**As filed with the Securities and Exchange Commission on October 27, 2023.**

# UNITED STATES SECURITIES AND EXCHANGE COMMISSION
**Washington, D.C. 20549**

# Form 20-F/A

## ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

**For the fiscal year ended: December 31, 2022**
**Commission file number: 001-38256**

**NEXA RESOURCES S.A**
*(Exact name of Registrant as specified in its charter)*

**Grand Duchy of Luxembourg**
*(Jurisdiction of incorporation or organization)*

**José Carlos del Valle**
**Senior Vice President of Finance and Group Chief Financial Officer**
**Phone: +352 28 26 37 27**
**37A, Avenue J.F. Kennedy**
**L-1855, Luxembourg**
**Grand Duchy of Luxembourg**
*(Address of principal registered office)*

Securities registered or to be registered pursuant to Section 12(b) of the Act:

| Title of Each Class | Trading Symbol | Name of Each Exchange on Which Registered |
|---|---|---|
| Common shares, each with par value of US$1.00 | NEXA | New York Stock Exchange |

Securities registered or to be registered pursuant to Section 12(g) of the Act: None
Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act: None
The number of outstanding shares of each class of stock of Nexa Resources S.A. as of December 31, 2022 was:
**132,438,611 common shares, each with par value of US$1.00**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ☐ No ☑

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.
Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days.
Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).
Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or an emerging growth company. See definition of “accelerated filer,” “large accelerated filer” and “emerging growth company” in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐ Accelerated filer ☑ Non-accelerated filer ☐ Emerging growth company ☐

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act. ☐

The term “new or revised financial accounting standard” refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the registrant has filed a report on and attestation to its management’s assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant’s executive officers during the relevant recovery period pursuant to § 240.10D-1(b). ☐

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:
U.S. GAAP ☐ International Financial Reporting Standards as issued by the International Accounting Standards Board ☑ Other ☐

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.
Item 17 ☐ Item 18 ☐

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
Yes ☐ No ☑

**EXPLANATORY NOTE**

This Amendment No. 1 to Form 20-F (the "Form 20-F/A") amends our annual report on Form 20-F for the year ended December 31, 2022 (the "Annual Report"), which was originally filed with the U.S. Securities and Exchange Commission (the "SEC") on March 20, 2023. The purpose of this Form 20-F/A is to amend the Annual Report in response to the comments of the Staff of the Division of Corporation Finance of the SEC in its comment letters dated June 16, 2023 and August 18, 2023, with respect to Nexa's Annual Report. Below is a summary of the amendments:

1. Additional disclosure in compliance with Subpart 1300 of Regulation S-K.
2. Additional disclosure about the impact of price and volume on our revenues.
3. Clarifications on the definition of Adjusted EBITDA and additional disclosure on our management's use of Adjusted EBITDA.

This Form 20-F/A does not reflect events occurring after the filing of the Annual Report and does not modify or update the disclosure therein in any way except as described above. No other changes have been made to the Annual Report. The filing of this Form 20-F/A should not be understood to mean that any statements contained in the Annual Report, as amended by this Form 20-F/A, are true or complete as of any date subsequent to the original filing date of the Annual Report. Accordingly, this Form 20-F/A should be read in conjunction with the Annual Report.

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**FORM 20-F CROSS REFERENCE GUIDE**

**FORWARD-LOOKING STATEMENTS**

This annual report includes statements that constitute estimates and forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or Securities Act, and Section 21E of the Securities Exchange Act, as amended, or Exchange Act. 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. Estimates and forward-looking statements refer only to the date when they were made, and we do not undertake any obligation to update or revise any estimate or forward-looking statement due to new information, future events or otherwise, except as required by law. Estimates and forward-looking statements involve risks and uncertainties and do not guarantee future performance, as actual results or developments may be substantially different from the expectations described in the forward-looking statements.

These statements appear in a number of places in this report and include statements regarding our intent, belief or current expectations, and those of our officers and employees, with respect to, among other things: (i) our future financial or operating performance; (ii) our growth strategy; (iii) future trends that may affect our business and results of operations; (iv) the impact of competition and applicable laws and regulations on our results; (v) planned capital investments; (vi) future of zinc or other metal prices; (vii) estimation of mineral reserves; (viii) mine life; and (ix) our financial liquidity.

Forward-looking statements are not guarantees of future performance and involve risks and uncertainties. Actual results and developments may be substantially different from the expectations described in the forward-looking statements for several reasons, many of which are not under our control, among them the activities of our competition, the future global economic situation, weather conditions, market prices and conditions, exchange rates, and operational and financial risks. The unexpected occurrence of one or more of the abovementioned events may significantly change the results of our operations on which we have based our estimates and forward-looking statements. Our estimates and forward-looking statements may be influenced by the following factors, including, among others:

- the cyclical and volatile prices of commodities;
- the changes in the expected level of supply and demand for commodities;
- foreign exchange rates and inflation;
- the risks and uncertainties relating to economic and political conditions in the countries in which we operate;
- changes in global market conditions;
- the impact of expanded regional or global conflict, and the resulting potential impacts on supply and demand for commodities, global security concerns, and market volatility;
- outbreaks of contagious diseases or health crises impacting overall economic activity regionally or globally, such as the coronavirus ("COVID-19") pandemic, and the potential impact thereof on commodity prices, our business and operating sites, and the global economy;
- increasing demand and evolving expectations from stakeholders with respect to our environmental, social and governance ("ESG") practices, performance and disclosures, including the ability to meet energy requirements while complying with greenhouse gas emissions regulations and other energy transition policy changes and laws in the countries in which we operate;
- the impact of climate change on our operations, workforce and value chain;
- environmental, safety and engineering challenges and risks inherent to mining;
- severe natural disasters, such as storms and earthquakes, disrupting our operations;

- operational risks, such as operator errors, mechanical failures and other accidents;
- the availability of materials, supplies, insurance coverage, equipment, required permits or approvals and financing;
- supply-chain and logistic related interruptions, including impacts to international freight and transportation networks;
- the implementation of our growth strategy, the availability of capital and the risks associated with related capital expenditures;
- failure to obtain financial assurance to meet closure and remediation obligations;
- the possible material differences between our estimates of Mineral Reserves and Mineral Resources and the mineral quantities we actually recover;
- the possibility that our concessions may be terminated or not renewed by governmental authorities in the countries in which we operate;
- the impact of political and government changes in the countries in which we operate, and the effects of potential new legislation and changes in taxation;
- labor disputes or disagreements with local communities in the countries in which we operate;
- loss of reputation due to unanticipated operational failures or significant occupational incidents;
- failure or outage of our digital infrastructure or information and operating technology systems;
- cyber events or attacks (including ransomware, state-sponsored and other cyberattacks) due to negligence or IT security failures;
- the future impact of competition and changes in domestic and international governmental and regulatory policies that apply to our operations; and
- other factors discussed under "Risk Factors."

Considering the risks and uncertainties described above, the events referred to in the estimates and forward-looking statements included in this report may or may not occur, and our business performance and results of operation may differ materially from those expressed in our estimates and forward-looking statements, due to factors that include but are not limited to those mentioned above.

These forward-looking statements are made as of the date of this annual report, and we assume no obligation to update them or revise them to reflect new events or circumstances. There can be no assurance that the forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements.

**ABOUT THE COMPANY**

We are a large-scale, low-cost, integrated zinc producer with over 65 years of experience developing and operating mining and smelting assets in Latin America. We currently own and operate six long-life underground polymetallic mines – three located in the Central Andes of Peru, two located in the state of Minas Gerais in Brazil, and one in the state of Mato Grosso in Brazil, the Aripuanã mine, which started to sell concentrates within market specifications in the fourth quarter of 2022.

Nexa Resources S.A. is a public limited liability company (*société anonyme*) incorporated under the laws of Luxembourg on February 26, 2014. Our registered office is located at 37A, Avenue J.F. Kennedy, L-1855, Luxembourg, Grand Duchy of Luxembourg, and we are registered with the Luxembourg Trade and Companies Register under number B185489. Our telephone number at this address is +352 28 26 3727. Our main office outside of Luxembourg is located at Avenida Engenheiro Luís Carlos Berrini, n° 105, 6$^{th}$ floor, São Paulo, State of São Paulo, Brazil. Our website is www.nexaresources.com. None of the information available on our website is incorporated in this annual report and it should not be relied upon in deciding to invest in our common shares.

## PRESENTATION OF FINANCIAL AND OTHER INFORMATION

### Certain definitions

Unless otherwise indicated or the context otherwise requires, the terms below are defined in the following manner.

- “Nexa,” “we,” “us” and “our” or similar terms refer to Nexa Resources and, unless the context otherwise requires, its consolidated subsidiaries;
- “Nexa Resources” refers to Nexa Resources S.A., a Luxembourg public limited liability company (*société anonyme*);
- “Nexa CJM” refers to our subsidiary Nexa Resources Cajamarquilla S.A. (previously known as Votorantim Metais—Cajamarquilla S.A.), a corporation organized as a *sociedad anónima* under the laws of Peru;
- “Nexa Brazil” refers to our subsidiary Nexa Recursos Minerais S.A. (previously known as Votorantim Metais Zinco S.A.), a corporation organized as a *sociedade anônima* under the laws of Brazil;
- “Nexa Peru” refers to our subsidiary Nexa Resources Peru S.A.A. (previously known as Compañía Minera Milpo S.A.A.), a corporation organized as a *sociedad anónima abierta* under the laws of Peru and publicly traded on the Lima Stock Exchange;
- “Enercan” refers to our subsidiary Campos Novos Energia S.A., a corporation organized as a *sociedade anônima* under the laws of Brazil;
- “VSA” refers to our controlling shareholder Votorantim S.A., a corporation organized as a *sociedade anônima* under the laws of Brazil;
- the “Votorantim Group” refers to our controlling shareholder VSA and, unless the context otherwise requires, its consolidated subsidiaries;
- the “*real,*” “*reais*” or “R$” refers to the Brazilian *real*, the official currency of Brazil;
- “*sol*,” “*soles*” or “S/.” refers to the Peruvian *sol*, the official currency of Peru; and

In addition, the meaning of other defined terms used in this report are set out in “Glossary.”

### Financial information

Our consolidated financial statements as of December 31, 2022 and 2021 and for each of the three years ended December 31, 2022 are included in this annual report. Our consolidated financial statements are prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board (“IASB”). References in this report to “our consolidated financial statements” are to our consolidated financial statements as of December 31, 2022 and 2021 and for each of the three years ended December 31, 2022, and the related notes thereto included elsewhere in this report.

The financial information presented in this report should be read in conjunction with our consolidated financial statements, including the related notes, and the section of this report titled “Operating and financial review and prospects.”

The main consolidated companies included in our consolidated financial statements are:

- ***Nexa CJM*** – a Peruvian company that is 99.997% directly and indirectly owned by Nexa Resources and is mainly engaged in smelting zinc contained in concentrate. Nexa CJM’s functional currency is the U.S. dollar.
- ***Nexa Peru*** – a Peruvian company that is 83.554% directly and indirectly owned by Nexa Resources and is mainly engaged in exploring, extracting, producing and trading zinc, copper and lead concentrates, extracted from its own three mining sites. Nexa Peru’s functional currency is the U.S. dollar. Nexa Peru is a public company with its shares listed on the Lima Stock Exchange.

- ***Nexa Brazil*** – a Brazilian company that is 100% owned by Nexa Resources and is mainly engaged in exploring, extracting and producing zinc, copper and lead concentrates, and smelting zinc contained in concentrate with operations in the state of Minas Gerais. Nexa Brazil's functional currency is the *real*.

**Non-IFRS measures**

For a discussion of how our management uses non-IFRS measures as an additional measure of operational performance of the Company's business, including discussion of our Adjusted EBITDA, reconciliation with most comparable IFRS figures and changes made in 2022, see "Operating and financial review and prospects—Results of Operations—Non-IFRS measures and reconciliation."

All forward-looking non-IFRS financial measures in this document, including cash cost guidance, are provided only on a non-IFRS basis. This is due to the inherent difficulty of forecasting the timing or number of items that would be included in the most directly comparable forward-looking IFRS financial measures. As a result, reconciliation of the forward-looking non-IFRS financial measures to IFRS financial measures is not available without unreasonable effort and we are unable to assess the probable significance of the unavailable information.

**Country, market and industry information**

This report contains and refers to information and statistics regarding the countries in which we operate and the markets for the metals we produce. This data is obtained from independent public sources, including publications and materials from participants in the industry, such as Wood Mackenzie and from governmental entities such as the Brazilian Central Bank, Bloomberg Finance L.P., London Metal Exchange ("LME"), London Bullion Market Association ("LBMA"), Brazilian Ministry of Economy (*Ministério da Economia*), Brazilian Ministry of Mines and Energy (*Ministério de Minas e Energia,* or "MME"), National Mining Agency (*Agência Nacional de Mineração*, or "ANM"), Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*, or "IBGE"), the Getulio Vargas Foundation (*Fundação Getúlio Vargas,* or "FGV"), the Peruvian Stock Market Superintendency (*Superintendencia del Mercado de Valores*), the Peruvian Central Bank, the Peruvian Ministry of Economy and Finance (*Ministerio de Economía y Finanzas*) and the Peruvian National Institute of Statistics and Informatics (*Instituto Nacional de Estadística e Informática*). Some data is also based on our estimates, which are derived from our review of internal reports, as well as independent sources.

**Volume information**

All tonnage information in this report is expressed in metric tonnes, unless stated otherwise, and all references to ounces are to troy ounces, in each case, unless otherwise specified.

# RISK FACTORS

Nexa and its operations are exposed to several inherent risks and uncertainties, including those described below.

## Business risks

***Our business is highly dependent on the international market prices of the metals we produce, which are both cyclical and volatile.***

Our business and financial performance is significantly affected by market prices of the metals we produce, particularly the market prices of zinc, copper, silver, lead and, to a lesser extent, gold. Historically, prices of such metals have been subject to wide fluctuations and are affected by numerous factors, including international economic and political conditions, the cyclicality of consumption, actual or perceived changes in levels of supply and demand, the availability and costs of substitutes, inventory levels maintained by users, actions of participants in the commodities markets and currency exchange rates. We cannot predict whether, and to what extent, metal prices will rise or fall in the future.

In 2022, while global demand continued to recover, international market prices for the metals we produce remained volatile due to variable global macroeconomic conditions caused by the conflict between Russia and Ukraine, high inflation, and residual economic impacts resulting from China's COVID-19 policies and related lockdowns. These ongoing factors could contribute to ongoing volatility in metal prices and demand for our products.

The invasion of Ukraine by Russia in February 2022, the resulting conflict, and retaliatory measures by the global community have created ongoing global security concerns, including the possibility of expanded regional or global conflict, which have had, and may continue to have, adverse impacts around the globe. Continued ramifications include disruption of the supply chain, which has led, and may continue to lead, to impacts on production, investment, and demand and prices for our products, higher and more volatile prices for commodities and for oil and gas disruption of global financial markets, and further exacerbation of overall macroeconomic trends, including high inflation and rising interest rates. The conflict between Russia and Ukraine has also added volatility to the metals and mining industry, including production cuts in some of the main smelters in Europe, mainly as a consequence of higher power prices, as Russia is an important source of Europe's energy supplies. For more information see "Operating and Financial Review and Prospects—Overview". As of the date of this report, this conflict has had no material impact on our business and operations, however the conflict is still ongoing, and we cannot predict the future impact it may have. We continue to monitor developments related to this conflict as of the day of this report.

Future declines in metal prices, especially with respect to zinc, copper, silver and lead prices, could have an adverse impact on our results of operations and financial position, and we might consider curtailing or modifying certain operations or not proceeding with our sustaining and/or growth strategy. In addition, we may not be able to adjust production volume in a timely or cost-efficient manner in response to changes in metal prices. Lower utilization of capacity during periods of weak prices may expose us to higher unit production costs since a significant portion of our cost structure is fixed in the short-term due to the high capital intensity of mining operations. Conversely, during periods of high prices, our ability to rapidly increase production capacity may be limited, which could prevent us from selling more products. Moreover, we may be unable to complete expansions and greenfield projects in time to take advantage of rising prices for zinc, copper, lead or other products.

***Changes in the demand for the metals we produce, including as a result of the cyclicality of global economic activity, could adversely affect our sales volume and revenues.***

Our revenues depend on the volume of metals we sell (and, to a lesser extent, the volume of metals produced by others that are smelted in our facilities), which in turn depend on the level of industrial and consumer demand for these metals. An increase in the production of zinc, copper, silver and lead worldwide, along with reduction in demand for these metals, due to changes in technology, industrial processes or consumer habits, including increased demand for substitute materials, economic slow-downs or other factors, may have the potential to impact these metal prices. The impact of price decreases may also compromise the profitability of smelters, as we might consider reducing the volume of metals we sell and therefore materially adversely impact our operational results and financial position. Even if our volumes are not affected by reduced prices, this decrease can impact our revenues.

The mining industry has historically been highly volatile largely due to the cyclical nature of industrial production, which affects the demand for minerals and metals. Demand for minerals and metals thus generally correlates to macroeconomic fluctuations in the global economy. Changes in the demand for the metals we produce could adversely affect our sales volume and revenues.

***Adverse economic developments in China could have a negative impact on our revenues, cash flow and profitability.***

China has been the primary source of global demand for commodities over the last few years. According to Wood Mackenzie, in 2022, Chinese demand represented 49% of global demand for zinc and 54% of global demand for copper. Any slowdown in China's economic growth that is not offset by increased demand or reduced supply from other regions could have an adverse effect on demand for our products or commodity prices and result in lower revenues, cash flow and profitability.

