the action plan agreed between the parties. During the year, there were no blocked suppliers or contracts terminated for this reason.

In addition, 66% of our suppliers in Brazil have been subjected to a process that assesses their financial health. Monthly and annual assessments are conducted based on a compliance relationship. Since October 2019, upon being approved, 100% of suppliers have gone through a due diligence process. Apart from other requirements, they are checked on more than 250 worldwide lists to verify if there are any involvements that could represent a risk for Nexa. If any risk is identified, we take the necessary measures.

In 2019, 58% of new suppliers were selected and included in the system based on criteria of labor practices and 20% on environmental criteria, human rights and social impacts. We aim to engage 100% of critical suppliers in programs for the prevention and mitigation of social and environmental risks by 2025, and our intention is to anticipate this objective. GRI 308-1, 414-1

SELECTION CRITERIA

Our criteria for selecting suppliers include environmental and socio-economic conditions, which are:

Environmental Aspect

- Compliance with environmental legislation in the countries of operation
- ISO 14001 standard
- Health, workplace safety and environmental programs
- Environmental risk prevention programs
- Operating/Environmental Operation Licenses

Socio-economic aspect

- Compliance with all laws in the countries of operation (labor, tax, anti-corruption, etc.)
- Does not appear on the “Slave Labor Blacklist” published by the Brazilian Ministry of Labor and Employment
- Signing of a document based on the SA 8000 standard, including non-use of forced or child labor, providing a safe and healthy working environment for employees’ freedom to associate and non-discrimination of any kind

Although we do not have in our records any suppliers with operations considered to be at risk for the occurrence of violations of human rights, some of our contracts and purchase orders refer to the theme through specific clauses, which prohibit the use of child, forced or analogous to slavery, in addition to establishing the obligation to consult and comply with the Code of Conduct. Suppliers must also ensure contractually a safe and healthy work environment, freedom to unionize and non-discrimination by gender, race, social class, nationality, religion, physical or mental disability, sexual choice or any other condition of diversity.

GRI 407-1, 408-1, 409-1

Supply Chain

GRI 102-9, 103-2, 103-3

At the end of 2019, 4,967 companies were registered in our system (2,966 in Brazil and 2,001 in Peru), a smaller number than in the previous year. Our supplier registry covers the most diverse segments: raw material inputs, waste management, environmental management, energy supply, minerals and chemical products, fuels in general, health services, packaging supply, transportation in general, MRO (Maintenance, Repair and Other), facilities and IT, services and maintenance, among others.

We adjusted our procedures for registering, blocking, unlocking, expanding and approving suppliers with the migration to the Ariba platform, always maintaining the priority for suppliers around our units to foster local economic development. Our units are free to purchase non-critical services locally, speeding up the operation and favoring the creation of long-term local ties. We also encourage strategic suppliers with greater interactions with us to open units close to the areas of operation, a practice that has been emphasized in our new project in Aripuanã. At the end of the year, our purchases totaled US\$ 1.9 billion, 3% of which were contracted from companies located in the regions where we operate.

In 2020, we will start up the first Supplier Recognition Program, designed to reward those who have significant and recurring involvement with us, in order to generate value and strengthen the spirit of collaboration and partnership. All companies that supplied goods and/or provided services during the period from January 1-December 31, 2019 and represent the total volume transacted in each category (Logistics, Capex, Services, Supplies and Materials) will automatically participate in the awards.

Expenditures with suppliers

GRI 204-1

	2017	2018	2019
Total value spent on suppliers (US\$ million)	1,347.49	1,277.30	1,957.11
% of spending on local suppliers ¹⁸	2.4%	3.6%	3.1%

¹⁸ Data for 2017 and 2018 revised due to a review of the criteria that define local suppliers.

GRI 102-48



GRI Annex



General contents

Total number of employees GRI 102-8

		2017	2018	2019
Own employees				
Exempt employees	Men	3,639	3,696	3,774
	Women	509	570	624
Hourly employees	Men	1,213	1,242	1,234
	Women	65	82	128
Trainee	Men	14	0	0
	Women	6	0	0
Interns and apprentices				
Intern	Men	73	68	73
	Women	76	56	91
Apprentice	Men	31	35	63
	Women	17	21	39
Service providers (Outsourced)				
Permanent	Men	6,971	6,085	6,385
	Women	0	571	645
Temporary employees	Men	396	6,362	4,097
	Women	0	390	343
Total		13,010	19,178	17,496

Economic series

Entities included in the Financial Statements GRI 102-45

Subsidiaries
L.D.O.S.P.E. Geração de Energia e Participações Ltda. - "L.D.O.S.P.E"
L.D.Q.S.P.E. Geração de Energia e Participações Ltda. - "L.D.Q.S.P.E"
L.D.R.S.P.E. Geração de Energia e Participações Ltda. - "L.D.R.S.P.E"
Mineração Dardanelos Ltda.
Nexa Recursos Minerais S.A.
Mineração Santa Maria Ltda.
Pollarix S.A. (i)
Karmin Holding Ltda.
Mineração Rio Aripuaña Ltda.
Votorantim Metals Canada Inc.
Rayrock Antofagasta S.A.C
Cia. Magistral S.A.C
Nexa Resources El Porvenir S.A.C.
Minera Pampa de Cobre S.A.C
Nexa Resources Cajamarquilla S.A. - "NEXA CJM"
Inversiones Garza Azul S.A.C
Nexa Resources Perú S.A.A. - "NEXA PERU"
Nexa Resources Atacocha S.A.A. - "NEXA ATACOCHA"
Minera Bongará S.A.
Nexa Resources UK Ltd. "NEXA UK"
Votorantim US. Inc.
Joint-operation
Campos Novos Energia S.A.
Cia. Minera Shalipayco S.A.C