***The mining industry is highly competitive.***

We face competition from other mining, processing, trading and industrial companies in Brazil, Peru and around the world. Competition principally involves the following factors: sales, supply and labor prices; contractual terms and conditions; attracting and retaining qualified personnel; and securing the services, supplies and technologies we need for our operations. Slower development in technology and innovation could impact costs, productivity and competitiveness. In addition, mines have limited lives and, as a result, we must seek to replace and expand our mineral reserves by acquiring new properties. Significant competition exists to acquire mining concessions, land and related assets. We cannot assure shareholders that competition will not adversely affect us in the future.

The international trade environment faces increasing uncertainty. Potential changes to international trade regulations and agreements, as well as other political and economic arrangements (including direct or indirect subsidies), may benefit competitors operating in countries other than where our mining operations are currently located. These changes could also adversely affect the prices we pay for the supplies we need and our export costs when we engage in international transactions. We cannot assure shareholders that we will be able to compete based on price or other factors with companies that in the future may benefit from favorable regulations, lower cost of capital, trading or other arrangements or that we will be able to maintain the cost of the supplies that we require as well as our export costs.

**Operational risks**

***The mining business is subject to inherent risks, some of which are not insurable.***

The business of mining zinc, copper, silver, lead and other minerals is generally subject to numerous risks and hazards. Hazards associated with underground mining operations include underground fires and explosions, including those caused by flammable gas, gas and coal outbursts, cave-ins or falls of ground, rock falls, openings collapse, lack of oxygen, air pollution, tailings dam failures or other discharges of tailings, hazardous substances and materials, gases and toxic chemicals, water ingress and flooding, sinkhole formation, ground subsidence, and other accidents and conditions resulting from underground mining activities, such as drilling, blasting, removing and processing material. In addition, we may encounter geotechnical challenges as we continue with and expand our mining activities, including the possibility of failure of underground openings.

Such occurrences could result in damage to, or destruction of, our properties or production facilities, third-party property, human exposure to pollution, personal injury or death, environmental and natural resource damage or contamination, delays in mining, monetary losses and legal liability. In addition, any such occurrences could adversely affect our reputation. Damages to our reputation could result in additional environmental and health and safety legal oversight, and authorities could impose more stringent conditions in connection with the licensing process of our projects and operations. In addition, our customers may be less willing to buy metals from us if we have been subject to significant adverse publicity. We maintain insurance typical in the mining industry, and in amounts that we believe to be adequate, but which may not provide complete coverage in certain circumstances. Insurance against certain risks (including certain liabilities for environmental contamination, tailings dam failures and other hazards as a result of exploration and production) may not be generally available or is uneconomical to afford. We could also incur additional expenses due to failures in our industrial drainage system or other environmental control equipment. Any such failures could also have adverse impacts on the environment, which could lead to adverse climate changes and further impact our reputation if we are found to contribute, or there is a perception that we have contributed, to adverse environmental impacts in the areas in which we operate.

***We may be materially adversely affected by challenges relating to slope and stability of underground openings.***

Our underground mines get deeper, and our waste and tailings deposits increase in size as we continue with and expand our mining activities. This presents certain geotechnical challenges, including the possibility of failure of underground openings. If we are required to reinforce such openings or take additional actions to prevent such a failure, we could incur additional costs and expenses, and our operations and stated mineral reserves could be negatively affected. We have taken actions we consider appropriate to maintain the stability of underground openings, but additional actions may be required in the future. Unexpected failures or additional requirements to prevent such failures may materially adversely affect our costs and expose us to health, safety and other liabilities in the event of an accident, as well as adversely impact our reputation. These developments may in turn materially adversely affect the results of our operations and financial position, as well as potentially diminish our stated mineral reserves.

***Our projects are subject to operational risks that may result in increased costs or delays that prevent their successful implementation.***

We invest in sustaining and increasing our mine and metal production capacity and developing new operations. Our projects are subject to several risks that may materially adversely affect our growth prospects and profitability, including the following:

- we may encounter delays or higher than expected costs in completing technical and engineering studies and obtaining the necessary equipment, machinery, materials, supplies, labor or services, in project execution by third-party contractors and in implementing new technologies to develop and operate a project;
- we may experience delays in commencing the operations of a new project or the expansion of an existing operation;
- our efforts to develop projects according to schedule may be hampered by a lack of infrastructure, including a reliable power supply;
- we may fail to obtain, or experience delays or higher than expected costs in obtaining, the required agreements, authorizations, licenses, approvals and permits to develop a project, including the prior consultation procedure and agreements with local communities;
- changes in market conditions or regulations may make a project less profitable than expected at the time we initiated work on it;
- accidents, natural disasters, labor disputes, equipment failures, water shortages, logistical issues, interruption of energy supply and increase in energy costs;
- adverse mining conditions may delay and hamper our ability to produce the expected quantities and qualities of minerals upon which the project was budgeted;
- mineral reserves and resources are estimates based on the interpretation of limited sampling data and test work that may not be representative of the deposits as a whole, or the technical and economic assumptions used in the estimates may prove to be materially different when the deposits are mined, that could result in materially different economic outcomes; and

- conflicts with local communities and/or strikes or other labor disputes may delay the implementation or the development of projects.

***We may be adversely affected by the failure or unavailability of adequate infrastructure and skilled labor.***

Our mining, smelting, processing, development and exploration activities depend to a large degree on adequate infrastructure. The regions where certain of our current operations, projects and prospects are located are sparsely populated and difficult to access. We require reliable roads, bridges, power sources and water supplies to access and properly conduct our operations. As a result, the availability and cost of this infrastructure affects capital and operating costs and our ability to maintain expected levels of production and sales. We could also experience an increase in transit-related accidents due to the need to transport employees to remote areas. Unusual weather, such as excessive rains and flooding, or other natural phenomena, sabotage, government or external interference (including protest activities from local communities that may lead to temporary suspensions of our projects) in the maintenance or provision of such infrastructure could impact the development of a project, reduce mining volumes, increase mining or exploration costs or delay the transportation of raw materials to the mines and projects or concentrates to the customers. See “Risk factors—Health, safety and environmental risks—Natural disasters and climate change could affect our business.”

In addition, the mining industry is labor intensive, and our success depends to a significant extent on our ability and our contractors’ ability to attract, hire, train and retain qualified employees, including our ability and our contractors’ ability to attract employees with the necessary skills in the regions in which we operate. We could experience increases in our recruiting and training costs and decreases in our operating efficiency, productivity and profit margins if we are unable to attract, hire and retain a sufficient number of skilled employees to support our operations.

***The failure of a tailings dam could negatively impact our business, reputation and results of operations, and the implementation of associated regulations and decommissioning processes may be expensive.***

Mining companies face inherent risks in their operations of tailings dams—structures built for the containment of the mining waste, known as tailings—that exposes us to certain risks. Our tailings dams include, in some cases, materials that could increase the hazard potential in the event of unexpected failure. If any such risks were to occur, this could lead to negative environmental effects and materially adversely affect our reputation and our ability to conduct our operations and could make us subject to liability and, as a result, have a material adverse effect on our business, financial position and results of operations.

In addition, the changes in regulation that occurred as a result of dam failures, like those that have occurred in Brazil, could increase the time and costs to build, operate, inspect, maintain and decommission tailings dams, obtain new licenses or renew existing licenses to build or expand tailings dams, or require the use of new technologies. Brazilian laws include a requirement for obtaining an environmental license for new dams or for the raising of existing dams. As part of the process, companies must present a proposal for an environmental bond with the purpose of guaranteeing the socio-environmental recovery in the event of an accident or the deactivation of the dam. Certain regulations, such as those enacted in Brazil in 2020, may also impose more restrictive requirements that may exceed our current standards, including mandated compliance with emergency plans and increased insurance requirements and premiums, or require us to pay additional fees or royalties to operate tailings dams. We may also be required to facilitate the relocation of communities and facilities impacted by tailings dam failures. Moreover, insurance coverage for damages resulting from tailings dams’ failure may not be available. For more information see “Information on the Company—Mining operations—Tailings disposal.”

***A disruption in zinc concentrate supply could have a material adverse effect on our production levels and financial results.***

A portion of the zinc concentrate used by our smelters is obtained from third parties, and we may be adversely affected if we are not able to source adequate supplies of zinc for such operations. In 2022, 53.6% of the zinc concentrate used by our smelters was obtained from third parties, with the remainder supplied by our own mining operations. The availability and price of zinc concentrate used by our smelters may be negatively affected by several factors largely beyond our control, including interruptions in production in our mines or by our suppliers, decisions by suppliers to allocate supplies of concentrate to other purchasers, price fluctuations and increasing transport cost.

In addition, the efficiency of a smelter's production over time is affected by the mix of the zinc concentrate qualities it processes. In circumstances where we cannot source adequate supplies of the zinc concentrate qualities that comprise the most efficient mix for our smelters, alternative types of concentrate may be available, but the use thereof may increase our costs of production or reduce the productivity of our smelters and adversely affect our business, results of operations and financial position.

***Inadequate supply of zinc secondary feed materials and zinc calcine could affect the results of our smelters.***

Zinc sourced from suppliers of secondary feed materials represented approximately 19.8% of the zinc content used by our Juiz de Fora smelter in 2022. The use of zinc secondary feed material is a competitive advantage in relation to the use of zinc concentrate, mainly due to lower acquisition costs and, to a lesser extent, operational gains. In addition, we have recently incorporated zinc calcine processed by third parties into our operations to increase the production in our smelters. Our smelters then use this zinc calcine processed by third parties to produce additional refined zinc products that they would not produce were they to rely solely on other inputs. To the extent we are unable to obtain adequate supplies of zinc secondary feeds or zinc calcine, or if we must pay higher than anticipated prices of these inputs, our business, results of operations and financial position may be adversely affected. In 2021, one of our calcine suppliers in Peru shut down its facility, impacting our smelter production. In 2022, we partially offset this reduction in calcine availability through the development and consumption of new sources of raw material, such as third party waelz oxide, however, we cannot assure shareholders that we will be able to have secure access to the raw materials required for our operations in the future. For more information, see "Information on the Company—Smelting Operations—Smelter sales."

***Interruptions of energy supply or increases in energy costs may materially adversely affect our operations.***

Energy is an important component of our production costs. In Peru, we obtain almost all electric power for our operations from third parties through electricity supply contracts. Although we are party to a long-term power purchase agreement with Electroperú S.A., we cannot assure you that we will have secure access to energy sources in Peru at the same prices and conditions in the event of any interruption or failure of our sources of electricity, failures or congestion in any part of the *Sistema Eléctrico Interconectado Nacional* ("SEIN"), any failure to renew or extend our other existing electricity supply contracts, or due to any regulatory changes that may impact energy rates. In addition, there is currently a bill being considered by the Peruvian Congress that proposes reducing the cost of energy for regulated customers by increasing the rates of free users, which mainly includes the mining sector. If passed, this legislation could impact the energy costs of our operations in Peru.

In Brazil, we obtain electric power for our operations from hydroelectric plants grouped into several legal entities—which are directly or indirectly jointly owned by us, our controlling shareholder and its affiliates—pursuant to long-term power purchase agreements. Self-production plants represent 96.7% of energy supply, in terms of energy acquired via energy purchase and sale contracts. Furthermore, our energy costs under these agreements could increase in the event of differences in the hydrology forecast due to these hydroelectric plants share the hydrological risk, in addition to payment of higher energy taxes. For more information, see "Information on the Company—Other operations—Power and energy supply."

The prices for and availability of energy resources for our operations may be subject to change or curtailment due to, among other things, new laws or regulations, the imposition of new taxes or tariffs, supply interruptions, equipment damage, volatility and increase in worldwide price levels for energy and related components, market conditions and any inability to renew our existing supply contracts. Disruptions in energy supply or increases in costs of energy resources could increase our production costs and have a material adverse effect on our financial position and results of operations.

***Shortages of water supply due to permitting, licensing, and other governmental regulations, explosives, critical spare parts, maintenance service and new equipment and machinery may materially adversely affect our operations and development projects.***

Our mining and smelting operations require the use of significant quantities of water for extraction activities, processing and related auxiliary facilities. Water usage, including extraction, containment, and recycling requires appropriate permits, which are granted by regulatory authorities in Brazil and Peru. The available water supply may be adversely affected by shortages or changes in governmental regulations. We cannot assure shareholders that water will be available in sufficient quantities to meet our future production needs or will prove sufficient to meet our water supply needs. In addition, we cannot assure shareholders that we will maintain our existing licenses related to water rights, particularly if political changes lead to additional regulatory requirements or review of existing licenses. A reduction in our water supply could materially adversely affect our business, results of operations and financial position. In addition, if we are unable to obtain the necessary licenses with respect to water use, we may be prevented from pursuing some of our planned expansion projects.

In addition to water, our mining operations require intensive use of equipment and machinery as well as explosives. To be able to acquire and use explosives, we must first obtain the corresponding authorizations, which are granted by the relevant regulatory authorities in Brazil and Peru. A shortage in the supply of key spare parts, adequate maintenance service, new equipment and machinery to replace old ones and cover expansion requirements, or explosives, including due to the inability to deliver such water, energy, supplies, critical spare parts, explosives, or equipment and machinery to our operations, or regulatory change impacting our ability to obtain authorization for the acquisition of such materials, could materially adversely affect our operations and development projects.

***There are unique risks inherent to the development of underground mines, which may have a material adverse impact on our cash flows.***

The development of underground mines is subject to other unique risks including, but not limited to, underground floods, issues relating to ventilating harmful gases, fall-of-ground accidents, and seismic activity resulting from unexpected or difficult geological conditions. While we anticipate taking all measures to safely operate, there is no assurance that the effect of these risks will not cause schedule delays, revised mine plans, injuries to persons and property, and/or increased capital costs, any of which may have a material adverse impact on our cash flows.

***We may be adversely affected by labor disputes.***

Mining is a labor-intensive industry. We depend on more than 14,000 workers, including employees and contractors, to carry out our operations. A portion of our employees are unionized. We cannot assure that we will not experience work slowdowns, work stoppages, strikes or other labor disputes in the future, particularly in the context of the annual renegotiation of our collective bargaining agreements.

We may also be affected by labor-related disputes that broadly develop in the countries in which we operate. Strikes and other labor disruptions at any of our operations could have a material adverse effect on our business, financial position and results of operations.

***We may be liable for certain payments to individuals employed by third-party contractors.***

Under Peruvian law, we may become responsible under certain circumstances to pay mandatory labor benefits or other obligations to personnel employed by our third-party contracts or sub-contractors. Although we believe that we are in substantial compliance with Peruvian labor laws, we cannot assure shareholders that any proceedings initiated by outsourced employees will be resolved in our favor and that we will not be liable for any mandatory labor benefits or for-profit sharing benefits. In the beginning of 2022, a new law was published in Peru prohibiting companies from outsourcing core operational activities. Like most Peruvian companies, more than 70% of our Peruvian workforce is employed by third party contractors. In April 2022, we initiated legal actions challenging the law's validity and claiming that it does not apply to Nexa. At the administrative level, we have obtained an injunction and to date, the law is not applicable to Nexa in the labor inspections carried out by the authorities. We intend to continue with both judiciary and administrative legal actions against this new law. However, due to the inherent uncertainties of the final outcome of such actions, Nexa can give no assurance that it will prevail in such matters, which could have an adverse effect on our business if Nexa becomes responsible under Peruvian law for paying mandatory labor benefits or for-profit sharing benefits. For more information, see "Information on the Company—Regulatory matters—Peruvian regulatory framework—Regulation of other activities."

Under Brazilian law, outsourcing is also permitted if certain requirements are met. In addition, Brazilian law provides that the contractor will be held liable on a secondary basis if the outsourced or subcontracted companies do not fulfill their labor obligations. In cases where the outsourced or subcontracted companies do not pay the workers the labor sums they are entitled to, the contractor is responsible for those payments. These payments may have an adverse effect on our results of operation and financial position."

***We may be subject to misconduct by our employees or third-party contractors.***

We may be subject to misconduct by our employees or third-party contractors, such as theft, bribery, sabotage, fraud, insider trading, violation of laws, slander or other illegal actions. Any such misconduct may lead to fines or other penalties, slow-downs in production, increased costs, lost revenues, increased liabilities to third parties, impairment of assets or harmed reputation, any of which may have a material adverse effect on our business, results of operations or financial position.

***The nature of our business includes risks related to litigation and administrative proceedings that could materially adversely affect our business and financial performance in the event of unfavorable rulings.***

The nature of our business exposes us to various litigation matters, including civil liability claims, environmental matters, health and safety matters, regulatory and administrative proceedings, governmental investigations, tort claims, contract disputes, labor matters and tax matters, among others. We cannot assure shareholders that these or other legal proceedings will not have a material adverse effect on our ability to conduct our business or on our financial position and results of operations, through distraction of our management team, diversion of resources or otherwise. In addition, although we establish provisions as we deem necessary in accordance with IFRS as issued by the IASB, the level of provisions that we record could vary significantly from any amounts we actually pay, due to the inherent uncertainties in the estimation process.

***We could be harmed by a failure or interruption of our information technology systems or automated machinery, including system security breaches or other cybersecurity attacks.***

We rely on our information technology systems and automated machinery to effectively manage our production processes and operate our business. Any failure of our information technology systems and automated machinery to perform as we anticipate could disrupt our business and result in production errors, processing inefficiencies and the loss of sales and customers, which in turn could result in decreased revenue, increased overhead costs and excess or out-of-stock inventory levels resulting in a material adverse effect on our business results.