Direct economic value generated and distributed (US\$ thousand) GRI 201-1

	2017	2018	2019
Direct Economic Value Generated			
1) Revenue	-	-	-
1.1) Sales of Products and Services	2,706,831	2,779,008	2,552,275
1.2) Other Operating Income (Expenses)	5,279	-9,536	-857
1.3) Allowance for Doubtful Accounts	385	-544	353
1.4) Total Revenues	2,712,495	2,768,928	2,551,771
2. Inputs acquired from third parties	-	-	-
2.1) Raw materials and other production inputs	-1,511,124	-1,086,974	-1,063,094
2.2) Materials, energy, outsourcing and others	-43,673	-594,214	-532,332
2.3) Impairment of property, plant and equipment	-	-3,283	-142,133
3) Gross Added Value	1,157,698	1,084,457	814,212
3.1 Depreciation, amortization and depletion	-270,454	-267,189	-317,892
4) Net value added generated	887,244	817,268	496,321
5) Value Added Received in Transfer	-	-	-
5.1) Equity Pickup	60	-	-
5.2) Realization of other impacts when investment is written down	-	-	-
5.3) Financial revenues	167,827	423,752	204,824
Total Value-Added Received in Transfer	167,887	423,752	204,824
6) Total value-added to be distributed	1,055,131	1,241,021	701,144
7) Distribution of Added value	-	-	-
7.1) Salaries, benefits and social charges	278,285	262,964	254,251
7.1.1) Direct remuneration	146,766	142,259	151,61
7.1.2) Social charges	76,677	74,292	67,158
7.1.3) Benefits	54,842	46,413	35,483
7.2) Taxes, tariffs and contributions	285,175	223,472	257,318
7.2.1) Federal	195,413	143,638	120,658
7.2.2) State	70,127	48,427	32,92
7.2.3) Municipal	138	542	485
7.2.4) Deferred taxes	19,497	30,864	103,255
7.3) Remuneration of third-party capital	326,406	663,609	348,583
7.3.1) Financial expenses	298,008	626,406	309,425
7.3.2) Rents	28,398	37,203	39,158
7.4) Remuneration of own equity	165,265	90,976	-159,007
7.4.1) Net profit (loss) for the year	165,265	90,976	-159,007
8) Distribution of added value	1,055,131	1,241,021	701,144

Anti-Corruption Policies and Procedures GRI 205-2

Region	Functional category	Total employees who were informed about anti-corruption policies
Brazil	CEO/Director	8
	Manager	107
	Coordinator/Consultant	445
	Technician/Analyst/Supervisor	597
	Operational	688
	Intern	0
	Apprentice	0
	Total	1,845
Peru	CEO/Director	2
	Manager	42
	Coordinator/Consultant	190
	Technician/Analyst/Supervisor	572
	Operational	490
	Intern	0
	Apprentice	0
	Total	1,296

Environmental series

Consumption of main materials (tonnes) GRI 301-1

	Classification	2017	2018	2019
ROM (internal supply)	Non-renewable	12,976,233	13,027,531	12,984,367
Concentrate (internal supply)		1,143,562	1,163,740	1,230,367
Other materials (internal supply)		161,051	191,658	88,708
Other materials (external supply)		354,972	414,91	317,528
Total volume of main materials		14,635,818	14,797,840	14,620,971

Materials used from recycling (tonnes) GRI 301-2

	2017	2018	2019
Total recycled materials used	92,298	109,623	85,464
Total materials used GRI 301-1	146,358,188	14,797,840	14,620,971
Percentage of recycled materials used	1%	1%	1%

Water withdrawal by source (in megaliters)¹⁹ GRI 303-3

	2017		2018		2019		
	Total	Total	In water scarcity area	In non-scarcity water area	Total	In water scarcity area	In non-scarcity water area
Surface water ²⁰	19,468.7	16,432.0	8,610.5	7,821.5	16,854.1	3,952.5	12,901.6
Fresh water ²¹	-	16,432.0	-	-	9,649.1	-	-
Other water ²¹	-	-	-	-	7,205.0	-	-
Underground water ²²	96,086.2	111,317.6	103,560.1	7,757.5	120,515.6	1.55	120,514.0
Freshwater	-	110,870.5	-	-	3,613.3	-	-
Other water	-	447.1	-	-	116,902.3	-	-
Rainwater ²³	6,968.7	9,487.9	7,880.1	1,607.8	4,574.5	1,529.8	3,044.7
Freshwater	-	9,487.9	-	-	2,135.6	-	-
Other water	-	-	-	-	2,438.9	-	-
Sea water	3,028.6	3,562.4	0.0	3,562.4	3,646.7	0.0	3,646.7
Freshwater	-	-	-	-	-	-	-
Other water	-	3,562.4	-	-	3,646.7	-	-
Produced water ²⁴	916.9	1,781.7	173.6	1,608.1	999.5	50.9	948.6
Freshwater	-	1,781.7	-	-	873.6	-	-
Other water	-	0.0	-	-	125.9	-	-
Third party water ²⁵	0.0	0.0	0.0	0.0	19.0	0.0	19.0
Freshwater	-	-	-	-	-	-	-
Other water	-	-	-	-	19.0	-	-
Total water withdrawn and used	126,487.4	142,581.6	120,224.4	22,357.3	146,609.4	5,534.8	141,074.6
Freshwater	-	138,572.1	-	-	16,271.6	-	-
Other water	-	4,009.5	-	-	130,337.8	-	-