In recent years, cyberattacks and other tactics designed to gain access to and exploit sensitive information by breaching mission critical systems of large organizations have increased in volume and sophistication. We are dependent on internal information systems, and we are vulnerable to failure of these systems, including through system security breaches, data protection breaches or other cybersecurity attacks. We could be exposed to a cyberattack through an internal breach from servers connected to our internal network or an external breach due to disruptions from unauthorized access to our systems, which could impact our ability to operate our existing systems. If these events occur, including a cyberattack causing a loss of critical data, unscheduled downtime/degradation of operations, or the disclosure or use of confidential information, these events could have a material adverse effect on our reputation and market value, which could adversely impact our results of operations.

In addition, data privacy is subject to frequently changing rules and regulations. The European Union's General Data Protection Regulation ("GDPR") took effect in 2018 and introduced increased regulations relating to personal data security. The GDPR requires companies to satisfy new requirements regarding the handling of personal and sensitive data, including its use, protection and the ability of persons whose data is stored to correct or delete such data about themselves. In 2011, Peru enacted the Law for Personal Data Protection No. 29,733, the *Ley de Protección de Datos Personales* ("LPDP") and in 2018, the Brazilian president signed Law No. 13,709, the Lei Geral de Proteção de Dados ("LGPD"). Both the LGPD and LPDP represent comprehensive data protection laws, establishing detailed rules for the collection, use, processing and storage of personal data and affecting all economic sectors, including the relationship between customers and suppliers of goods and services, employees and employers and other relationships in which personal data is collected, whether in a digital or physical environment. Any noncompliance with the GDPR, the LGPD, the LPDP or any other cybersecurity and data privacy regulations could result in proceedings or actions against us by governmental entities, the imposition of fines or penalties and damage to our reputation, which could have an adverse effect on us and our business, reputation and results of operations.

**Financial risks**

***Our financial position and results of operations may be materially adversely affected by currency exchange rate fluctuations.***

Our revenues are primarily denominated in U.S. dollars, and certain portions of our operating costs, principally labor costs, are denominated in *reais* and *soles*. Accordingly, when inflation in Brazil and Peru increases without a corresponding devaluation of the *real* or *sol*, our financial position, results of operations and cash flows could be materially adversely affected. See "Operating and Financial Review and Prospects—Key factors affecting our business and results of operations—Macroeconomic conditions of the countries and regions where we operate" for a discussion of inflation in 2022.

Given the structure of our operations, a decrease in the value of the U.S. dollar relative to the foreign currencies in which we incur costs generally could have a negative impact on our results of operations or financial position. Our foreign currency exposures increase the risk of volatility in our financial position, results of operations and cash flows. We cannot assure shareholders that currency fluctuations, or costs associated with our hedging activities (including fluctuations in exchange rates contrary to our expectations), will not have an impact on our financial position and results of operations.

***Fluctuations in interest rates could increase the cost of servicing our debt, affect returns on our financial investments and negatively affect our overall financial performance.***

Some of our indebtedness bears interest based on variable interest rates, including the London Interbank Offered Rate, or LIBOR. As of December 31, 2022, 27% of our debt was variable rate debt. Such variable rates have fluctuated in response to changes in economic growth, monetary policy and governmental regulation. A significant increase in underlying interest rates, particularly in LIBOR, could have a material adverse effect on our financial expenses and materially adversely affect our overall financial performance. In July 2017, the Financial Conduct Authority ("FCA") announced its intention to phase out LIBOR by the end of 2021. However, on March 5, 2021, the FCA announced that most tenors of U.S. Dollar LIBOR would continue to be published through June 30, 2023, extending the previously announced deadline of December 2021. For more information, see "Operating and Financial Review and Prospects—Liquidity and Capital Resources—Debt".

***We may engage in hedging activity that may not be successful and may result in losses to us.***

We may use foreign exchange and metal commodity non-deliverable forwards to reduce the risk associated with currency and metal price volatility. However, our hedging activities could cause us to lose the benefit of an increase in the prices of the metals we produce if they increase over the price level of hedge positions, or the benefit of an increase in the currency price. The cash flows and the mark-to-market values of our production hedges can be affected by factors such as the volatility of currency and the market price of metals, which are not under our control.

Our hedging agreements contain events of default and termination events that could lead to early close-outs of our hedges such as failure to pay, breach of the agreement, misrepresentation, default under our loans or other hedging agreements and bankruptcy. In the event of an early termination of our hedging agreements, the relevant hedge positions would be required to be settled at that time. In that event, there could be a lump sum payment to be made either to or by us. The magnitude and direction of such a payment would depend upon, among other things, the characteristics of the particular hedge instruments that were terminated and the relevant market prices at the time of termination. Any of the factors described above could have a material adverse effect on our financial position, results of operations or cash flows. See "Operating and financial review and prospects—Risk management—Financial risk—Metal price sensitivity."

***Our business requires substantial capital expenditures and is subject to financing risks.***

Our business is capital intensive. Exploration for and exploitation of mineral deposits, maintenance of machinery and equipment and compliance with applicable laws and regulations require substantial capital expenditures. We must continue to invest capital to maintain and potentially expand our existing brownfield operations, develop our greenfield projects pipeline in order to sustain and grow production, in addition to carrying out investments in sustaining, health, safety and environment. In 2022, we invested US$381.2 million in capital expenditures, US$112.5 million of which was in relation to the Aripuanã expansion and sustaining investments. We depend partially on our operating cash flows to support our capital expenditures. See “Information on the Company—Capital expenditures.”

No assurance can be given that we will be able to maintain our production levels or generate sufficient cash flow, or have access to sufficient investments, loans or other financing alternatives to finance our capital and other projects expenditure program at a level necessary to sustain and grow our current exploration and exploitation activities. Any equity or debt financing, if available, may not be on terms that are favorable to us. If our access to external financing is limited, we may not be able to execute our strategy, which could adversely affect our business, financial position and results of operations.

***We are exposed to credit risk in relation to our contractual and trading counterparties as well as to hedging and derivative counterparty risk.***

We are subject to the risk that the counterparties with whom we conduct our business (in particular our customers) and who are required to make payments to us are unable to make such payment in a timely manner or at all. Credit risk is present in our hedging operations, customer operations and cash management operations. If amounts that are due to us are not paid or not paid in a timely manner, this may impact not only our current trading and cash-flow position but also our financial and business position. In addition, our derivatives, metals hedging, and foreign currency and energy risk management activities expose us to the risk of default by the counterparties to such arrangements. Any such default could have a material adverse effect on our business, financial position and results of operations.

***Any acquisitions or divestitures we make may not be successful or achieve the expected benefits.***

We regularly consider and evaluate opportunities to acquire assets, companies and operations. There can be no assurance that we will be able to successfully integrate any acquired assets, companies or operations. In addition, any additional debt we incur to finance an acquisition may materially adversely affect our financial position and results of operations. If future acquisitions are significant, they could change the scale of our business and expose us to new geographic, political, operating and financial risks. Similarly, any divestitures we make may not have the anticipated positive impacts and could lead to an impairment charge or other material adverse effects on our business, financial position, and results of operations.

***Changes in the assumptions underlying the carrying amount of certain assets could result in impairment charges.***

We periodically test whether our tangible and intangible assets have suffered any impairment, in accordance with the accounting policy stated in our consolidated financial statements. If our estimates of the recoverable amount of an asset change or are inaccurate, we may determine that impairment charges are necessary. While impairment does not affect reported cash flows, the decrease in the recoverable amount determined could have a material adverse effect on our results of operations. Assurances cannot be given as to the absence of significant impairment charges in future periods, particularly if market conditions deteriorate.

**Risks related to our Mineral Reserves and Resources**

***Our estimates of Mineral Reserves and Resources may be materially different from the total mineral quantities we actually recover, and changes in metal prices, operating and capital costs, and other assumptions used to calculate these estimates may render certain Mineral Reserves and Resources uneconomical to mine.***

There is a degree of uncertainty attributable to the estimation of mineral reserves and resources. Until mineral reserves and resources are actually mined and processed, the quantity of metal and grades must be considered as estimates only and no assurance can be given that the indicated levels of metals will be produced. In making determinations about whether to advance any of our projects to development, we must rely upon estimated calculations for the mineral reserves and mineral resources and grades of mineralization on our properties.

The estimation of mineral reserves and resources is a subjective process that is partially dependent upon the judgment of the qualified persons preparing such estimates. The process relies on the quantity and quality of available data and is based on knowledge, mining experience, statistical analysis of drilling results and industry practices. Valid estimates made at a given time may significantly change when new information becomes available.

Our estimates of Mineral Reserves and Resources are based on geological interpretation and statistical inferences or assumptions drawn from drilling and sampling analysis made as of the date of such estimates. We periodically update our mineral reserves and resources estimates based on the conclusions of the relevant qualified persons with respect to new data from exploratory and infill drilling, results from technical studies and the experience acquired during the operation of the mine and metallurgical processing, as well as changes to the assumptions used to calculate these estimates.

Several of the assumptions used to calculate these estimates, including the market prices of commodities and foreign exchange rates, operating and capital costs and mining and metallurgical recovery rates, among others, can greatly fluctuate, which may result in significant changes to our current estimates. These changes may also render some or all of our proven and probable mineral reserves and measured and indicated mineral resources uneconomic to exploit and may ultimately result in a reduction of mineral reserves and resources.

In addition, inferred mineral resources have a great amount of uncertainty as to their existence and their economic and legal feasibility. You should not assume that any part of an Inferred Mineral Resource will be upgraded to a higher category or that any of the mineral resources not already classified as mineral reserves will be reclassified as mineral reserves.

***We depend on our ability to replenish our mineral reserves for our long-term viability.***

Mineral reserves data is only indicative of future results of operations at the time the estimates are prepared and are depleted over time as we conduct our mining operations. We use several strategies to replenish and increase our Mineral Reserves that are depleted, including exploration activities and the acquisition of mining concessions. If we are unable to replenish our Mineral Reserves or develop our Mineral Resources, our business, results of operations and prospects would be materially adversely affected.

***Our mineral exploration efforts are highly speculative in nature and may be unsuccessful.***

Mineral exploration is highly speculative in nature, involves many uncertainties and risks and may be unsuccessful. It is performed to demonstrate the dimensions, position and mineral characteristics of mineral deposits, estimate mineral reserves and resources, assess amenability of the deposit to mining and processing scenarios and estimate potential deposit value.

Substantial expenditures are required to establish proven and probable mineral reserves, to determine processes to extract the metals and, if required, to construct mining and processing facilities and obtain permits to carry on mining activities. Therefore, once the mineralization is discovered, it may take several years from the initial exploration phases and mineral resources determination before production is possible, if at all, during which time the project’s feasibility may change adversely.

**Health, safety and environmental risks**

***Health, safety and environmental laws and regulations, including regulations pertaining to climate change, may increase our costs of doing business, restrict our operations or result in the imposition of fines or revocation of permits.***

Our mining activities are subject to Brazilian and Peruvian laws and regulations, including health, safety and environmental matters. In March 2022, the Securities and Exchange Commission ("SEC") proposed a new set of rules regarding disclosure and reporting requirements related to climate change. We will continue to monitor developments related to the new rules, which are expected to become effective in 2023, and which we will also be subject to once adopted, as applicable. Additional matters subject to legislation include, but are not limited to, transportation, mineral storage, water use and discharge, use of explosives, hazardous and other non-hazardous waste, and reclamation and remediation measures. Our operations are subject to periodic inspections and special inspections in certain circumstances by governmental authorities and consultation with local communities. Compliance with these laws and regulations and new or existing regulations that may be applicable to us in the future could increase our operating costs and adversely affect our financial results of operations and cash flows.

Regulatory and industry response to climate change or other controls on greenhouse gas emissions, including limits on emissions from the combustion of carbon-based fuels, controls on effluents and restrictions on the use of certain materials, could significantly increase our operating costs and affect our customers and suppliers. Ongoing international efforts to address greenhouse gas emissions consist of controlling activities that may increase the atmospheric concentration of greenhouse gases. International agreements, like the Paris Agreement, Kyoto Protocol and COP26, are in different stages of negotiation and implementation. The measures included in such agreements may result in an increase of costs related to the installation of new controls aimed at reducing greenhouse gas emissions, the purchase of credits or licenses for atmospheric emissions and the monitoring and registration of greenhouse gas emissions generated by our operations. These measures could adversely affect our business, financial position and results of operations. In addition, the Brazilian government has initiatives to grant environmental licenses in connection with the license holder's commitment to reducing greenhouse gases, especially in the state of Minas Gerais.

Pursuant to applicable environmental regulations and laws, we could be found liable for all or substantially all the damages caused by mining activities at our current or former facilities or those of our predecessors at disposal sites. We could also be found liable for all incidental damages due to the exposure of individuals to hazardous substances or other environmental damage, all of which could significantly and negatively affect our reputation. We cannot assure shareholders that our costs of complying with current and future environmental and health and safety laws and regulations, including decommissioning and remediation requirements, and any liabilities arising from past or future releases of, or exposure to, hazardous substances will not materially adversely affect our business, financial position and results of operations.

***ESG issues, including those related to climate change and sustainability, may have an adverse effect on our business, financial condition and results of operations and damage our reputation.***

There is an increasing focus from certain investors, customers, consumers, employees and other stakeholders concerning ESG matters. Additionally, public interest and legislative pressure related to public companies' ESG practices continue to grow, particularly as the SEC considers new rulemaking related to ESG disclosure. If our ESG practices fail to meet regulatory requirements, our medium- and long-term ESG commitments, or investor, customer, consumer, employee or other stakeholders' evolving expectations and standards for responsible corporate citizenship in areas including environmental stewardship, support for local communities, Board of Directors and employee diversity, human capital management, employee health and safety practices, product quality, corporate governance and transparency, our reputation, brand and employee retention may be negatively impacted, and our customers and suppliers may be unwilling to continue to do business with us.

Customers, consumers, investors and other stakeholders are increasingly focusing on environmental issues, including climate change, dams, energy and water use, and other sustainability concerns. Concern over climate change, in particular, may result in new or increased legal and regulatory requirements to reduce or mitigate impacts to the environment.

If we do not adapt to or comply with new regulations, or if we fail to comply with disclosure requirements and consequently fail to meet evolving regulatory, investor, industry or stakeholder expectations and concerns regarding ESG issues, investors may reconsider their capital investment in Nexa, and customers and consumers may choose to stop purchasing our products, which could have a material adverse effect on our reputation, business or financial condition.

***Natural disasters and climate change could affect our business.***

Natural disasters could significantly damage our mining and production facilities and infrastructure and may cause a contraction in sales to countries adversely affected due to, among other factors, power outages and the destruction of industrial facilities and infrastructure. In particular, the Central Andean region, where two of our mines are located, is prone to mudslides and earthquakes of varying magnitudes. Due to the El Niño weather phenomenon, Peru typically experiences extreme weather conditions that led to flooding and mudslides, and which could adversely affect our operations. In the past, extreme flooding and mudslides in Peru have interrupted the supply of metal concentrates from our mines and the supply of zinc products to our plants. The physical impact of climate change on our business remains uncertain, but we are likely to experience changes in rainfall patterns, increased temperatures, water shortages, rising sea and river levels, lower water levels in rivers due to natural or operational conditions, increased storm frequency and intensity as a result of climate change, which may adversely affect our operations. For example, in January 2022, the underground operation at the Vazante mine was partially flooded due to heavy rainfall levels in the state of Minas Gerais, which had a negative impact on zinc production until March 2022. Operations resumed at full capacity in the beginning of April 2022. In addition, in March 2023 production at the Cerro Lindo mine was suspended due to heavy rainfall levels in the region. For additional information, see "Information on the Company—Mining Operations—Vazante" and "Information on the Company—Mining Operations—Cerro Lindo." Although we have insurance covering damages caused by natural disasters, extensive damage to our facilities and staff casualties due to natural disasters may not be covered by our insurer and/or could materially adversely affect our ability to conduct our operations and, as a result, reduce our future operating results.

In addition, the potential physical impact of climate change on our operations is highly uncertain and would be particular to the geographic circumstances of our facilities and operations. It may include changes in rainfall patterns, water shortages, rising sea and river levels, changing storm patterns and intensities and changing temperatures. These effects may materially adversely impact the cost, production and financial performance of our operations.

***Global or regional health considerations, including the outbreak of a pandemic or contagious disease, such as the COVID-19 pandemic, have impacted and could continue to impact our business, financial condition and results of operations.***

The global economy has faced a number of challenges since the outbreak of the COVID-19 pandemic, including disruption to financial markets, rising inflation, and increased volatility due to market expectations for a global recession. In 2022, international prices increased for zinc and decreased for copper, lead, and silver as compared to their respective 2021 averages. For further information on price performance, see "Operating and Financial Review and Prospects—Overview—Metals Prices". See also "—Our business is highly dependent on the international market prices of the metals we produce, which are both cyclical and volatile" and "—Changes in the demand for the metals we produce, including as a result of the cyclicality of global economic activity, could adversely affect our sales volume and revenues." Effective vaccination rates and treatments have been developed for COVID-19, however the emergence of new variants, the outbreak of another contagious disease, or future pandemics and public crises could present risks to our operations (including the ability of employees to be physically present at work), employee health and safety, and general macroeconomic activity, as well as have a severe impact to our business, customers, or supply chain. This impact could continue for an extended period of time or impact our financial condition and results of operations and continued weak or worsening economic conditions could negatively impact demand for our products. For additional information, see "Operating and Financial Review and Prospects—Overview—Executive Summary" and Note 1 to our consolidated financial statements.

**Political, economic, social and regulatory risks**

***Political, economic and social conditions in the countries in which we have operations or projects could adversely impact our business, financial condition results of operations and the trading price of our securities.***

Political, economic and social conditions in the countries in which we have operations or projects may negatively affect our financial performance. Our business, financial position and results of operations may be affected by the general conditions of the Peruvian, Brazilian and other national political conditions, economies, economic recessions, price instability, exchange rate volatility, inflation, interest rates, and domestic regulatory and taxation policies. There can be no assurance that the countries in which we operate will not face political, economic or social problems in the future or that these problems will not increase the volatility of the price of securities of issuers with operations in those countries, like us, or interfere with our ability to operate and service our indebtedness. For additional information, see "Operating and Financial Review and Prospects—Overview—Key factors affecting our business and results of operations."

In all these countries, we are exposed to various additional risks over which we have no control, such as social unrest, bribery, cyberattacks, extortion, corruption, robbery, sabotage, kidnapping, civil strife, terrorism, acts of war and guerilla activities. These issues may adversely affect the economic and other conditions under which we operate in ways that could have a materially negative effect on our business.

***Recent and potential changes in commercial and mining laws may significantly impact our mining operations.***

Changes to the Brazilian and Peruvian regulatory framework that could be enacted in the future may result in an increase in our expenses, particularly mining royalties and tax-related expenses, among others. In addition, any changes in the interpretation of Brazilian or Peruvian mining laws and regulations, including changes to our concession agreement and changes in commercial rules and protections, may increase our compliance, operational or other costs. In December 2022, a new tax on mining operations was approved in the state of Mato Grosso, where the Aripuanã project is located. The tax is valid for one year and may be further extended. For additional information, see "Information on the Company—Regulatory matters—Brazilian regulatory framework—Mining rights and regulation of mining activities."

***Our mineral rights may be terminated or not renewed by governmental authorities.***

Our business is subject to extensive regulation in Brazil and Peru, including with respect to acquiring and renewing the required authorizations, permits, concessions and/or licenses from the relevant governmental regulatory bodies. We have obtained, or are in the process of obtaining, all material authorizations, permits, concessions and licenses required to conduct our mining and mining related operations.

In Brazil, we may need to renew exploration authorizations related to our Brazilian mining operations 60 days prior to their expiration date if we determine that we continue to have an economic or business interest in the area. If we fail to demonstrate the existence of technical and economically viable mineral deposits in an area covered by an exploration authorization, we may be required to return it to the federal government. The federal government may then grant exploration authorizations to other parties that may conduct other mineral prospecting activities at said area. With respect to mining concessions, there is no renewal requirement once we have obtained such concession. However, we must continue to assess the mineral potential of each mining concession to determine if the costs of maintaining the related exploration authorizations and mining concessions are justified by the results of operations to date. If such costs are not justified and we abandon the mine or suspend the mining activities without the formal consent of the regulatory authority for a period more than six months, we may lose the respective mining concessions. Alternatively, we may elect to withdraw or assign some of our exploration authorizations or mining concessions.

In Peru, once mineral concessions are granted, they may not be revoked if the titleholder complies with two obligations, (1) payment of an annual fee and (2) either achievement of the minimum annual production target or expenditure of the equivalent amount in exploration or investments before the statutory deadline. If the production, expenditure or investment targets are not met, a statutory penalty must be paid. Accordingly, mineral concessions will lapse automatically if any of these obligations are not met within the statutory period. Mining concessions in Peru may be terminated if the concessionaire does not comply with its obligations.

These authorizations, permits, concessions and environmental licenses are subject to our compliance with conditions imposed and regulations promulgated by the relevant governmental authorities. While we anticipate that all required authorizations, permits, concessions and environmental licenses or their renewals will be granted as and when sought, there is no assurance that these items will be granted as a matter of course, and there is no assurance that new conditions will not be imposed in connection with such renewals. If we were to violate any of the foregoing laws and regulations or the conditions of our concessions, authorizations, and environmental licenses, including the failure to remove all residents who are within the self-rescue zone, we may be subjected to substantial fines or criminal sanctions, revocations of operating permits or licenses and possible closings of certain of our facilities.

***Our operations depend on our relations and agreements with local communities, and new projects require carrying out a prior consultation procedure.***

There are several local communities that surround our operations in Brazil and Peru, most of which we have entered into agreements with that provide for the use of their land for our operations. We also interact with regional and local governments and depend on our close relations with local communities and such governments to carry out our operations. From time to time, we may experience disputes with local communities and if our relations with the local communities and such governments were to deteriorate, or the local communities do not comply with the existing agreements or renew them upon expiration, it could have a material adverse effect on our business, reputation, properties, operating results, financial position or prospects. In addition, a disruption in the relations between the local communities, governments and other parties may affect us indirectly. For additional information, see “Mining Operations—Atacocha—Production.”

We also may face certain risks in relation to artisanal mining near the areas in which we operate. The increase of artisanal mining activity or the failure of these artisanal miners to abide with our existent agreement may have an adverse effect on the development of our operations. For example, see “Mining Operations—Aripuanã—History.”

Furthermore, to develop new projects in the countries in which we operate on land owned by, or in the possession of, third parties, we need to reach an agreement with such third parties to use that land. Any delay or failure to reach such agreements or obtain governmental approvals for our new projects could result in a material adverse effect on our business, properties, operating results, financial position or prospects.

***Changes in tax laws may increase our tax burden and, as a result, could adversely affect our business, financial position and results of operations.***

The Brazilian, Peruvian and Luxembourg governments from time to time implement changes to tax laws and regulations. Any such changes, as well as changes in the interpretation of such laws and regulations, may result in increases to our overall tax burden, which would negatively affect our profitability. Moreover, some tax laws may be subject to controversial interpretation by tax authorities, including, but not limited to, the regulation applicable to corporate restructurings. In the event an interpretation different than the one on which we based our transactions prevails, we may be adversely affected. In addition, as a result of the VAT tax benefit adopted by Minas Gerais State in 2019 on the commercialization of several products, including metallic zinc, there has been increased scrutiny by the tax authorities of companies incorporated in this State. For more information about the VAT tax benefit, see “Information on the Company—Regulatory Matters—Brazilian regulatory framework—Royalties and other taxes on mining activities.” The Brazilian, Peruvian or Luxembourg governments may implement additional changes to tax regulations in the future, which could adversely affect our business, financial position, and results of operations.

***Our business, financial position and results of operations may be adversely affected by inflation.***

Certain countries in which we operate are experiencing or have experienced high levels of inflation in the past and may continue to experience high levels of inflation in the future, which may impact domestic demand for our products. Inflationary pressures, which increased globally during 2022 and which we expect to continue at higher levels in 2023, may curtail our ability to access international financial markets and may lead to further government intervention in the economy, including the introduction of government policies that may materially adversely affect the overall performance of the national economy of the countries in which we operate, which in turn may materially adversely affect Nexa. Furthermore, as we follow international market prices, we may not be able to adjust the prices we charge our customers to offset the effects of inflation on our cost structure. In addition, although the functional currency for our Peruvian operations is the U.S. dollar, high rates of inflation could increase our operating costs and adversely impact our operating margins if we are not able to pass the increased costs on to consumers.

Since the second half of 2021 and the duration of 2022, rising inflation worldwide has impacted our costs, and we expect these inflationary pressures to persist during 2023. In addition to volatile global macroeconomic conditions, the effects of the 2022 presidential elections in Brazil, and certain related economic, political, and policy uncertainties, have contributed, and may continue to contribute, to rising inflation rates in Brazil. The impact of this negative macroeconomic environment worldwide, including Brazil and Peru, could have a potential impact on our business, financial position, and results of operations.

***We are subject to anti-corruption, anti-bribery and anti-money laundering laws and regulations in various jurisdictions. Any violations of any such laws or regulations could have a material adverse impact on our reputation and results of operations and financial position.***

We are subject to anti-corruption, anti-bribery, anti-money laundering and other international laws and regulations and are required to comply with the applicable laws and regulations of Brazil, Peru, Luxembourg, Canada and the United States, among others. In addition, we are subject to economic sanctions regulations that restrict our dealings with certain sanctioned countries, individuals and entities. Our governance and compliance processes may not timely identify or prevent future breaches of legal, accounting or governance standards. We may be subject to instances of fraudulent behavior, corrupt practices and dishonesty by our affiliates, employees, directors, officers, partners, agents and service providers. Any violations by us of anti-bribery and anti-corruption laws, sanctions regulations or other standards could have a material adverse effect on our business, reputation, results of operations and financial position.

***Political and social opposition to mining activities generally in the regions we operate could adversely impact our business and reputation.***

Disputes with communities where we operate may arise from time to time. In some instances, our operations and mineral reserves are located on or near lands owned or used by indigenous people or other groups of stakeholders. Some of our mining and other operations are in territories where title may be subject to disputes or uncertainties, or in areas claimed for agriculture or land reform purposes, which may lead to disagreements with organized social movements, local communities and the government. Recent political changes, particularly in Peru, may lead to a potential increase in these claims. We may be required to consult and negotiate with these groups as part of the process to obtain licenses required to operate, to mitigate impact on our operations or to obtain access to their lands. Disagreements or disputes with local groups, including indigenous groups, organized social movements and local communities could cause delays or interruptions to our operations, adversely affect our reputation or otherwise hamper our ability to develop our reserves and conduct our operations. Protesters have taken actions to disrupt our operations and projects, and they may continue to do so in the future, which may harm our operations and could adversely affect our business. In recent years, Peru has experienced protests against mining projects in several regions. On several occasions, local communities have opposed these operations and accused them of polluting the environment and hurting agricultural and other traditional economic activities. For example, production at the Atacocha mine was temporarily suspended in 2022 due to blockades by local communities. For additional information, see “Mining Operations—Atacocha—Production.” Social demands and conflicts could have a material adverse effect on our business and results of operations and the economy in general of the countries in which we operate.

***Uncertainty in governmental agency interpretation or court interpretation and the application of such laws and regulations could result in unintended non-compliance.***

The courts in some of the jurisdictions in which we operate may offer less certainty as to the judicial outcome of legal proceedings or a more protracted judicial process than is the case in more established economies. Businesses can become involved in lengthy court cases over simple issues when rulings are not clearly defined, and the poor drafting of laws and excessive delays in the legal process for resolving issues or disputes compound such problems. In addition, there may be limited or no relevant case law providing guidance on how courts would interpret such laws and the application of such laws to our contracts, joint ventures, licenses, license applications or other legal arrangements. Accordingly, there can be no assurance that contracts, joint ventures, licenses, license applications or other legal arrangements will not be adversely affected by the actions of government authorities and the effectiveness of and enforcement of such arrangements in these jurisdictions. Moreover, the commitment of local businesses, government officials and agencies and the judicial system in these jurisdictions to abide by legal requirements and negotiated agreements may be more uncertain and may be susceptible to revision or cancellation, and legal redress may be uncertain or delayed. These uncertainties and delays could have a material adverse effect on our business and results of operations.

***Regulation of other activities.***

We are subject to mining and environmental regulation related to, among other activities, the use of explosives, fuel storage, controlled substances, telecommunications, archeological remains and electricity concessions. We are also subject to more general legislation on data privacy, labor, occupational health and safety, and peasant and indigenous communities, among others, that may adversely affect our business. See "Information on the Company—Regulatory matters—Brazilian regulatory framework" and "Information on the Company—Regulatory matters—Peruvian regulatory framework."

**Risks relating to our corporate structure**

***VSA has substantial control over us, which could limit our shareholders' ability to influence the outcome of important corporate decisions.***

As of March 20, 2023, VSA owns 64.68% of our issued and outstanding common shares. As a result, VSA can influence or control matters requiring approval by our shareholders, including the election of directors, the allocation of profits, the appointment of external auditors and the approval of mergers, acquisitions or other extraordinary transactions. VSA may also have interests that differ from our other investors and may vote in a way with which our other shareholders disagree, and which may be adverse to the interests of our other investors.

In addition, we have entered into several shared services contracts and similar agreements with other entities in the Votorantim Group in order to achieve operational economies of scale. Since we rely on the Votorantim Group for negotiation, renewal and extension of these agreements, there can be no assurances that we will always have access to the services procured pursuant to these agreements at the same prices and conditions. See "Share ownership and trading—Related Party Transactions."

***Dividends or other distributions paid by us on our common shares will generally be subject to Luxembourg withholding tax.***

Any dividends or other distributions paid by us on our common shares will be subject to a Luxembourg withholding tax at a rate of 15.0% unless an exemption or reduction in rate applies. The withholding tax must be withheld from the gross distribution and paid to the Luxembourg tax authorities. Under certain circumstances, distributions as share capital reductions or share premium reimbursements may not be subject to withholding tax, but there are no assurances that we will be able to make such distributions in the future. See "Additional Information—Taxation—Luxembourg tax considerations—Shareholders."

***The rights of our shareholders, and the responsibilities of VSA as our controlling shareholder, are governed by Luxembourg law and differ in some respects from the rights and responsibilities of shareholders under the laws of other jurisdictions, including the United States and Canada, and shareholders may have more difficulty protecting their interests than they would as shareholders of a U.S. corporation.***

Our corporate affairs are governed by our articles of association and by the laws governing limited liability companies organized under the laws of Luxembourg, as well as such other applicable local law, rules and regulations. The rights of our shareholders and the responsibilities of VSA as our controlling shareholder and of our directors and officers under Luxembourg law are different from those applicable to a corporation incorporated in the United States or Canada. There may be less publicly available information about us than is regularly published by or about U.S. or Canadian issuers. Also, Luxembourg regulations governing the securities of Luxembourg companies may not be as extensive as those in effect in the United States or Canada, and Luxembourg law and regulations in respect of corporate governance matters may not be as protective of non-controlling shareholders as corporation laws in the United States or Canada. Therefore, shareholders may have more difficulty protecting their interests in connection with actions taken by us, our directors and officers or our principal shareholders than they would as shareholders of a corporation incorporated in the United States or Canada.

***Our ability to make distributions on our common shares is subject to several factors and conditions.***

The determination to pay dividends and the payment of dividends or other distributions (including reimbursements of share premium) will be subject to the approval of our board of directors and/or our shareholders, as applicable, and will depend on a number of factors, including, but not limited to, our cash balance, cash flow, earnings, capital investment plans, expected future cash flows from operations, our strategic plans and cash dividend distributions from our subsidiaries, as well as restrictions imposed by applicable law and contractual restrictions (although as of the date of this annual report there are no contractual restrictions on our ability to pay dividends or other distributions to our shareholders), and other factors our board of directors may deem relevant at the time. Luxembourg law also imposes certain requirements regarding distributions. For additional information, see “Share ownership and trading—Distributions.”

We are a holding company and have no material assets other than our ownership of shares in our subsidiaries. When we pay a dividend or other distribution on our common shares in the future, we generally cause our operating subsidiaries to make distributions to us in an amount sufficient to fund any such dividends or distributions. Although as of December 31, 2022, there are no material contractual restrictions on our subsidiaries’ ability to make distributions to us, their ability to do so is subject to their capacity to generate sufficient earnings and cash flow and may also be affected by statutory accounting and tax rules in Brazil and Peru.

***It could be difficult for investors to enforce any judgment obtained outside Luxembourg against us or any of our associates.***

We are organized under the laws of Luxembourg. Furthermore, certain of our directors and officers reside outside the United States and Canada and most of their assets are located outside the United States and Canada. Most of our assets are located outside the United States or Canada. As a result, it may not be possible for investors to effect service of process upon us or our directors and officers within the United States, Canada, or other jurisdictions outside Luxembourg or to enforce against us or our directors and officers, judgments obtained in the United States, Canada or other jurisdictions outside Luxembourg. Because judgments of United States or Canadian courts for civil liabilities based upon the U.S. federal securities laws or Canadian securities laws may only be enforced in Luxembourg if certain requirements are met, investors may face greater difficulties in protecting their interest in actions against us or our directors and officers than would investors in a corporation incorporated in a state or other jurisdiction of the United States or Canada.

# I. INFORMATION ON THE COMPANY

## BUSINESS OVERVIEW

### Overview

We are a leading large-scale, low-cost integrated zinc producer with over 65 years of experience developing and operating mining and smelting assets in Latin America.

We operate and own six long life polymetallic mines, three located in the Central Andes of Peru, two located in the state of Minas Gerais in Brazil and one located in the state of Mato Grosso in Brazil.

Our operations are large-scale, modern, mechanized underground and open pit mines. Our mines are proximately located to one another, which creates efficiencies. Two of our mines, Cerro Lindo in Peru and Vazante in Brazil, are among the top 40 largest zinc-producing mines in the world and, combined with our other mining operations, placed us among the top six producers of mined zinc globally in 2022, according to Wood Mackenzie. In addition to zinc, which accounted for 59.8% of our mined metal production in 2022 measured on a zinc equivalent basis, we produce substantial amounts of copper, lead, silver and gold as by-products, which reduce our overall costs to produce mined zinc.

We also own a zinc smelter in Peru (Cajamarquilla) and two zinc smelters in Brazil (Três Marias and Juiz de Fora), which produce metallic zinc, zinc oxide and several by-products. We were the fifth largest producer of refined zinc globally in 2022, according to Wood Mackenzie. Our smelters are the only units in Latin America (excluding Mexico), resulting in benefits from higher premiums. Cajamarquilla is the only operating zinc smelter in Peru and was the fifth largest globally in 2022 by production volume, according to Wood Mackenzie. Peru is the third largest producer of mined zinc in the world, assuring long-term supply of zinc concentrates to Cajamarquilla. Given our proximity to concentrate producers (our own mines and third-party producers), we also benefit from freight parity.