Water discharge (in megaliters)¹⁹ GRI 303-4

	2017		2018		2019		
	Total	Total	In water scarcity area	In non-scarcity water area	Total	In water scarcity area	In non-scarcity water area
Surface water ²⁰	106,064.5	119,250.1	103,093.9	16,156.2	127,432.1	5,013.8	122,418.4
Fresh water ²¹	-	114,109.3	-	-	7,968.7	-	-
Other water ²¹	-	5,140.8	-	-	119,463.5	-	-
Underground water ²²	3,139.3	8,144.1	8,015.8	128.3	4,142.1	162.3	3,979.8
Freshwater	-	7,819.8	-	-	0.00	-	-
Other water	-	324.3	-	-	4,142.1	-	-
Sea water	1,993.3	2,132.5	0.0	2,132.5	2,345.1	0.00	2,345.1
Freshwater	-	0.0	-	-	0.00	-	-
Other water	-	2,132.5	-	-	2,345.1	-	-
Outsourced treatment ²⁶	1,506.7	1,533.7	119.6	1,414.1	771.5	36.2	735.3
Freshwater	-	1,414.1	-	-	735.3	-	-
Other water	-	119.6	-	-	36.2	-	-
Retained water ²⁷	1,273.0	1,387.3	933.6	453.7	1,343.0	0.00	1,343.0
Freshwater	-	958.4	-	-	480.3	-	-
Other water	-	428.9	-	-	862.7	-	-
Others ²⁸	11,506.0	9,083.7	5,633.9	3,449.8	9,100.1	811.9	8,288.2
Freshwater	-	6,783.1	-	-	1,152.3	-	-
Other water	-	2,300.6	-	-	7,947.8	-	-
Total water discarded	125,482.9	141,531.7	117,796.9	23,761.8	145,134.0	6,024.2	139,109.8
Freshwater	-	131,084.7	-	-	10,336.5	-	-
Other water	-	10,447.0	-	-	134,797.5	-	-

Legend valid for tables related to withdrawal and water discharge GRI 303-3 and 303-4

¹⁹ Megaliter = 1,000 m³

²⁰ Surface waters: rivers, streams and lakes

²¹ Fresh water corresponds to (≤1000 mg/L Total dissolved solids) and Other Water to (> 1,000 mg/L Total dissolved solids).

²² Underground water: water tables, wells and mine lowering

²³ Rainwater: rainwater collected and stored directly by the organization

²⁴ Water produced: water contained in ores and concentrates

²⁵ Third party water: supplied by utilities and suppliers

²⁶ Outsourced treatment: concessionaires, government and others

²⁷ Retained water in products and/or waste

²⁸ Others: examples: evaporation, losses, effluents supplied to third parties, etc.

Total weight of waste, by type and disposal method (tonnes) GRI 306-2

	2017	2018	2019
Non-hazardous waste disposal	16,082.19	15,574.41	104,657.85
Composting	726.58	1,094.51	1,405.82
Reuse/recycling	11,485.02	10,732.91	99,218.64
Recovery	0.00	0.00	0.00
Incineration (or use as fuel)	79.33	390.02	262.87
Landfill	1,741.21	1,804.83	1,934.22
Coprocessing/refining	140.70	645.19	208.53
On-site storage	1,311.58	47.12	1,530.99
Industrial landfill	175.93	219.18	42.05
Underground waste injection	0.00	0.00	0.00
Others	421.84	640.65	54.73
Non-hazardous waste disposal	3,282.05	2,964.86	5,240.78
Composting	0.00	0.00	0.00
Reuse/Recycling	356.59	328.95	294.00
Recovery	0.37	0.50	0.64
Incineration (or use as fuel)	0.19	13.42	0.39
Industrial landfill	1,590.97	1,511.39	2,633.63
Coprocessing/refining	1,046.78	1,062.35	1,912.86
On-site storage	175.43	45.15	259.07
Destination for specific purposes	16.36	2.88	2.38
Sale- partial recycling	94.72	0.00	137.56
Underground waste injection	0.00	0.00	0.00
Others	0.64	0.22	0.24
Disposal of waste – Total ²⁹	19,364.24	18,539.27	109,898.63
Composting	726.58	1,094.51	1,405.82
Reuse/recycling	11,841.61	11,061.86	99,512.64
Recovery	0.37	0.50	0.64
Incineration (or use as fuel)	79.52	403.44	263.26
Landfill	1,741.21	1,804.83	1,934.22
Industrial landfill	1,766.90	1,730.57	2,675.68
Coprocessing/refining	1,187.48	1,707.54	2,121.39
On-site storage	1,487.01	92.27	1,790.06
Destination for specific purposes	16.36	2.88	2.38
Sales- partial recycling	94.72	0.00	137.56
Underground Waste Injection	0.00	0.00	0.00
Others	422.48	640.87	54.97

²⁹ The increase in volume reflects the uptick in shipping of this waste for recycling process

Volume of significant atmospheric emissions (tonnes) GRI 305-7

	2017	2018	2019
Nox	100	83	250
Sox	607	370	518
Particulate Matter (PM)	622	682	1,150
Carbon monoxide (CO)	10	10	81

Environmental non-compliance GRI 307-1

Period	2017	2018	2019
Total number of sanctions	11	14	14
Total monetary value of significant fines (US\$)	780,277.77	415,544.98	685,059.42
Processes through arbitration mechanisms	0	0	0

Social series

New hires and employee turnover GRI 401-1

	2019				
	Men	Women	Under 30 years old	Between 30 and 50 years old	Greater than 50 years old
Brazil					
Total employees	2,889	614	1,012	2,164	327
Employees admitted	454	222	403	264	9
Terminated employees	438	143	231	291	59
New hires rate	16%	36%	40%	12%	3%
Turnover rate	15%	23%	23%	13%	18%

	Men	Women	Under 30 years old	Between 30 and 50 years old	Greater than 50 years old
Outside					
Total employees	2,255	268	309	1,587	627
Employees admitted	252	102	161	185	7
Terminated employees	269	89	141	162	55
New hires rate	11%	38%	52%	12%	1%
Turnover rate	12%	33%	46%	10%	9%

Rates	
New Hires	17%
Terminations	16%

Work-related injuries GRI 403-9

	2017	2018	2019
Man-Hours Worked (Own, outsourced fixed and mobile and Capex projects)	33,771,849	37,708,422	51,704,994
Total number of injuries (Level 1)	200	174	161
Total number of injuries without lost time (Levels 2 and 3)	44	46	72
Total number of injuries with lost time (Levels 4, 5 and 6)	39	38	39
Fatalities	7	0	1
Injury rate (IR) ³⁰	0.49	0.47	0.43
Frequency rate of accidents with and without lost time ³¹	2.46	2.23	2.15
Frequency rate of accidents with lost time	1.15	1.01	0.75

³⁰ Calculation of the injury rate does not include level 1 accidents (outpatient care).