In 2022, we achieved our guidance with strong financial and operational discipline, despite a challenging global macroeconomic environment and Aripuanã, whose production was behind our initial plan. The Russia-Ukraine war, in addition to restrictive COVID-19 measures in China to combat the pandemic and certain fiscal policies in the U.S., significantly increased commodity price volatility, contributing to a slowdown in global growth, and intensifying inflationary pressures throughout the year. Production of our existing mines and metal sales were at the high end, or above guidance range, while mining and smelting cash costs were in line and below guidance, respectively.

We safely operated our mining and smelting businesses throughout 2022. Production in both segments slightly decreased from 2021. The decrease in the mining segment was mainly explained by lower ore throughput at the Cerro Lindo and Vazante mines. In turn, the smelting segment remained relatively flat due to the limited concentrate supply from the Vazante mine in 1Q22, affecting our operations in Brazil.

In January 2022, the Vazante underground mine was partially flooded due to heavy rainfall levels in the state of Minas Gerais, and daily production was reduced from mid-January until the end of March. Nonetheless, following the successful underground mine dewatering process, operations were resumed at full capacity in the first week of April 2022.

In Peru, although production at Atacocha in 2022 was temporarily suspended for some days due to blockades by local communities, we were able to operate at high levels of capacity utilization rates throughout the year and production of zinc increased by 12.1% compared to 2021.

In 2022, our mining operations produced 296.4 thousand tonnes of zinc contained in concentrates, 33.2 thousand tonnes of copper contained in concentrates, 57.4 thousand tonnes of lead contained in concentrates, 9,974.5 thousand ounces of silver and 27.2 thousand ounces of gold, for a total of 495.7 thousand tonnes of metal on a zinc equivalent basis.

Metal production in 2022 decreased 0.1% compared to 2021. Our smelters produced 606.9 thousand tonnes of zinc metal and oxide available for sale in different formats and sizes during 2022, along with by-products, including sulfuric acid, silver concentrate, copper cement and copper sulfate.

Our smelters process mostly zinc concentrate, 43.6% of which was sourced from our mines during 2022, and 56.4% purchased from third parties or obtained as secondary raw material. Approximately 100% of the total volume of the contained zinc in concentrates produced by our mines was processed by our own smelters in 2022, with the remainder and all our copper and lead concentrates sold to third parties. We market our products in Latin America and globally, through our commercial offices in Luxembourg, the United States, Brazil and Peru. We also own energy assets (hydroelectric power plants) in both Brazil and Peru, which provide access to a reliable and competitive power supply.

The Aripuanã ramp-up activities safely started in July 2022. During 3Q22, we produced our first tonne of copper, lead, and zinc in concentrate. We closed 2022 with plant throughput reaching 53% of nameplate capacity, and we were above 60% at the beginning of February 2023. We are currently focused on steadily increasing the plant throughput rate, increasing asset reliability, and improving concentrate grades and we expect to reach full capacity in the second half of 2023.

In response to the global COVID-19 pandemic, in 2020 we created a Crisis Committee, which includes all executive officers, certain key general managers and personnel to carry out preventive safety and health procedures in our operations and offices. The Crisis Committee is no longer active, however, our health department continues to monitor and regularly discuss the Company's health and safety measures implemented, as well as the ongoing impact of the COVID-19 pandemic on our operations and projects. Our COVID-19 associated costs during 2022 amounted to US$6.0 million. For more information, see "Operating and Financial Review and Prospects—Overview—Executive Summary—COVID-19" below.

In October 2022, Nexa updated its long-term ESG targets, reaffirming our ongoing commitments and efforts to reduce our carbon footprint and mitigate global climate challenges. Throughout the year through a variety of diversity-focused programming, we continued to strengthen and promote an equal opportunities environment while creating safe and inclusive workplaces. In 2022, Nexa also became the first international-based sponsor partner of Artemis Project a social enterprise founded by a collective of female entrepreneurs focused on disruptive changes in global economic, environmental, and social development in mining.

**History**

We commenced operating in 1956 under the name "Companhia Mineira de Metais", in the state of Minas Gerais, Brazil. After a series of restructurings in the subsequent fifty-eight years, in 2014, a new corporate governance model was implemented by our controlling shareholder VSA in the corporate group. The main consequence of this new corporate model was that the new governance structure demanded a higher level of empowerment and accountability of senior management, and the establishment of a board of directors at each company. In addition, in connection with the implementation of the new corporate governance model, VSA's equity participations in Nexa CJM (formerly Votorantim Metais – Cajamarquilla S.A.) and Nexa Brazil (formerly Votorantim Metais Zinco S.A.) were transferred to Nexa Resources on June 18, 2014 and July 1, 2014, respectively.

In October 2017, we completed our initial public offering and listed our common shares on the New York Stock Exchange ("NYSE") and on the Toronto Stock Exchange ("TSX") under the ticker symbol NEXA. In connection with becoming a public company, VM Holding S.A. changed its corporate name to Nexa Resources S.A. and our subsidiaries Votorantim Metais —Cajamarquilla S.A., Votorantim Metais Zinco S.A. and Compañía Minera Milpo S.A.A. changed their corporate names to Nexa CJM, Nexa Brazil and Nexa Peru, respectively.

In 2019, we acquired full ownership of the Aripuanã project through the acquisition of Karmin Exploration Inc. ("Karmin"), which indirectly held a 30.0% interest in the Aripuanã project through its ownership of Dardanelos. As a result of this acquisition, and following the transfer of the Dardanelos 30% interest in the Aripuanã project from Nexa Peru to Nexa Brazil, Nexa Brazil became the owner of 100% of the Aripuanã project in June 2020.

During the first half of 2021, Nexa acquired 30,550,512 common shares of Tinka Resources Limited, representing approximately 9% of the issued and outstanding common shares of the company at that time. On May 31, 2022, Nexa subscribed to an additional 40,792,541 common shares in a private transaction, and now holds approximately 18.2% of the issued and outstanding common shares of Tinka. Tinka Resources is progressing towards development of the Ayawilca project (100% owned), one of the largest zinc projects in Peru with excellent resource expansion potential. For further details on Nexa's equity interest in Tinka Resources, see Note 14 (c) to our consolidated financial statements.

Following receipt of approval for a voluntary delisting of our common shares from the TSX in Canada, the last trading of our common shares on the TSX took place on November 30, 2021. Nexa received approval for the delisting following an internal assessment of the relative advantages and disadvantages associated with the listing of our common shares on the TSX. Nexa continues to be a reporting issuer in each of the provinces and territories of Canada following the delisting and continues to file in Canada and disseminate to Canadian resident holders of the common shares its continuous and periodic disclosure documents until such time as it ceases to be obligated to do so. Nexa intends to apply to cease to be a reporting issuer in Canada under Canadian securities laws upon being in a position to satisfy or obtain relief from applicable regulatory requirements.

**Corporate structure and principal subsidiaries**

***Nexa CJM***

Currently, Nexa Resources is the beneficial owner of 99.92% of the outstanding shares of Nexa CJM, and the remaining outstanding shares are owned by Nexa Recursos Minerais S.A. with 0.08% and by other minority shareholders holding 0.003% in aggregate.

***Nexa Peru***

Currently, Nexa Peru's share capital consists of 1,257,754,353 common shares. In addition to common shares, Nexa Peru has issued investment shares that represent a participation in its net worth (*patrimonio*). Although the investment shares do not represent a participation in the capital of Nexa nor grant any voting rights, they grant their holders the right, among others, to participate in any dividend distributions and liquidation proceeds, pro rata to the percentage they represent in the total net worth of Nexa Peru; as well as to participate in any capital increases (in order to maintain the participation they represent in the total net worth) and the right to have their shares redeemed in certain circumstances. As of December 31, 2022, approximately 67.02% of the investment shares are free float and 32.98% are treasury shares.

Both the common shares and the investment shares of Nexa Peru are registered with the Peruvian Public Registry of Securities (*Registro Público del Mercado de Valores*) and listed on the Lima Stock Exchange. As a result, Nexa Peru is required to comply with certain disclosure obligations such as filing quarterly and annual financial statements, reporting on material events (*hechos de importancia*) and disclosing information regarding the economic group to which it belongs.

The following table sets forth information concerning the ownership of the capital stock of Nexa Peru, excluding the investment shares.

| Shareholder | Number | Share Capital (%) |
|---|---:|---:|
| Nexa CJM | 1,048,621,896 | 83.37% |
| Nexa Resources | 2,277,601 | 0.18% |
| Public float | 206,854,856 | 16.45% |
| **Total** | **1,257,754,353** | **100.0%** |

***Nexa Brazil***

Nexa Brazil, which is 100% owned by Nexa Resources, holds directly 100% of Mineração Dardanelos Ltda., which owns 100% of the Aripuanã mine.

**Producing mines and smelters**

**Our mines are:**

- ***Cerro Lindo***. Our Cerro Lindo mine is an underground mine located in Peru wholly-owned by Nexa Peru. Operations began in 2007 and, in 2022, the Cerro Lindo mine produced approximately 84.4 thousand tonnes of zinc contained in concentrates, 32.8 thousand tonnes of copper contained in concentrates, 15.6 thousand tonnes of lead contained in concentrates, 4,129.7 thousand ounces of silver contained in concentrates and 4.1 thousand ounces of gold contained in concentrates. The ore is treated at a concentrate plant that has a processing capacity to 21.0 thousand tonnes of ore per day.

- ***Vazante***. Our Vazante mine is an underground and open pit mine located in Brazil wholly-owned by Nexa Brazil. Operations began in 1969 and, in 2022, the Vazante mine produced approximately 131.5 thousand tonnes of zinc contained in concentrates, 1.2 thousand tonnes of lead contained in concentrates and 473.6 thousand ounces of silver contained in concentrates. The ore is treated at a concentrate plant that has a processing capacity of 4.6 thousand tonnes of ore per day.

- ***El Porvenir.*** Our El Porvenir mine is an underground mine located in Peru wholly-owned by Nexa Resources El Porvenir S.A.C. Operations began in 1949 and, in 2022, the El Porvenir mine produced approximately 51.6 thousand tonnes of zinc contained in concentrates, 0.3 thousand tonnes of copper contained in concentrates, 23.2 thousand tonnes of lead contained in concentrates, 4,195.6 thousand ounces of silver contained in concentrates and 9.2 thousand ounces of gold contained in concentrates. The ore is treated at a concentrate plant that has a processing capacity of 6.5 thousand tonnes of ore per day.

- ***Atacocha***. Our Atacocha mine is an underground and open pit mine located in Peru wholly-owned by Nexa Resources Atacocha S.A.A. (formerly Compañía Minera Atacocha). Operations began in 1938 and, in 2022, the Atacocha mine produced approximately 9.6 thousand tonnes of zinc contained in concentrates, 11.2 thousand tonnes of lead contained in concentrates, 1,155.0 thousand ounces of silver contained in concentrates and 13.6 thousand ounces of gold contained in concentrates. The ore is treated at a concentrate plant that has a processing capacity of 4.5 thousand tonnes of ore per day. In 2020, in response to COVID-19 and the uncertain macroeconomic scenario and our efforts to reduce costs and improve operational efficiency, we decided to not resume the higher-cost Atacocha underground mine after the mandatory temporary suspension of our operations in Peru and placed it under care and maintenance, which it remains to date.

- ***Aripuanã***. Our Aripuanã mine is an underground mine located in Brazil wholly-owned by Nexa Brazil. In July 2022, we started ramp-up activities at the Aripuanã mine and started to sell concentrates within market specifications in the fourth quarter of 2022, with an increase in sales in 1Q23. In 2022, the Aripuanã mineral exploration strategy focused on increasing mineral resources at the Ambrex orebody and Babaçu exploration target. The 2022 Ambrex infill drilling campaign was completed during 3Q22, and the drill rigs were moved to the Babaçu for an exploratory campaign and infill program during 4Q22.

- ***Morro Agudo***. Our Morro Agudo mine is an underground mine located in Brazil wholly-owned by Nexa Brazil. Operations began in 1988 and, in 2022, the Morro Agudo mine produced approximately 18.7 thousand tonnes of zinc contained in concentrates and 6.2 thousand tonnes of lead contained in concentrates. The ore mill feed material is treated at a concentrate plant that has a processing capacity of 3.4 thousand tonnes per day.

**Our smelters are:**

- ***Cajamarquilla***. Our Cajamarquilla smelter, which is wholly-owned by Nexa CJM, is located in Peru and began operating in 1981. It is currently the largest zinc smelter in Latin America and was the fifth largest zinc smelter in the world in 2022, according to Wood Mackenzie. Cajamarquilla uses Roast-Leach-Electrowinning technology. With a nominal production capacity of 344.4 thousand tonnes of contained zinc per year, Cajamarquilla produced 332.8 thousand tonnes of zinc metal available for sales in 2022 and 328.1 thousand tonnes in 2021. In 2022, 28.9% of the zinc contained in raw material used by Cajamarquilla was sourced from our mines in Peru and 71.1% was purchased from third parties or obtained from secondary feed materials.

- ***Três Marias***. Our Três Marias smelter, which is wholly-owned by Nexa Brazil, is located in Brazil and began operating in 1969. Três Marias processes zinc silicate concentrate from our Vazante mine and zinc sulfide concentrate from our Morro Agudo mine and uses Roast-Leach-Electrowinning technology. With a nominal production capacity of 192.2 thousand tonnes of refined metal per year, Três Marias produced 189.9 thousand tonnes of zinc metal and oxide in 2022 and 198.4 thousand tonnes in 2021. In 2022, 77.8% of the zinc contained in raw materials used by Três Marias was sourced from our mining operations in Brazil and Peru and 22.2% was purchased from third parties or obtained from secondary feed materials.

- ***Juiz de Fora***. Our Juiz de Fora smelter, which is wholly-owned by Nexa Brazil, is located in Brazil and began operating in 1980. This smelter uses Roast-Leach-Electrowinning and Waelz Furnace technologies. With a nominal production capacity of 96.9 thousand tonnes per year, Juiz de Fora produced 84.2 thousand tonnes of zinc metal in 2022 and 81.1 thousand tonnes in 2021. In 2022, 31.4% the zinc raw material used in Juiz de Fora was zinc concentrate sourced from our mining operations, 48.9% was purchased from third parties and 19.8% was obtained from secondary feed materials from electric arc furnace ("EAF") and brass oxide.

**Growth Projects**

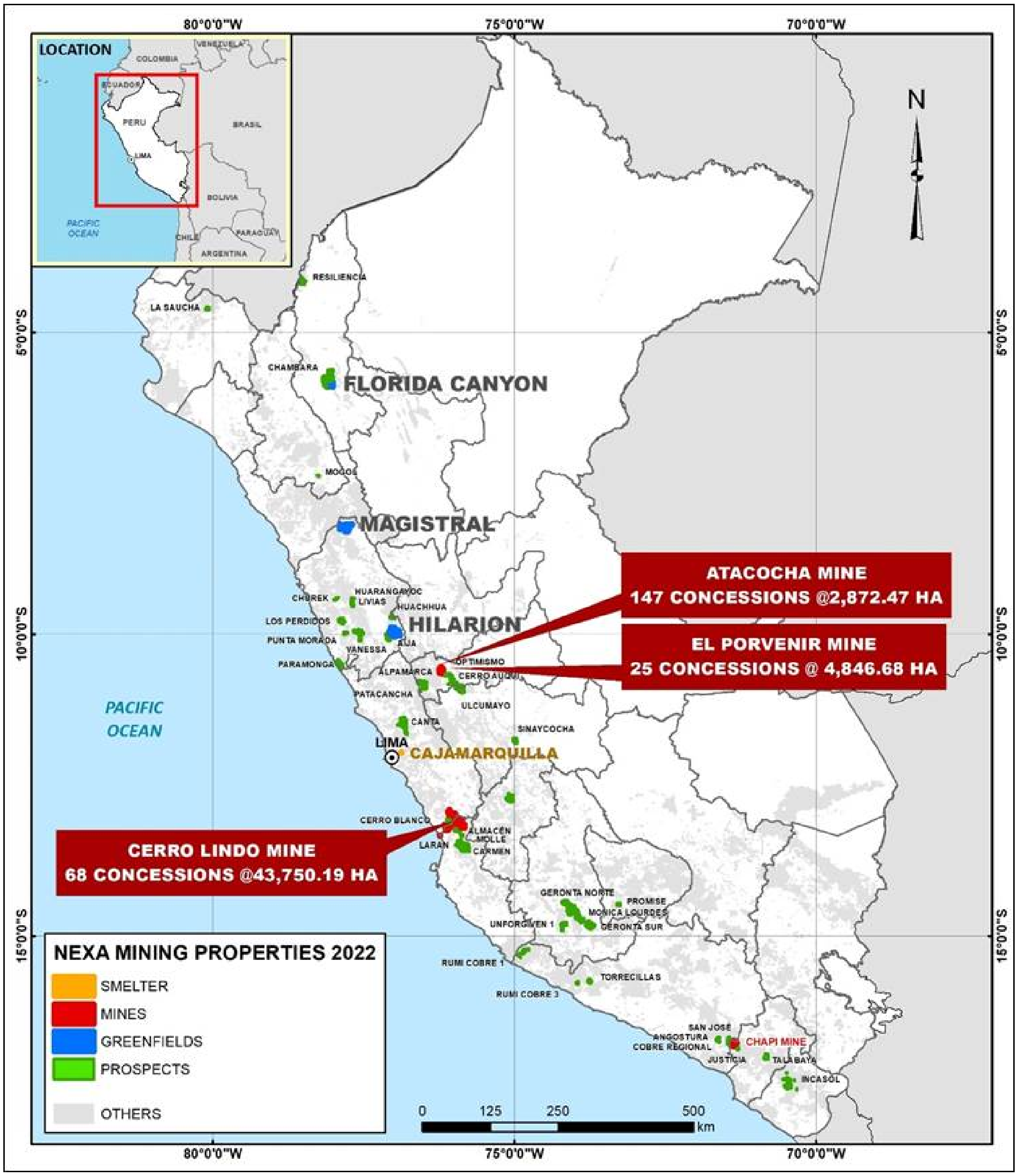
In addition to Nexa's operating mines and smelters, a component of our business focuses on growth and exploration, which are activities associated with ascertaining the existence, location, extent or quality of a mineral deposit. Our growth and exploration activities encompass brownfield and greenfield projects. Brownfield projects are exploration or development projects near or within our existing operations, which can share infrastructure and management of our existing operations. Greenfield projects are exploration or development projects that are located outside the area of influence of our existing mine operations and/or infrastructure, which will be independently developed and managed from our existing operations. Most of our brownfield and greenfield projects are in the pre-feasibility or feasibility stages.