³¹ 30 Rate of accidents with and without lost time, calculated based on the sum of the level 2 to 5 accidents involving own, permanent outsourced, temporary mobile outsourced and third-party Capex projects, multiplied by 1 million and divided by the total hours worked.

Average hours of training GRI 404-1

Functional category	Gender	2017	2018	2019
CEO/Director	Women	4	10	3
	Men	2	11	1
Manager	Women	32	40	14
	Men	33	94	13
Coordinator/Consultant	Women	19	16	5
	Men	34	30	8
Technician/Analyst/Supervisor	Women	28	37	23
	Men	54	79	27
Trainee	Women	169	0	0
	Men	121	0	0
Operational	Women	30	11	33
	Men	47	31	30
Intern	Women	20	28	15
	Men	20	43	14
Apprentice	Women	14	1	4
	Men	27	10	7
Total	Women	27	22	20
	Men	46	40	26

Diversity of governance bodies and employees GRI 405-1

Functional Category	Gender	Total employees	Age Group		
			- 30 years old	30 to 50 years old	+50 years old
CEO/Director	Men	9	0	4	5
	Women	1	0	0	1
Manager	Men	123	0	91	32
	Women	29	1	24	4
Coordinator/Consultant	Men	432	37	334	61
	Women	179	25	145	9
Technician/Analyst/Supervisor	Men	886	138	633	115
	Women	259	121	130	8
Operational	Men	3,502	627	2,172	703
	Women	259	105	144	10
Intern	Men	83	81	2	0
	Women	93	88	5	0
Apprentice	Men	63	63	0	0
	Women	39	38	1	0

Composition of minority groups in the organization	2017	2018	2019
Employees over 50 years old	837	898	948
Women	673	730	859
Governance body composition (Board of Directors and Executive Board)			
Men	15	15	17
Women	3	3	3
Composition of governance bodies (Board Members and Executive Officers) by age group			
Under 30 years old	0	0	0
Between 30 and 50 years old	5	4	5
More than 50 years old	13	14	15

Ratio of basic salary and remuneration of women to men ^{GRI 405-2}

Position	2017		2018 ³²		2019	
	Salary	Compensation	Salary	Compensation	Salary	Compensation
CEO/Director	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported
Manager	0.96	0.98	1.09	1.03	1.02	0.98
Coordinator/Consultant	1.09	1.1	1.11	1.05	1.14	1.11
Technician/Analyst/Supervisor	0.84	0.85	1.06	1.00	1.06	1.01
Trainee ³²	0.45	0.45	-	-	-	-
Operational	0.75	0.75	1.36	1.36	1.51	1.51
Intern	0.89	0.89	1.01	0.99	0.99	0.99
Apprentice	0.94	0.94	0.97	0.97	0.99	0.99

³² We have had no trainees working with us since 2018.

Discrimination reports received by the Ethics Line ^{GRI 406-1}

	2017	2018	2019 ³³
Received in the year under analysis	10	6	11
Analyzed and considered to have standing	17	27	43
Analyzed and considered to be unfounded	64	56	104
Total analyzed or under analysis	91	89	158

³³ For the 43 cases considered to have standing, 11 were related to harassment and/or abuse of power and 32 to persecution, disrespect and discrimination. In all cases, corrective measures were adopted, such as dismissals, verbal warnings, suspensions and/or transfers.

Socio-economic non-compliance ³⁴ ^{GRI 419-1}

	2017	2018	2019
Total amount of significant fines for non-compliance with laws and regulations, including products and services (US\$)	33,045,208	63,266,668	161,382,267
Number of non-monetary sanctions	0	0	0
Processes through arbitration mechanisms	0	0	0

³⁴ Considers fines and sanctions received and amounts paid, including both lawsuits filed and administrative proceedings.

SECTOR INDICATORS

Land that has undergone changes or been restored ³⁵ ^{MM1}

	2017	2018	2019
Total land altered and not yet rehabilitated	2,094	1,711	1,987
Total amount of land altered during the reporting period	9	46	4
Total amount of land rehabilitated during the reporting period, considering the agreed final use	47	44	10
Total land altered and not yet rehabilitated	2,056	1,712	1,981

Areas with Biodiversity Management Plans (PGB)³⁵ ^{MM2}

	2017	2018	2019
Total number of units	8	8	8
Total number of units that were identified with the need for a PGB	4	4	4
Number of units that have a current PGB	1	2	2
Percentage of units that have a current PGB	25%	50%	50%

³⁵ Indicator not applicable to the central office of São Paulo.

Operations with decommissioning plans ^{MM10}

	2017	2018	2019
Total number of operations	13	12	13
Total number of operations that have decommissioning plans	13	12	13
Percentage of operations that have decommissioning plans	100%	100%	100%
Value of the total financial provision for the shutdown of activities (US\$)	126,510,022	195,367,132	224,620,226

Summary of the Sustainable Development Goals

SDG	Description of the SDG targets	Page
	1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable	91
	3.4 By 2030, reduce by one-third pre-mature mortality from non-communicable diseases (NCDs) through prevention and treatment, and promote mental health and wellness	78
	3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol	78
	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	78
	4.4 By 2030, substantially increase the number of youths and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	71 and 91
	5.1 End all forms of discrimination against all women and girls everywhere	53
	5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual exploitation and other types	102
	5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	70
	5.c Adopt and strengthen sound policies and applicable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels	70
	6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	87
	6.4 By 2030, substantially increase the efficiency of water use in all sectors and ensure sustainable withdrawals and fresh water supply to address water scarcity, and substantially reduce the number of people suffering from water scarcity	87
	6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programs, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies	86

SDG	Description of the SDG targets	Page
	7.2 By 2030, substantially increase the share of renewable energy in the global energy matrix	88
	7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology	80
	8.2 Achieve higher levels of productivity of economies through diversification, technological upgrading and innovation, including through a focus on high value added and labor-intensive sectors	42
	8.5 By 2030 achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	70
	8.6 by 2020 substantially reduce the proportion of youth not in employment, education or training	91
	8.7. Take immediate and effective measures to eradicate forced labor, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labor, including recruitment and use of child soldiers, and by 2025 end child labor in all its forms	102
	8.8 Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular migrant women, and persons in precarious employment	79 and 104
	8.9 By 2030, develop and implement policies to promote sustainable tourism, which creates jobs and promotes local culture and products	92
	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities	82, 86 and 88
	10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status	70 and 91
	10.3 Ensure equal opportunities and reduce inequalities in outcomes, including through the elimination of discriminatory laws, policies and practices and the promotion of appropriate legislation, policies and actions in this regard	53
	11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage	100
	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	80, 87 and 88

SDG	Description of the SDG targets	Page
	12.2 By 2030, achieve the sustainable management and efficient use of natural resources	88
	12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment	82
	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	82
	12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	3
	12.b Develop and implement tools to monitor the impacts of sustainable development on sustainable tourism, which generates jobs, promotes local culture and products	92
	13.2 Integrate climate change measures into national policies, strategies and planning	80 and 88
	14.7. By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism	92
	15.1. By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	87
	15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally	100
	16.1 Significantly reduce all forms of violence and related death rates everywhere	74 and 75
	16.2 End abuse, exploitation, trafficking and all forms of violence and torture against children	98
	16.5 Substantially reduce corruption and bribery in all their forms	53
	16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels	79
	16.b Promote and enforce non-discriminatory laws and policies for sustainable development	103

Summary of GRI Standards

GRI 102-55

This report was prepared in accordance with the GRI Standards: Essential option. GRI 102-54

GRI Standard	Disclosure	Page and/or link	Omission	Global Compact	SDG
GRI 101: Fundamentals 2016					
Standard contents					
GRI 102: Standard Content 2016	Profile				
	102-1 Name of the organization	2, 3 and 12	-	-	-
	102-2 Activities, brands, products and services	12, 14 and 83	-	-	-
	102-3 Location of the headquarters	12 and 137	-	-	-
	102-4 Location of the Operations	12 and 14	-	-	-
	102-5 Ownership and legal form	12 and 49	-	-	-
	102-6 Markets served	12 and 38	-	-	-
	102-7 Scale of the organization	12, 13, 14, 16 and 64	-	-	-
	102-8 Information on employees and other workers	68 and 108	-	6	8
	102-9 Supply chain	105	-	-	-
	102-10 Significant changes to the organization and its supply chain	12	-	-	-
	102-11 Approach or precautionary principle	81	-	-	-
	102-12 External Initiatives	37	-	-	-
	102-13 Participation in associations	56		-	-

GRI Standard	Disclosure	Page and/or link	Omission	Global Compact	SDG
GRI 101: Fundamentals 2016					
Standard contents					
	Strategy				
	102-14 Statement from senior decision-maker	6 and 8	-	-	-
	102-15 Key impacts, risks and opportunities	54	-	-	-
	Ethics and integrity				
	102-16 Values, principles, standards and norms of behavior	52	-	10	16
	102-17 Mechanisms for advice and concerns about ethics	53	-	10	16
	Governance				
	102-18 Governance structure	49 and 51	-	-	-
	102-22 Composition of the highest governance body and its committees	49	-	-	-
	102-23 Chair of the highest governance body	49	-	-	-
	102-40 List of stakeholder groups	56	-	-	-
	102-41 Collective bargaining agreements	100% of employees are covered by collective bargaining agreements (Brazil).	-	3	8
	102-42 Base used for identifying and selecting stakeholders for engagement	56	-	-	-
	102-43 Approach to stakeholder engagement	56	-	-	-
	102-44 Key topics and concerns raised during engagement	3	-	-	-

GRI Standard	Disclosure	Page and/or link	Omission	Global Compact	SDG
GRI 101: Fundamentals 2016					
Standard contents					
	Reporting practice				
	102-45 Entities included in the consolidated financial statements	109	-	-	-
	102-46 Defining report content and topic boundaries	3	-	-	-
	102-47 List of material topics	3, 4 and 5	-	-	-
	102-48 Restatements of information	62 and 105	-	-	-
	102-49 Changes to list of topics and topic boundaries	No alterations	-	-	-
	102-50 Reporting period	3	-	-	-
	102-51 Date of most recent report	3	-	-	-
	102-52 Reporting Cycle	3	-	-	-
	102-53 Contact point for questions relating to the report	139	-	-	-
	102-54 Claims of reporting in accordance with the GRI Standards	123	-	-	-
	102-55 Content index	123	-	-	-
	102-56 External verification assurance	3	-	-	-

GRI Standard	Disclosure	Page and/or link	Omission	Global Compact	SDG
Topics					
GRI 200 Series Economic Series					
Economic performance					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	5	-	-	-
	103-2 The management approach and its components	54	-	-	-
	103-3 Evaluation of the management form	54	-	-	-
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	110	-	-	2,5, 8, 9
Market presence					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	5	-	-	-
	103-2 The management approach and its components	24 and 48	-	-	-
	103-3 Evaluation of the management approach	24 and 48	-	-	-
GRI 202: Market presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	In 2019, no employee was identified below the local minimum wage.	-	6	1, 5, 8
Indirect Economic Impacts					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	5	-	-	-
	103-2 The management approach and its components	90	-	-	-
	103-3 Evaluation of the management approach	90	-	-	-
GRI 203: Indirect economic impacts 2016	203-1 Investment in infrastructure and services	17 and 91	-	12	-
Purchase practices					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	5	-	-	-
	103-2 The management approach and its components	105	-	-	-
	103-3 Evaluation of the management approach	105	-	-	-
GRI 204: Buying Practices 2016	204-1 Proportion of spending on local suppliers	105	-	-	12