The evolution of a greenfield project until it reaches full/normal capacity can take decades. The steps that a project typically follows to reach full/normal capacity are: pre-feasibility, feasibility study, construction/execution, commissioning, ramp-up, and full/normal capacity. Aripuanã is the only greenfield project that Nexa has built in recent decades, and it is currently in the ramp-up stage; it is expected to reach normal capacity at the end of 2023.

In addition to our operating mines and smelters, we have interests in three greenfield projects in Peru (Magistral, Hilarión and Florida Canyon Zinc) and one in Namibia, as well as a number of prospects in Peru, Brazil and Namibia. For more information about the projects, please see "Information on the Company—Mining operations—Growth projects." Nexa also owns 18.2% of the issued and outstanding shares of Tinka, as previously informed.

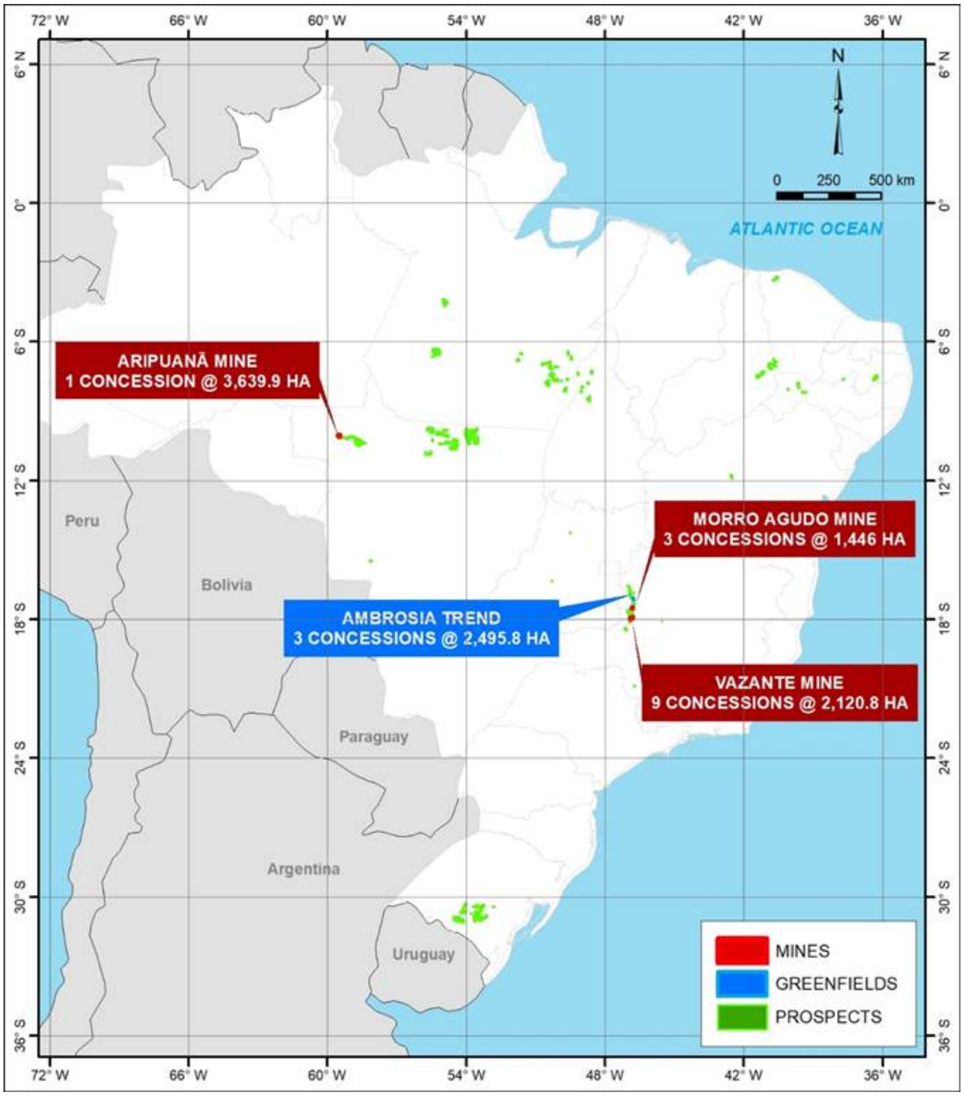
**MINING OPERATIONS**

**Map 1. Mines, Projects and Prospects in Peru**




*Source:* Nexa Resources.

**Map 2. Mines, Projects and Prospects in Brazil**




*Source:* Nexa Resources.

The following table summarizes our concentrate production, metal contained in concentrate production in each metal and zinc equivalent production in each of our operating mines.

To calculate the zinc equivalent production for the years ended December 31, 2022, 2021, and 2020, we convert the relevant metal contained in concentrate production used in the zinc equivalent grade based on the average benchmark prices for 2022, namely, US$3,478.3 per tonne (US$1.58 per pound) for zinc, US$8,797.0 per tonne (US$3.99 per pound) for copper, US$2,150.2 per tonne (US$0.98 per pound) for lead, US$21.7 per ounce for silver and US$1,800.1 per ounce for gold.

| | For the Year Ended December 31, | | |
|---|---|---|---|
| | 2022 | 2021 | 2020 |
| **Treated Ore (in tonnes)** | 12,343,018 | 12,330,469 | 10,853,740 |
| **Mining Production—Metal Contained in Concentrate** | | | |
| Zinc (in tonnes) | 296,403 | 319,950 | 313,074 |
| Copper (in tonnes) | 33,219 | 29,607 | 28,154 |
| Lead (in tonnes) | 57,448 | 45,565 | 38,009 |
| Silver (in oz) | 9,974,462 | 8,808,291 | 6,825,882 |
| Gold (in oz) | 27,216 | 25,501 | 16,179 |
| **Mining Production—Zinc Equivalent Production** | | | |
| Cerro Lindo (in tonnes of zinc equivalent) | 204,854 | 210,121 | 193,374 |
| El Porvenir (in tonnes of zinc equivalent) | 97,546 | 89,738 | 59,918 |
| Atacocha (in tonnes of zinc equivalent) | 30,729 | 26,485 | 26,552 |
| Vazante (in tonnes of zinc equivalent) | 135,203 | 144,623 | 151,207 |
| Morro Agudo (in tonnes of zinc equivalent) | 25,971 | 24,294 | 31,791 |
| Aripuanã (in tonnes of zinc equivalent) | 1,433 | 0 | 0 |
| **Total** | 495,736 | 495,262 | 462,842 |

The following table summarizes the average ore grade for the periods indicated.

| | For the Year Ended December 31, | | |
|---|---|---|---|
| | 2022 | 2021 | 2020 |
| **Average Ore Grade** | | | |
| Zinc (%) | 2.78 | 2.98 | 3.28 |
| Copper (%) | 0.34 | 0.31 | 0.33 |
| Lead (%) | 0.62 | 0.51 | 0.49 |
| Silver (in ounces per tonne) | 1.07 | 0.95 | 0.90 |
| Gold (in ounces per tonne) | 0.005 | 0.005 | 0.004 |

Each mine consists of one mine, one treatment plant and related infrastructure. We summarize below information as of December 31, 2022 for each of our six mines, including Aripuanã, which started to sell concentrates within market specifications in the fourth quarter of 2022. For an overview of our reserves and resources, see “Mineral Reserves and Resources—Disclosure of Mineral Reserves and Resources”, “Mineral Reserves and Resources—Mineral Reserves” and “Mineral Reserves and Resources—Mineral Resources.”

**Cerro Lindo**

***Location and means of access***

The Cerro Lindo mine is an underground, polymetallic mine located in the Chavín District, Chincha Province, Peru, approximately 268 km southeast of Lima and 60 km from the coast. Access from Lima is available via the paved Pan American Highway south to Chincha, and then via an unpaved road up the Topará River valley to the mine site. Internal roadways connect the various mine site components. The approximate coordinates of the mine are 392,780m East and 8,554,165m North, using the Universal Transverse Mercator WGS84 datum and the project site is located at an average elevation of 2,000 meters above sea level.

***History***

Several companies have held interests in the Cerro Lindo mine area, including BTX, Phelps Dodge, and Nexa Peru. Exploration work completed to date includes geological mapping, rock chip and soil sampling, trenching, ground geophysical surveys, and exploration, definition and underground operational core drilling. Feasibility studies were completed in 2002 and 2005, with mine construction commencing in 2006. Formal production started in 2007, and the mine has been operational since that date.

***Title, leases and options***

All mineral concessions are held in the name of Nexa Peru. The tenure consists of 68 mining concessions totaling approximately 43,750.2 hectares and one beneficiation concession, covering an area of 518.8 hectares.

Nexa Peru currently holds surface rights or easements for the following infrastructure at Cerro Lindo: mine site, access roads, power transmission line and water pipeline for the mine, old and new power transmission lines to Cerro Lindo, desalination plant, water process plant, and the water pipeline from the desalination plant to the mine site. There is sufficient suitable land available within the mineral tenure held by Nexa Peru for tailings disposal, mine waste disposal and installations such as the process plant and related mine infrastructure.

Cerro Lindo is currently subject to payment of royalties. The tax stability agreement expired on December 31, 2021. As of January 2022, Nexa Peru is required to pay royalties and special mining tax to the Peruvian government. For more information, see "Information on the Company—Regulatory matters—Peruvian regulatory framework." As of December 31, 2022, Nexa Peru had a total of six water licenses, one for use of seawater, and the remaining five for ground water extraction.

Cerro Lindo holds a number of permits in support of the current operations. The permits are Directorial Resolutions issued by the Peruvian authorities upon approval of mining environmental impact assessments filed by the mining companies. Nexa Peru maintains an up-to-date record of the legal permits obtained to date.

***Mineralization***

Cerro Lindo is classified as a volcanogenic massive sulfide ("VMS") deposit. The Cerro Lindo deposit is 1,500 meters long, 1,000 meters wide, and has a current vertical development of 470 meters below the surface. Mineralization consists of at least 10 discrete mineralized zones. The Cerro Lindo deposit comprises lens-shaped massive bodies, composed of pyrite (50.0% to 90.0%), yellow sphalerite, brown sphalerite, chalcopyrite, and minor galena. Significant barite is present mainly in the upper portions of the deposit. A secondary-enrichment zone, composed of chalcocite and covellite, has formed near the surface where massive sulfides have oxidized. Silver-rich powdery barite remains at the surface as a relic of sulfide oxidation and leaching.

In 2022, mineral exploration in Cerro Lindo was directed at interpreting geological information collected in the drilling program, and geophysical and geochemical studies. Underground activities in 2022 included extending known mineralized bodies, such as OB-9 and OB-10, as well as geophysical anomaly zones in Pucasalla to find new mineralized zones through surface drilling.

During 2022, we completed approximately 25.1 km of diamond drilling, divided between surface and underground exploration drillings. By the end of 2022, we drilled in our exploration program, 16.2 km in 19 drill holes from surface in Pucasalla target, 4.5 km northwest from Cerro Lindo, confirming sulfide lens of sphalerite, galena and chalcopyrite in a dacite host rock with gangue of barite. In underground, we drilled 8.9 km in 16 drill holes, confirming the continuity of the orebody OB-9 and OB-10. Pucasalla bodies are located north of Topará River and near mine mineralized bodies are located to the south of the Topará River.

During 2023, we expect to complete a total of 32 km of exploratory drilling. Our goal on surface is to continue the exploratory drilling program to extend the Pucasalla mineralization and, construct new access and platforms to test Pucasalla, Puca Punta, Mesa Rumi and Festejo targets. In underground exploration, we plan to drill test the OB-8B, Pucasalla Sur and Festejo targets.

In 2022, we spent US$7.6 million in exploration expenses for Cerro Lindo, primarily associated with diamond drilling, geochemistry analysis, geophysical and geological research works. We have budgeted US$7.0 million for 2023 to continue our exploration program, as data interpretations, geochemistry and exploratory drilling campaign.

***Operations and infrastructure***

The Cerro Lindo mine is completely mechanized, using rubber-tired equipment for all development and production operations. There is no shaft; all access is through 15 portals servicing adits, drifts and declines. Ore is extracted from nine separate ore bodies and delivered to the process plant via a series of conveyors. All ore is commingled during transport to the concentrator stockpile; ore from different ore bodies is not segregated.

We have completed construction of all key infrastructure required for mining and processing operations, including the underground mine, access roads, power lines, water pipelines, the desalination plant, offices and warehouses, accommodations, the process plant/concentrator, conveyor systems, waste rock facilities, temporary ore stockpiles, the paste-fill plant and the dry-stack tailings storage facilities. A new freshwater pipeline from the desalination plant on the coast to the mine was completed in February 2020 and is operational. The national grid supplies electrical power for the mine site.

In 2022, we spent US$38.1 million on sustaining capital expenditures for Cerro Lindo, primarily associated with mine development, equipment replacement and other major infrastructure projects.

In March 2023, production at the Cerro Lindo mine was suspended due to heavy rainfall levels in the region. Nexa is focused on the safety of the mine and has taken measures to ensure the wellbeing of its employees, contractors and host communities Nexa also continues to monitor and assess the situation as it develops. As of the date of this report, the time to resume full operational capacity and the potential impact on 2023 guidance and results are still uncertain.

***Production***

The Cerro Lindo mine is in the production stage and has a treatment plant capacity of 21,000 tonnes of ore per day. The Cerro Lindo unit has an authorized capacity of 20,000 tonnes of ore per day, but Peruvian law allows units to operate at a capacity 5.0% higher than their authorized capacity.

The table below summarizes the Cerro Lindo mine's concentrate production, metal contained in concentrates produced and average grades for the periods indicated. Production in 2022 was lower than 2021 due to expected lower zinc average grade.

| | For the Year Ended December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| **Treatment ore (in tonnes)** | 6,236,058 | 6,369,044 | 5,482,211 |
| **Average ore grade** | | | |
| Zinc (%) | 1.55 | 1.79 | 1.93 |
| Copper (%) | 0.61 | 0.54 | 0.59 |
| Lead (%) | 0.33 | 0.28 | 0.29 |
| Silver (ounces per tonne) | 0.89 | 0.79 | 0.78 |
| Gold (ounces per tonne) | 0.002 | 0.002 | 0.003 |
| **Metal contained in concentrates production** | | | |
| Zinc (in tonnes) | 84,392 | 102,275 | 95,426 |
| Copper (in tonnes) | 32,758 | 29,102 | 27,820 |
| Lead (in tonnes) | 15,641 | 12,849 | 11,590 |
| Silver (in oz) | 4,129,736 | 3,813,731 | 2,938,985 |
| Gold (in oz) | 4,146 | 4,829 | 4,020 |
| **Cash Cost, net of by-product credits (in US$/t)** | (561.4) | (530.1) | (8.7) |
| **Cash Cost, net of by-product credits (in US$/lb)** | (0.25) | (0.24) | (0.00) |
| **Capital Expenditures (in millions of US$)** | 42.5 | 40.5 | 27.7 |

***Mineral Reserves and Mineral Resources***

The Cerro Lindo Mineral Reserves estimates are based on the definitions for Mineral Reserves in SK-1300 and the tables below are based on costs and modifying factors from the Cerro Lindo mine.

**Cerro Lindo – Year End Mineral Reserves as of December 31, 2022 (on an 83.48% Nexa attributable ownership basis) (1)**

| Ownership | Class | Tonnage(2) | Grade | | | | | Contained Metal | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Zinc** | **Copper** | **Silver** | **Lead** | **Gold** | **Zinc** | **Copper** | **Silver** | **Lead** | **Gold** |
| | | **(Mt)** | **(%)** | **(%)** | **(g/t)** | **(%)** | **(g/t)** | **(kt)** | **(kt)** | **(koz)** | **(kt)** | **(koz)** |
| 83.48% | Proven | 22.04 | 1.75 | 0.64 | 21.0 | 0.21 | - | 385.9 | 141.8 | 14,896 | 46.8 | - |
| | Probable | 12.55 | 1.26 | 0.50 | 25.1 | 0.23 | - | 157.5 | 62.4 | 10,138 | 29.2 | - |
| | **Total** | **34.59** | **1.57** | **0.59** | **22.5** | **0.22** | **-** | **543.4** | **204.2** | **25,034** | **76.0** | **-** |

**Notes:**
1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions.
2. Mineral Reserves data presented in this table are reported on 83.48% Nexa attributable ownership.
3. The qualified person for the Mineral Reserves estimate is Cristovao Teofilo dos Santos, B.Eng., FAusIMM, a Nexa Resources employee.
4. Numbers may not add due to rounding.
5. The point of reference for Mineral Reserves in this table is mill feed materials.