GRI Standard	Disclosure	Page and/or link	Omission	Global Compact	SDG
Topics					
Anti-corruption					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	52	-	-	-
	103-2 The management approach and its components	52	-	-	-
	103-3 Evaluation of the management approach	52	-	-	-
GRI 205: Anti-corruption 2016	205-2 Communication and Training in Anti-Corruption Policies and Procedures	53 and 111	-	10	16
	205-3 Confirmed cases of corruption and measures taken	53	-	10	16
GRI 206 Anti-Competitive Behavior Standards					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	4	-	-	-
	103-2 The management approach and its components	52	-	-	-
	103-3 Evaluation of the management approach	52	-	-	-
GRI 206: Anti-Competitive Behavior	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices.	53	-	-	-
GRI 300 Environmental Series Standards					
Materials					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	4	-	-	-
	103-2 The management approach and its components	80, 81 and 100	-	-	-
	103-3 Evaluation of the management form	80 and 100	-	-	-
GRI 301 - Materials 2016	301-1 Materials used by weight or volume	111	-	7, 8	8, 12
	301-2 Recycled materials used	111	-	8	8, 12
Energy					
GRI 103: Management approach 2018	103-1 Explanation of the material topic and its limit	4	-	-	-
	103-2 The management approach and its components	88	-	-	-
	103-3 Evaluation of the management approach	88	-	-	-

GRI Standard	Disclosure	Page and/or link	Omission	Global Compact	SDG
Topics					
GRI 300 Environmental Series Standards					
GRI 302 – Energy 2016	302-1 Energy consumption within the organization	89	-	7, 8	7, 8, 12, 13
	302-2 Energy consumption outside the organization	89	-	8	7, 8, 12, 13
	302-3 Energy intensity	89	-	8	7, 8, 12, 13
Water					
GRI 103: Management approach 2018	103-1 Explanation of the material topic and its limit	4	-	-	-
	103-2 The management approach and its components	86	-	-	-
	103-3 Evaluation of the management approach	86	-	-	-
GRI 303: Water 2018	303-1 Water interaction as a shared resource	87	-	7, 8	6
	303-2 Management of water discharge related impacts	86	-	7, 8	6
	303-3 Water withdrawal	112	-	7, 8	6
	303-4Water discharge	113	-	8	3, 6, 12, 14
Emissions					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	4	-	-	-
	103-2 The management approach and its components	88	-	-	-
	103-3 Evaluation of the management approach	88	-	-	-
GRI 305: 2016 Emissions	305-1 Direct (scope 1) GHG emissions	89	-	7, 8	3, 12, 13, 14, 15
	305-2 Indirect emissions of greenhouse gases (GHG) from energy acquisitions (scope 2)	89	-	7, 8	3, 12, 13, 14, 15
	305-3 Other indirect (scope 3) GHG emissions	89	-	7, 8	3, 12, 13, 14, 15
	305-4 Greenhouse gas emissions (GHG) intensity	89	-	8	14, 15
	305-7 NOx, SOx and other significant air emissions	115	-	7, 8	3, 12, 14, 15

GRI Standard	Disclosure	Page and/or link	Omission	Global Compact	SDG
Topics					
GRI 300 Environmental Series Standards					
Waste					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	4	-	-	-
	103-2 The management approach and its components	82	-	-	-
	103-3 Evaluation of the management approach	82	-	-	-
GRI 306: Effluents and Waste 2016	306-2 Waste by type and disposal method	83 and 114	-	8	3, 6, 12, 14, 15
Environmental compliance					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	4	-	-	-
	103-2 The management approach and its components	80	-	-	-
	103-3 Evaluation of the management approach<	80	-	-	-
GRI 307: Environmental Compliance 2016	307-1 Non-compliance with environmental laws and regulations	115	-	8	16
Environmental Evaluation of Suppliers					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	5	-	-	-
	103-2 The management approach and its components	104	-	-	-
	103-3 Evaluation of the management approach	104	-	-	-
GRI 308: Environmental Evaluation of Suppliers 2016	308-1 New suppliers that were screened using environmental criteria	104	-	8	-
GRI 400 Series Social Standards					
Employment					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	4	-	-	-
	103-2 The management approach and its components	66 and 70	-	-	-
	103-3 Evaluation of the management approach	66 and 70	-	-	-
GRI 401: 2016 Employment	401-1 New employee hires and turnover	115	-	6	5, 8

GRI Standard	Disclosure	Page and/or link	Omission	Global Compact	SDG
Topics					
GRI 400 Series Social Standards					
Occupational Health and Safety					
GRI 103: Management approach 2018	103-1 Explanation of the material topic and its limit	4	-	-	-
	103-2 The management approach and its components	74 and 78	-	-	-
	103-3 Evaluation of the management approach	74 and 78	-	-	-
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	75	-	-	8
	403-2 Hazard identification, risk assessment and incident investigation	75	-		8
	403-3 Occupational health services	79	-	-	8
	403-4 Employee participation, consultation and communication on occupational health and safety	79	-	-	8
	403-5 Worker training on occupational health and safety	76	-	-	8
	403-6 Promotion of worker health	78	-	-	8
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	77	-	-	8
	403-9 Work-related Injuries	75 and 116	-	-	8
Training and education					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	4	-	-	-
	103-2 The management approach and its components	71	-	-	-
	103-3 Evaluation of the management approach	71	-	-	-
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	71 and 116	-	6	4, 5, 8
	404-2 Programs for upgrading employee skills and transition assistance programs.	71	-	-	8

GRI Standard	Disclosure	Page and/or link	Omission	Global Compact	SDG
Tópicos					
GRI 400 Series Social Standards					
GRI 404: Training and Education 2016	404-3 Percentage of employees receiving regular performance and career development reviews	71	-	6	5, 8
Diversity and equal opportunities					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	4	-	-	-
	103-2 The management approach and its components	66	-	-	-
	103-3 Evaluation of the management approach	66	-	-	-
GRI 405: Diversity and equal opportunity 2016	405-1 Diversity of governance bodies and employees	68 and 117	-	6	5, 8
	405-2 Ratio of basic salary and remuneration of women to men	118	-	6	5, 8, 16
No discrimination					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	52	-	-	-
	103-2 The management approach and its components	52	-	-	-
	103-3 Evaluation of the management form	52	-	-	-
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	118	-	6	5, 8, 16
Freedom of association and collective bargaining					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	5	-	-	-
	103-2 The management approach and its components	105	-	-	-
	103-3 Evaluation of the management approach	105	-	-	-
GRI 407: Freedom of association and collective bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	105	-	5	8, 16

GRI Standard	Disclosure	Page and/or link	Omission	Global Compact	SDG
Topics					
GRI 400 Series Social Standards					
Child labor					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	5	-	-	-
	103-2 The management approach and its components	105	-	-	-
	103-3 Evaluation of the management approach	105	-	-	-
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	105	-	-	8, 16
Forced labor or analogous to slave labor					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	5	-	-	-
	103-2 The management approach and its components	105	-	-	-
	103-3 Evaluation of the management approach	105	-	-	-
GRI 409: Forced labor or analogous to slave labor 2016	409-1 Operations and suppliers with significant risk for the occurrence of forced or compulsory labor	105	-	4	8, 16
Human rights evaluation					
GRI 103: Forma de gestão 2016	103-1 Explanation of the material topic and its boundary	5	-	-	-
	103-2 The management approach and its components	102	-	-	-
	103-3 Evaluation of the management approach	102	-	-	-
GRI 412: 2016 human rights assessment	412-1 Operations that have been subject to human rights reviews or impact assessments	100% of Nexa's operations are subjected to human rights related analyses or assessments.	-	1	-
	412-2 Total number of employee training hours regarding human rights or procedures related to human rights matters material to the Organization's operations, including the percentage of trained employees	103	-	1	-

GRI Standard	Disclosure	Page and/or link	Omission	Global Compact	SDG
Tópicos Materiais					
GRI 400 Series Social Standards					
Local communities					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	5	-	-	-
	103-2 The management approach and its components	90	-	-	-
	103-3 Evaluation of the management approach	90	-	-	-
GRI 413: 2016 Local Communities	413-1 Operations with local community engagement, impact assessments and development programs	91	-	1	-
Social assessment of suppliers					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	5	-	-	-
	103-2 The management approach and its components	104	-	-	-
	103-3 Evaluation of the management approach	104	-	-	-
GRI 414: 2016 Supplier Social Assessment	414-1 New suppliers that were screened using social criteria	104	-	2	5, 8, 16
Socio-economic compliance					
GRI 103: Management approach 2016	103-1 Explanation of the material topic and its boundary	52	-	-	-
	103-2 The management approach and its components	52	-	-	-
	103-3 Evaluation of the management approach	52	-	-	-
GRI 419: Socio-economic Compliance 2016	419-1 Non-compliance with laws and regulations in the social and economic area with respect to products and services	118	-	-	16

GRI Standard	Disclosure	Page and/or link	Omission	Global Compact	SDG
Topics					
Mining sector					
	MM1 Quantity of land (owned, leased or managed for production or extraction activities) that was altered or has already been restored	119	-	-	-
	MM2 Total number and percentage of areas identified with the need to implement Biodiversity Management Plans (PGBs) and the number of areas with implemented plans	119	-	-	-
	MM3 Total quantities of sterile, tailings and sludge and their associated risks	82 and 83	-	-	-
	MM4 Number of strikes and work stoppages lasting more than one week per country	70	-	-	-

	MM5 Total number of operations located in territories of indigenous peoples or adjacent to them, and number and percentage of operations or units where there are formal agreements with communities of indigenous peoples	No Nexa operations are located on indigenous or adjacent lands.	-	-	-
	MM6 Number and description of significant conflicts related to land use and customary rights of local communities and indigenous peoples	In 2019, two conflicts were registered, one with the community of Chavín and the Association of Defense and Agricultural Development of the Valley of Topara and another with the community of San Juan de Yanacachi, both in the Pasco region, in Peru, related to land use.	-	-	-
	MM8 Number (and percentage) of operational units where small-scale and artisanal mining (ASM) occurs, what are the associated risks and the actions taken to manage and mitigate these risks	We do not have artisanal or smallscale mining areas. For any new project or change in the operation of the units, our systemrequires a risk assessment.	-	-	-
	MM9 Places where resettlements occurred, the number of families settled in each, and how their livelihoods were affected in these processes	There were no cases of resettlement.	-	-	-
	MM10 Number and percentage of operations with plans for the closure of activities (decommissioning plan)	119	-	-	-

Independent auditor’s limited assurance report on sustainability information in the 2019 Annual Report

To the Board of Directors and Stockholders
Nexa Recursos Minerais S.A.
São Paulo – SP

Introduction

Nexa Recursos Minerais S.A. (“Nexa” or “Company”) engaged us to present our limited assurance report on the compilation of sustainability information in the NEXA 2019 Annual Report for the year ended December 31, 2019.

Management’s responsibilities

Management of Nexa is responsible for the preparation and fair presentation of the information in the 2019 Annual Report, presented in accordance with the Global Reporting Initiative (GRI-Standards) and for such internal controls as it determines necessary to prepare of information free from material misstatement, whether due to fraud or error.