**Cerro Lindo – Year End Mineral Reserves as of December 31, 2022 (on a 100% ownership basis) (1)**

| Ownership | Class | Tonnage(2) (Mt) | Grade Zinc (%) | Grade Copper (%) | Grade Silver (g/t) | Grade Lead (%) | Grade Gold (g/t) | Contained Metal Zinc (kt) | Contained Metal Copper (kt) | Contained Metal Silver (koz) | Contained Metal Lead (kt) | Contained Metal Gold (koz) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83.48% | Proven | 26.40 | 1.75 | 0.64 | 21.0 | 0.21 | - | 462.2 | 169.9 | 17,843 | 56.0 | - |
| | Probable | 15.03 | 1.26 | 0.50 | 25.1 | 0.23 | - | 188.7 | 74.7 | 12,144 | 35.0 | - |
| | **Total** | **41.43** | **1.57** | **0.59** | **22.5** | **0.22** | **-** | **650.9** | **244.6** | **29,987** | **91.0** | **-** |

**Notes:**
1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions.
2. Mineral Reserves data presented in this table represents 100% of the Mineral Reserves estimates for the property. Nexa owns 83.48%
3. The qualified person for the Mineral Reserves estimate is Cristovao Teofilo dos Santos, B.Eng., FAusIMM, a Nexa Resources employee.
4. Numbers may not add due to rounding.
5. The point of reference for Mineral Reserves in this table is mill feed materials.

The Cerro Lindo Mineral Reserves are estimated at an NSR cut-off value of US$42.65/t processed. A number of incremental material (with values between US$35.14/t and US$42.65/t) was included in estimate. A minimum mining width of 5.0 m was used, inclusive of extraction factors and dilution are applied based on stope type and location. The net smelter return ("NSR") cut-off value is determined using the mineral reserve metal prices, metal recoveries, concentrate transport, treatment and refining costs, as well as mine operating costs. Metal prices used for Mineral Reserves are based on consensus, long term forecasts from banks, financial institutions and other sources. Mineral Reserves are estimated using average long-term metal prices of zinc: US$2,826.35/t (US$1.28/lb); lead: US$2,043.95/t (US$0.93/lb); copper: Cu: US$7,398.47/t (US$3.36/lb) and silver: US$19.93/oz. Metallurgical recoveries are accounted for in NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at Life of Mine average head grade are 88.72% for Zn, 66.75% for Pb, 85.92% for Cu, and 68.8% for Ag. The current life of mine ("LOM") plan continues to 2030.

**Cerro Lindo – Net Difference in Mineral Reserves between December 31, 2022 versus December 31, 2021 (on an 83.48% Nexa attributable ownership basis)**

| Class | Tonnage (Mt) | Tonnage % | Zinc (kt) | Zinc % | Copper (kt) | Copper % | Silver (koz) | Silver % | Lead (kt) | Lead % | Gold (koz) | Gold % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Proven | 1.75 | 8.6 | 58.5 | 17.8 | 9.7 | 7.3 | 679 | 4.8 | 4.5 | 10.7 | - | - |
| Probable | (3.93) | (23.9) | (41.2) | (20.7) | (34.6) | (35.7) | (1,982) | (16.4) | (3.4) | (10.5) | - | - |
| **Total** | **(2.18)** | **(5.9)** | **17.3** | **3.3** | **(24.9)** | **(10.9)** | **(1,303)** | **(5.0)** | **1.1** | **1.4** | **-** | **-** |

**Cerro Lindo – Net Difference in Mineral Reserves between December 31, 2022 versus December 31, 2021 (on a 100% ownership basis)**

| Class | Tonnage (Mt) | Tonnage % | Zinc (kt) | Zinc % | Copper (kt) | Copper % | Silver (koz) | Silver % | Lead (kt) | Lead % | Gold (koz) | Gold % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Proven | 2.10 | 8.6 | 70.0 | 17.8 | 11.6 | 7.3 | 813 | 4.8 | 5.4 | 10.7 | - | - |
| Probable | (4.71) | (23.9) | (49.3) | (20.7) | (41.5) | (35.7) | (2,375) | (16.4) | (4.1) | (10.5) | - | - |
| **Total** | **(2.61)** | **(5.9)** | **20.6** | **3.3** | **(29.8)** | **(10.9)** | **(1,562)** | **(5.0)** | **1.3** | **1.4** | **-** | **-** |

In comparison to 2021, Cerro Lindo's Mineral Reserves decreased by 5.9% in mass and increased by 3.3% in zinc content (kt), to total 41.43Mt from 44.0 Mt, mainly due to depletion from mining and increase in NSR cut-off values from US$38.43/t and US$42.65/t, respectively. Mineral Reserve depletion during 2022 represented a 4.89Mt containing 70.4kt of zinc. Despite the depletion, we reported a 3.3% increase in our total contained zinc reserves, mainly due to the increase in NSR cut-off values and zinc grade increase due to infill drilling at Cerro Lindo (with a positive net impact of 20.6kt).

In comparison to 2021, Cerro Lindo's Mineral Reserves have decreased mainly due to depletion from mining and increase in NSR cut-off values.

**Cerro Lindo – Year End Mineral Resources as of December 31, 2022 (on an 83.48% Nexa attributable ownership basis) (1)**

| Ownership | Class | Tonnage(2) | Grade | | | | | Contained Metal | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Zinc | Copper | Silver | Lead | Gold | Zinc | Copper | Silver | Lead | Gold |
| | | (Mt) | (%) | (%) | (g/t) | (%) | (g/t) | (kt) | (kt) | (koz) | (kt) | (koz) |
| 83.48% | Measured | 4.49 | 1.84 | 0.62 | 22.2 | 0.23 | - | 82.6 | 27.9 | 3,205 | 10.3 | - |
| | Indicated | 2.69 | 1.15 | 0.49 | 25.6 | 0.24 | - | 30.9 | 13.2 | 2,214 | 6.5 | - |
| | **Total** | **7.18** | **1.58** | **0.57** | **23.5** | **0.23** | **-** | **113.5** | **41.0** | **5,419** | **16.8** | **-** |
| | Inferred | 7.09 | 1.65 | 0.24 | 37.1 | 0.45 | - | 117.0 | 17.0 | 8,457 | 31.9 | - |

**Notes:**
1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions.
2. Mineral Resources Tonnes and Contained Metal presented in this table are reported on 83.48% Nexa attributable ownership.
3. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM, a Nexa Resources employee.
5. Numbers may not add due to rounding.
6. The point of reference for Mineral Resources in this table is mill feed materials.

**Cerro Lindo – Year End Mineral Resources as of December 31, 2022 (on a 100% ownership basis) (1)**

| Ownership | Class | Tonnage | Grade | | | | | Contained Metal | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Zinc | Copper | Silver | Lead | Gold | Zinc | Copper | Silver | Lead | Gold |
| | | (Mt) | (%) | (%) | (g/t) | (%) | (g/t) | (kt) | (kt) | (koz) | (kt) | (koz) |
| 83.48% | Measured | 5.38 | 1.84 | 0.62 | 22.2 | 0.23 | - | 99.0 | 33.4 | 3,840 | 12.4 | - |
| | Indicated | 3.22 | 1.15 | 0.49 | 25.6 | 0.24 | - | 37.0 | 15.8 | 2,650 | 7.7 | - |
| | **Total** | **8.60** | **1.58** | **0.57** | **23.5** | **0.23** | **-** | **136.0** | **49.2** | **6,490** | **20.1** | **-** |
| | Inferred | 8.49 | 1.65 | 0.24 | 37.1 | 0.45 | - | 140.1 | 20.4 | 10,127 | 38.2 | - |

**Notes:**
1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions.
2. Mineral Resources data presented in this table represents 100% of the Mineral Resources estimates for the property. Nexa owns 83.48%.
3. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM, a Nexa Resources employee.
5. Numbers may not add due to rounding.
6. The point of reference for Mineral Resources in this table is mill feed materials.

The Cerro Lindo Mineral Resources estimates in the table above were completed using Datamine Studio RM ("Datamine") and Seequent's Leapfrog Geo ("Leapfrog") software. Wireframes for geology and mineralization were constructed in Leapfrog based on geology sections, assay results, lithological information, underground mapping and structural data. Assays were capped to various levels based on exploratory data analysis and then composited to 2.5 m lengths. Wireframes were filled with blocks sub-celled at wireframe boundaries. Blocks were interpolated with grade using the ordinary kriging ("OK") and inverse distance cubed ("ID3") interpolation algorithms. Block estimates were validated using industry standard validation techniques. Classification of blocks used distance-based and other criteria. The Cerro Lindo Mineral Resources estimates were reported using all the material within resource shapes generated in Deswik Stope Optimizer ("DSO") software. The estimate satisfied the minimum mining width of 4.0 m for resource shapes, and used NSR cut-off value of US$42.65/t. NSR cut-off values for Cerro Lindo's Mineral Resources estimate are based on an average long-term zinc price of US$3,250.31/t (US$1.47/lb), a lead price of US$2,350.54/t (US$1.07lb), a copper price of US$8,508.24/t (US$3.86/lb) and a silver price of US$22.92/oz. Metallurgical recoveries are accounted for in NSR calculations based on historical processing data, and are variable as a function of head grade. Recoveries at Life of Mine average head grade are 88.72% for Zn, 66.75% for Pb, 85.92% for Cu, and 68.8% for Ag.

**Cerro Lindo – Net Difference in Mineral Resources between December 31, 2022 versus December 31, 2021 (on an 83.48% Nexa attributable ownership basis)**

| Class | Tonnage | | Contained Metal Zinc | | Copper | | Silver | | Lead | | Gold | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (Mt) | % | (kt) | % | (kt) | % | (koz) | % | (kt) | % | (koz) | % |
| Measured | 1.25 | 38.7 | 20.1 | 32.2 | 8.0 | 40.9 | 955 | 42.5 | 2.8 | 39.3 | - | - |
| Indicated | (0.28) | (9.6) | 0.0 | 0.0 | (1.1) | (7.6) | (469) | (17.6) | (1.2) | (17.2) | - | - |
| **Total** | **0.97** | **15.6** | **20.1** | **21.5** | **6.9** | **20.6** | **486** | **9.8** | **1.6** | **10.4** | **-** | **-** |
| Inferred | 0.22 | 3.2 | 20.8 | 21.6 | (2.9) | (14.6) | (201) | (2.4) | 0.3 | 0.8 | - | - |

**Cerro Lindo – Net Difference in Mineral Resources between December 31, 2022 versus December 31, 2021 (on a 100% ownership basis)**

| Class | Tonnage | | Contained Metal Zinc | | Copper | | Silver | | Lead | | Gold | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (Mt) | % | (kt) | % | (kt) | % | (koz) | % | (kt) | % | (koz) | % |
| Measured | 1.50 | 38.7 | 24.1 | 32.2 | 9.7 | 40.9 | 1,146 | 42.5 | 3.5 | 39.3 | - | - |
| Indicated | (0.34) | (9.6) | 0.0 | 0.0 | (1.3) | (7.6) | (566) | (17.6) | (1.6) | (17.2) | - | - |
| **Total** | **1.16** | **15.6** | **24.1** | **21.5** | **8.4** | **20.6** | **580** | **9.8** | **1.9** | **10.4** | **-** | **-** |
| Inferred | 0.26 | 3.2 | 24.9 | 21.6 | (3.5) | (14.6) | (245) | (2.4) | 0.3 | 0.8 | - | - |

In comparison to 2021, Cerro Lindo's Measured and Indicated Mineral Resources increased by 15.6% in mass and by 21.5% in zinc content (kt), mainly due to infill drilling. In comparison to 2021, Cerro Lindo's Inferred Mineral Resources increased by 3.2% in mass and by 21.6% in zinc content (kt), due to new brownfield drilling.

For additional information, see the Technical Report Summary on Cerro Lindo, filed as Exhibit 15.1 to Nexa's annual report on Form 20-F/A for the year-ended December 31, 2021, as filed on November 4, 2021.

**Vazante**

***Location and means of access***

The Vazante mine is an underground and open pit, polymetallic mine located about 8.5 km from the municipality of Vazante, in the state of Minas Gerais, Brazil. The approximate coordinates of the mine are 17 57' 33" S and a longitude of approximately 46° 49' 42" W, within Zone 23S of the Universal Transverse Mercator coordinate system (Corrego Alegre Datum) at approximately 306,000m E and 8,016,000m N and the project area has elevations ranging from 690 to 970 meters above sea level. Access from Brasilia is via federal highway BR-040 toward Paracatu. Internal roadways connect the various mine-site components. Concentrates are trucked about 250 km to the Três Marias smelter. The closest commercial airport is located in Brasilia. The Vazante municipal airport for light aircraft is adjacent to the mine site.

***History***

Mineralization was initially exploited by artisanal miners during the 1950s. Mechanized open pit mining and underground mining commenced in 1969 and 1983, respectively. The current primary ore types mined are hydrothermal zinc silicates and willemite. Initial mining operations exploited supergene calamine ores and a mixture of the zinc secondary minerals hemimorphite and smithsonite, which are derived from the weathering of silicate ore.

***Title, leases and options***

Nexa Brazil owns 100.0% of the Vazante project. Mineral concessions are divided into core tenements, where the known mineral deposits are located and where we have active mining operations and the surrounding exploration concessions. Nexa Brazil holds one mining concession application, two mining concessions, and one group of mining concessions in the core area with a total area of 2,120.8 hectares. The group of mining concessions comprises six mining concessions, totaling an area of 819.5 hectares. The Mineral Reserves and Resources are located within the limits of one mining concession application and seven mining concessions with a total area of 1,894.3 hectares, which host the active mining operations. One mining concession (tenement # 14,840/1967), which is part of the group of mining concessions, has the potential to host zinc and lead mineralization, however it does not yet have associated mineral reserves and resources.

Nearby the main area, Nexa Brazil also holds one exploration application totaling 168.0 hectares, 54 exploration authorizations totaling 43,337.1 hectares, one right to apply for mining concession totaling 344.5 hectares, two mining concession applications totaling 243.7 hectares and one mining concession totaling 52.5 hectares, in addition to the core tenements.

Nexa Brazil holds surface rights sufficient to support the current operations. Some surface rights agreements require annual payments to the owners. Three easements have been granted in support of the mining activities. Sufficient suitable land is available within the mineral tenure held by Nexa Brazil for tailings disposal, mine waste disposal, and installations such as the process plant and related mine infrastructure.

Brazilian companies that hold mining concessions are subject to a royalty payment imposed by the National Mining Agency. For more information, see "Information on the Company—Regulatory matters—Brazilian regulatory framework—Royalties and other taxes on mining activities."

Nexa Brazil holds nine licenses for water management and water use in the operations. Nexa Brazil has lodged renewal applications, where applicable, for the water management.

The Vazante Operation holds several permits in support of the current operations. The main instrument to regulate the Vazante Operation is a set of operating licenses issued by the COPAM from the state of Minas Gerais. The licenses are active, some of them under renewal process.

***Mineralization***

The Vazante and Extremo Norte zinc deposits are epigenetic zinc silicate deposits, and Vazante is one of the largest deposits of its type worldwide. Mineralization exists within a sequence of pelitic carbonate rocks belonging to the Serra do Poço Verde formation of the Vazante group. The major structural control is the Vazante fault.

Mineral exploration activities in 2022 were focused on identifying the continuity of mineralized bodies along the Vazante hydrothermal breccia. We are conducting ongoing tests to explore extensions of known mineralization, infilling areas where no data is currently available, and identifying other areas where mineralization may be present.

In 2022, we completed approximately 4.6 km of diamond drilling, divided between exploratory (1.8 km) and extension drilling (2.8 km). The focus of the exploratory drilling was on the extension of the Vazante mine ore bodies, exploring the target Extremo Norte, which confirmed the mineralized system and opened lateral and depth continuity. In addition, the mineral exploration team continues to seek to identify new prospective areas, such as Vazante Sul and Varginha Norte, drilled during 2022. We also acquired the BDMG area, which has resources to potentially increase the LOM in two to three years.

In 2022, we spent US$2.4 million on brownfield projects for life of mine extension, including drilling program and geological activities. In 2022, we drilled 11 exploration drill holes, totaling 4.6 km. We have budgeted US$3.5 million for the project during 2023 and we expect to drill 10.1 km.

***Operations and infrastructure***

The Vazante operation consists of two mechanized underground mines, the Vazante Mine and Extremo Norte Mine, currently operating at a rate of approximately 1.5 Mtpy. Production drilling operations have been performed by company personnel using a variety of drilling machines throughout the history of the Vazante mine.

The Vazante underground mine has been in operation since 1983 and is a fully mechanized mine using rubber-tired diesel equipment for development and production activities. Access is through two portals for Vazante and one portal for Extremo Norte. As development progresses at Extremo Norte, a connecting drift will be established from Vazante to Extremo Norte.