Independent auditor’s responsibilities

Our responsibility is to express a conclusion on the information included in the 2019 Annual Report based on our limited assurance engagement carried out in accordance with the Technical Communication CTO 01, “Issuance of an Assurance Report related to Sustainability and Social Responsibility”, issued by the Federal Accounting Council (CFC), based on the Brazilian standard NBC TO 3000, “Assurance Engagements Other than Audit and Review”, also issued by the CFC, which is equivalent to the international standard ISAE 3000, “Assurance engagements other than audits or reviews of historical financial information”, issued by the International Auditing and Assurance Standards Board (IAASB). Those standards require that we comply with ethical and independence requirements, and other responsibilities, including in relation to the Brazilian Standard on Quality Control (NBC PA 01) and, therefore,

the maintenance of a comprehensive quality control system, including forma compliance policies and procedures for ethical requirements, professional standards and legal and regulatory requirements.

These standards also require the work to be planned and performed to obtain limited assurance that the information included in the 2019 Annual Report, taken as a whole, is free from material misstatement.

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

The procedures selected are based on our understanding of the aspects related to the compilation and presentation of the information in the 2019 Annual Report, other engagement circumstances and our analysis of the areas in which significant misstatements might exist. The following procedures were adopted:

- a. Planning the work, taking into consideration the materiality and the volume of quantitative and qualitative information and the operating and internal control systems used to prepare the information in the 2019 Annual Report;
- b. Understanding the calculation methodology and the procedures adopted for the compilation of indicators through interviews with the managers responsible for the preparation of the information;

- c. Applying analytical procedures to quantitative information and making inquiries regarding the qualitative information and its correlation with the indicators disclosed in the 2019 Annual Report;
- d. Comparing the financial indicators with the financial statements and/or accounting records;

The limited assurance engagement also included tests to assess compliance with the guidelines and criteria of the Global Reporting Initiative (GRI- Standards) applied in the preparation of the information related to sustainability included in the 2019 Annual Report.

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

Scope and limitations

The procedures applied in a limited assurance engagement are substantially less detailed than those applied in a reasonable assurance engagement, the objective of which is the issuance of an opinion on the sustainability information in the 2019 Annual Report. Consequently, we were not able to obtain reasonable assurance that we might become aware of all significant matters that might be identified in an assurance engagement, the objective of which is the issue of an opinion. Had we performed an engagement with the objective of issuing an opinion, we might have identified other matters and possible misstatements in the information related to sustainability in the 2019 Annual Report. Therefore, we do not express an opinion on this information.

Non-financial data is subject to more inherent limitations than financial data, due to the nature and diversity of the methods used to determine, calculate and estimate these data. Qualitative interpretations of the relevance, materiality, and accuracy of the data are subject

to individual assumptions and judgments. Furthermore, we did not carry out any work on data reported for prior periods, nor future projections and goals.

The preparation and presentation of the sustainability indicators performed pursuant to the criteria of the GRI-Standards and, therefore, do not aim to provide assurance with regard to the compliance with social, economic, environmental, or engineering laws and regulations. However, the aforementioned standards establish the presentation and disclosure of possible cases of non-compliance with such regulations when sanctions or significant fines are applied. Our limited assurance report should be read and understood in this context, which is inherent to the criteria selected (GRI-Standards).

Conclusion

Based on these procedures, no matter has come to our attention that causes us to believe that the information included in the 2019 Annual Report of Nexa Recursos Minerais S.A. has not been compiled, in all material respects, in accordance with the Global Reporting Initiative (GRI – Standards).

São Paulo, March 31, 2020

PricewaterhouseCoopers

Contadores Públicos

CRC 2SP023173/O-4

Maurício Colombari
Contador CRC 1SP195838/O-3

Forward-looking Statements

This report contains certain forward-looking information and forward-looking statements as defined in applicable securities laws (collectively referred to in this Earnings Release as “forward-looking statements”). All statements other than statements of historical fact are forward-looking statements. The words “believe,” “will,” “may,” “may have,” “would,” “estimate,” “continues,” “anticipates,” “intends,” “plans,” “expects,” “budget,” “scheduled,” “forecasts” and similar words are intended to identify estimates and forward looking statements. Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of NEXA to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. These forward-looking statements include estimates, forecasts, and statements as to management’s expectations with respect to the business and operations of the Company and mining production our growth strategy, the impact of applicable laws and regulations, future zinc and other metal prices, smelting sales, capex, expenses related to exploration and project development, estimation of mineral reserves and resources, mine life and our financial liquidity.

Forward-looking statements are necessarily based upon a number of factors and assumptions that, while considered reasonable by management, are inherently subject to significant business, economic and competitive uncertainties and contingencies. Statements concerning future production costs or volumes are based on numerous assumptions of management regarding operating matters and on assumptions that demand for products develops as anticipated, that customers and other counterparties perform their contractual obligations, that operating and capital plans will not be disrupted by issues such as mechanical failure, unavailability of parts and supplies, labor disturbances, interruption in transportation or utilities, adverse weather conditions, and that there are no material unanticipated variations in the cost of energy or supplies, among other assumptions.

We assume no obligation to update forward-looking statements except as required under securities laws. Further information concerning risks and uncertainties associated with these forward-looking statements and our business can be found in our public disclosures filed under our profile on Sedar (www.sedar.com) and on Edgar (www.sec.gov).

About the Cover



The cover image was created from a photo of our mining engineer at the Vazante unit, Thais Janine, who works as a geotechnical engineer in the facility's ground control operations.

Thais initiated her professional career with Nexa in 2018 as a Mine Development intern, soon hired as a mining operations engineer. She currently is involved in mine geotechnics, seeking to progress her continued professional growth.

“Being at Nexa made it possible for me to combine all my academic experiences with practice, in a mine that is a school for any professional. As a woman in the field of underground mining, an environment until recently dominated by men, Nexa has strengthened me professionally. Nexa trained me to be the professional that I am today, and I am immensely proud to be a part of the Nexa team.”

We are proud to have Thais with us, as well as many other women, growing and making their mark on Nexa.

Corporate information

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We appreciate the support and cooperation of the managers and other colleagues involved in the corporate and industrial areas of Nexa Resources, for information calculation and analysis

Comments, suggestions, doubts or criticisms regarding the content, as well as our operations and initiatives in Brazil and abroad, can be sent through the following channel:
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