All infrastructure required for the current mining and processing operations has been constructed and is operational. This includes the underground mines, access roads, power lines, water pipelines, offices and warehouses, a process plant/concentrator, conveyor systems, waste rock facilities, temporary ore stockpiles, paste-fill plants, and tailings storage facilities.

The power supply to the Vazante operation is provided by one independent 138 kV transmission line that feeds the site and that can provide up to 55 MW. There are two 30/40 MVA and one 18/23 MVA transformers in the surface substation at the Vazante Operation and power is distributed to other areas of the mine at 13.8 kV and 440 V via transformer secondaries to power mine equipment. The power demand by 2026 is expected to reach approximately 55 MW as dewatering demands continue to grow. Companhia Energética de Minas Gerais S.A ("CEMIG") built a new transmission line from Paracatu to Vazante of 60 MW capacity, which was concluded in 2022. There are two 700 kVA diesel generators on site to provide backup power to pump water out of the mine in case of main line interruption.

In 2022, we spent US$39.5 million on sustaining capital expenditures for this property, primarily associated with mine development, equipment replacement and other major infrastructure. In addition, we invested US$2.2 million in capital expenditures related to the Vazante mine deepening, focusing on expansion. For more information, see "Information on the Company—Mining Operations—Growth Projects—Vazante mine deepening project." In January 2022 to mid-February, the daily production of the underground operations at Vazante was reduced to 60% of its capacity due to heavy rainfall levels in the state of Minas Gerais. As a result of the heavy rainfall, Vazante's underground mine received more water than it could pump to the surface, partially flooding the lower levels of the mine. The Extremo Norte underground mine was not affected and continued to operate at full capacity. Nexa took all necessary measures to support the mine, focused on precautions to ensure the safety of its employees and the host communities, and continued to monitor the rainfall scenario in Minas Gerais in order to ensure the safety of workers and the resumption of mine activities. Utilization rates gradually improved at Vazante in March 2022, averaging 70% at that time. During this period, we also took advantage of the opportunity to plan the replacement of our main mill, trunnion and gear box. Operations resumed at full capacity in the beginning of April 2022.

***Production***

The Vazante mine is in the production stage and has a treatment plant with a nominal design processing capacity of approximately 4,600 tonnes of ore per day. The table below summarizes the Vazante mine's concentrate production, metal contained in concentrates produced and average grades for the periods indicated.

| | For the Year Ended December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| **Treatment ore (in tonnes)** | 1,524,637 | 1,630,690 | 1,622,927 |
| **Average ore grade** | | | |
| Zinc (%) | 9.97 | 9.98 | 10.43 |
| Lead (%) | 0.33 | 0.35 | 0.36 |
| Silver (ounces per tonne) | 0.63 | 0.67 | 0.63 |
| **Metal contained in concentrate production** | | | |
| Zinc (in tonnes) | 131,527 | 140,500 | 147,990 |
| Lead (in tonnes) | 1,160 | 1,616 | 1,333 |
| Silver (in oz) | 473,578 | 500,549 | 383,509 |
| **Cash cost, net of by-product credits (in US$/t)** | 1,227.5 | 900.2 | 1,180.6 |
| **Cash cost, net of by-product credits (in US$/lb)** | 0.56 | 0.41 | 0.54 |
| **Capital Expenditures (in millions of US$)** | 41.9 | 42.0 | 24.6 |

***Mineral Reserves and Mineral Resources***

The Vazante Mineral Reserves estimates are based on the definitions for Mineral Reserves in SK-1300 and the tables below are based on costs and modifying factors from the Vazante mine.

**Vazante – Year End Mineral Reserves as of December 31, 2022 (on a 100% ownership basis) (1)**

| Ownership | Class | Tonnage(2) | Grade | | | | | Contained Metal | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (Mt) | Zinc (%) | Copper (%) | Silver (g/t) | Lead (%) | Gold (g/t) | Zinc (kt) | Copper (kt) | Silver (koz) | Lead (kt) | Gold (koz) |
| 100% | Proven | 6.82 | 9.98 | - | 18.0 | 0.30 | - | 680.6 | - | 3,949 | 20.5 | - |
| | Probable | 6.68 | 9.30 | - | 12.4 | 0.23 | - | 621.2 | - | 2,670 | 15.4 | - |
| | **Total** | **13.50** | **9.64** | **-** | **15.2** | **0.27** | **-** | **1,301.8** | **-** | **6,619** | **35.9** | **-** |

**Notes:**

1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions.
2. Mineral Reserves data presented in this table represents 100% of the Mineral Reserves estimates for the property. Nexa owns 100%.
3. The qualified person for the Mineral Reserves estimate is Vitor Marcos Teixeira de Aguilar, B.Eng., FAusIMM, a Nexa Resources employee.
4. Numbers may not add due to rounding.
5. The point of reference for Mineral Reserves in this table is mill feed materials.

The Vazante Mineral Reserves estimates in the table above consider actual costs and modifying factors from the Vazante mine, as well as operational level mine planning and budgeting. The dilution that has been applied is related to the selected mining method. The Vazante Mineral Reserves are estimated at a NSR cut-off value of US$60.61/t processed. The NSR cut-off value was determined using the mineral reserve metal prices, metal recoveries, transport, treatment and refining costs, as well as mine operating costs. A minimum mining width of 4.0 m was applied and average bulk density of 2.8 t/$m^3$. Mineral Reserves are estimated using average long-term metal prices of zinc: Zn: US$2,826.35/t (US$1.28/lb); lead: Pb: US$2,043.95/t (US$0.93/lb); and silver: US$19.93/oz. Long-term metal prices used for Mineral Reserves are based on consensus and long-term forecasts from banks, financial institutions and other sources. Metallurgical recoveries are accounted for in NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at average head grade are 87.20% for Zn, 40.74% for Pb, and 42.0% for Ag. The current LOM plan, based in our current reserves, continues to 2031.

**Vazante – Net Difference in Mineral Reserves between December 31, 2022 versus December 31, 2021 (on a 100% ownership basis)**

| Class | Tonnage | | Contained Metal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Zinc | | Copper | | Silver | | Lead | | Gold | |
| | (Mt) | % | (kt) | % | (kt) | % | (koz) | % | (kt) | % | (koz) | % |
| Proven | (0.57) | (7.7) | 23.0 | 3.5 | - | - | (148) | (3.6) | 1.7 | 9.0 | - | - |
| Probable | (1.84) | (21.6) | (116.4) | (15.8) | - | - | (226) | (7.8) | (1.0) | (6.1) | - | - |
| **Total** | **(2.41)** | **(15.1)** | **(93.4)** | **(6.7)** | **-** | **-** | **(373)** | **(5.3)** | **0.6** | **1.7** | **-** | **-** |

In comparison to 2021, Vazante's Mineral Reserves decreased by 15.1% in mass and by 6.7% in zinc content (kt), mainly due to mining production depletion during 2022 and reduction of dilution associated with improvements in stope optimization process resulting in higher reserves grades. Mineral Reserve depletion during 2022 accounted for -1.41Mt containing 134kt of zinc.

In comparison to 2021, Vazante's Mineral Reserves have decreased mainly due to reduction of dilution associated with improvements in stope optimization process resulting in higher reserves grades.

**Vazante – Year End Mineral Resources as of December 31, 2022 (on an 100% ownership basis) (1)**

| Ownership(2) | Class | Tonnage (Mt) | Grade Zinc (%) | Grade Copper (%) | Grade Silver (g/t) | Grade Lead (%) | Grade Gold (g/t) | Contained Metal Zinc (kt) | Contained Metal Copper (kt) | Contained Metal Silver (koz) | Contained Metal Lead (kt) | Contained Metal Gold (koz) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100% | Measured | 0.63 | 8.32 | - | 14.8 | 0.24 | - | 52.4 | - | 300 | 1.5 | - |
| | Indicated | 3.90 | 5.97 | - | 6.8 | 0.19 | - | 233.0 | - | 858 | 7.6 | - |
| | **Total** | **4.53** | **6.30** | **-** | **8.0** | **0.20** | **-** | **285.4** | **-** | **1,158** | **9.1** | **-** |
| | Inferred | 15.15 | 9.53 | - | 12.7 | 0.19 | - | 1,443.1 | - | 6,184 | 29.2 | - |

**Notes:**
1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions.
2. Mineral Resources data presented in this table represents 100% of the Mineral Resources estimates for the property. Nexa owns 100% of property.
3. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM, a Nexa Resources employee.
5. Numbers may not add due to rounding.
6. The point of reference for Mineral Resources in this table is mill feed materials.

The Vazante Mineral Resources estimates in the table above were completed using Datamine and Leapfrog software. The Mineral Resources at Vazante comprise three styles of mineralization. The first style of mineralization is represented by the hypogene (Willemite) mineralized zones that are found in the underground portions of the Vazante and Extremo Norte deposits. The second style of mineralization is represented by the supergene (Calamine) mineralized zones found in the Cava 3A, Matas dos Paulistas, and Braquiara areas of the Extremo Norte and Vazante deposits. This supergene (Calamine) mineralization is referred to at the Vazante Operation as calamine mineralization and comprises a mixture of smithsonite and hemimorphite minerals. The third type of mineralization comprises tailings that are contained within the Aroeira TSF. The material found in the Aroeira tailings comprise a mixture of hypogene (willemite) and supergene (calamine) minerals.

The Mineral Resource statements for the underground hypogene (willemite) mineralization are prepared within reporting panels using the native functions and workflows available through the Deswik mine modelling software package considering spatial continuity, a minimum width of 3.0 m and a NSR cut-off value of US$60.61/t for Hypogene Mineralization (Willemite). The Mineral Resource estimates for the supergene (calamine) mineralization are prepared using an open pit shell that considers appropriate metal prices, mining costs, metallurgical recoveries and geotechnical considerations with NSR cut-off value of US$23.13/t for soil and US$28.38/t for fresh rock and transition material. The Mineral Resource statements for the tailings at Vazante are reported considering the material with an NSR value of greater than US$29.40/t which lies above the original topographic surface. All NSR cut-off values for Mineral Resources at Vazante are estimated using average long-term metal prices of zinc: US$3,250.31/t (US$1.47/lb), lead: US$2,350.54/t (US$1.07/lb) and silver: US$22.92/oz. Metallurgical recoveries are accounted for in NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at LOM average: hypogene head grades are 87.20% for Zn, 40.74% for Pb, and 42.0% for Ag, supergene (calamine) is 55.00% for Zn, and tailings are 68.11% for Zn, 38.46% for Pb, and 42.00% for Ag.

**Vazante – Net Difference in Mineral Resources between December 31, 2022 versus December 31, 2021 (on an 100% ownership basis)**

| Class | Tonnage (Mt) | Tonnage % | Zinc (kt) | Zinc % | Copper (kt) | Copper % | Silver (koz) | Silver % | Lead (kt) | Lead % | Gold (koz) | Gold % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Measured | (1.71) | (73.1) | (32.5) | (38.3) | - | - | (166) | (35.6) | (1.3) | (46.4) | - | - |
| Indicated | 0.96 | 32.7 | 70.3 | 43.2 | - | - | 547 | 175.9 | 5.5 | 261.9 | - | - |
| **Total** | **(0.75)** | **(14.2)** | **37.8** | **15.3** | **-** | **-** | **381** | **49.0** | **4.2** | **85.7** | **-** | **-** |
| Inferred | (0.29) | (1.9) | 251.0 | 21.1 | - | - | 789 | 14.6 | (0.8) | (2.7) | - | - |

In comparison to 2021, Vazante's Inferred Mineral Resources decreased by 1.9% in mass and increased by 21.1% in zinc content (kt), as a result of Inferred Mineral Resource reclassification to Indicated Mineral Resource, tenure acquisition, and improvements in the stope optimization process targeting higher resources grades in inferred areas. In comparison to 2021, Vazante's Measured and Indicated Mineral Resources decreased by 14.2% in mass and increased by 15.3% in zinc content (kt), as a result of Mineral Resource reclassification and improvements in the stope optimization process.

For additional information, see the Technical Report Summary on Vazante, filed as Exhibit 15.3 to Nexa's annual report on Form 20-F/A for the year-ended December 31, 2021, as filed on November 4, 2021.

**El Porvenir**

***Location and means of access***

The El Porvenir mine is an underground, polymetallic mine located in the central Andes mountains region of Peru, specifically in the district of San Francisco de Asís de Yarusyacán, in the province of Pasco, Peru. The approximate coordinates of the mine are 367600m E, 8826850m N, using the Universal Transverse Mercator WGS84 datum, Z18S and the project site is located at an average elevation of 4,200 meters above sea level. The mine is situated at kilometer 340 of the Carretera Central Highway (Lima—Huánuco route), 13 km from the city of Cerro de Pasco. The mine is located in the Central Cordillera zone, which contains the communities of Parán, Lacsanga and Santo Domingo de Apache.

***History***

The El Porvenir mine began its operation as small-scale artisanal mine in 1949. We have been investing in the mine since then and, in 2012, production reached its current capacity of 6,500 tonnes per day. In 2013, we commenced the integration process with the Atacocha mine. In 2015, El Porvenir tailings deposit was integrated with Atacocha's. In 2016, we worked on integrating the energy supply between the two mines. In 2019, the two underground mines were connected allowing us to initiate an exploration program in the integration area. In 2020, in response to COVID-19 and based on our cost management strategy, the integration process was temporarily suspended and Atacocha's underground operations were not resumed after the mandatory restriction period from the Peruvian Government was lifted in June. As of the date of this annual report, the Atacocha underground mine is suspended under care and maintenance, and we intend to review and update the integration plan throughout 2023. For additional information on the integration of the El Porvenir and Atacocha mines, see "Information on the Company—Mining operations—Growth projects—Pasco mining complex" below.

***Title, leases and options***

The El Porvenir mine is operated by Nexa Resources El Porvenir S.A.C., a subsidiary of Nexa Peru in which Nexa Peru has directly and indirectly a 100% equity interest.

The El Porvenir mine has a total of 25 concessions covering approximately 4,846.7 hectares, as well as a beneficiation plant, "Acumulacion Aquiles 101". With respect to the surface property at El Porvenir project, there is a mining site of 450.8 hectares, where the mining concession is located, as well as additional surface property where tailings dams/ponds, camps sites and other ancillary infrastructure are located.

Mining operations at the El Porvenir mine are subject to certain royalties payable by Nexa Resources El Porvenir S.A.C. For more information, see "Information on the Company—Regulatory matters—Peruvian regulatory framework—Royalties and other taxes on mining activities."

The El Porvenir Mine holds several permits in support of the current operations. The permits are Directorial Resolutions issued by the Peruvian authorities upon approval of mining environmental management instruments filed by the mining companies. Nexa Peru maintains an up-to-date record of the legal permits obtained to date.

***Mineralization***

The El Porvenir mine is a typical skarn deposit. The mineralization occurs within the contact of the upper Triassic limestone (*i.e.*, exoskarn) and the granodioritic-dacitic intrusive rocks (*i.e.*, endoskarn). There are also recognized veins and replacement manto type, minor disseminated mineralization may occur within the intrusive units. West of the Milpo-Atacocha fault within the Goyllarisquizga Group, mineralization is characterized as veins and disseminations.

Four groups of vein/mineralized structures are reported. Structurally controlled veins are sub-vertical up to 150 meters long, with a vertical extent of 350 meters. Economic mineralogy is mostly comprised of galena, sphalerite, and tetrahedrite, as well as variable and lesser pyrite, quartz and rhodochrosite.

Throughout 2022, the exploration program at El Porvenir was focused on drilling in mineralized zones in the Integration, Porvenir Sur, and Carmen Norte targets, seeking to evaluate the lateral continuity of the mineralization of these exploratory targets, with the goal of extending the life of mine. In 2022, we drilled 31 drill holes totaling 16.7 km of exploration drilling, which confirmed extensions in both targets, with emphasis on the Integration zone. We continue to focus our efforts on expanding mineralized zones in the integration area, with the potential to extend existing Mineral Resources.

We spent approximately US$3.3 million on the El Porvenir brownfield project in 2022, including the drilling program and geological activities. We have budgeted US$1.5 million for 2023 activities, and we expect to drill 6.0 km.

***Operations and infrastructure***

Most of the exploration is generally conducted simultaneously with underground development, which involves diamond core drilling and channel sampling following underground drifting.

The El Porvenir project site consists of an underground mine, tailings pond, waste rock stockpiles, a process facility with associated laboratory and maintenance facilities and maintenance buildings for underground and surface equipment. Facilities and structures include a warehouse, office, change house facilities, main shaft, ventilation shaft, backfill plant, explosives storage area, hydroelectric power generation, power lines and substation, fuel storage tanks, a warehouse and laydown area and a permanent accommodation camp.

The electrical power supply for the project comes from two sources: connection to the SEIN national power grid by a main substation located near the site, and the Candelaria Hydro, which consists of three turbines connected to the project through the main substation by a transmission line. All other loads of the project are fed from the main substation through overhead power lines. These power lines are used to deliver power to various locations to support activities during operation of the mine.

Site roads include main roads suitable for use by mining trucks that transport concentrates to Lima and service roads for use by smaller vehicles. The site roads are used by authorized mine personnel and equipment, with access controlled by Nexa Peru. An approximately 15-to-20-kilometer network of service roads was constructed to provide access to the underground mine, processing plant, tailings facility, waste rock stockpile, mine offices, workshops, mine camps and other surface infrastructure.

In 2022, we spent US$35.7 million on sustaining capital expenditures for this property, primarily associated with mine development, equipment replacement and other major infrastructure.

***Production***

The El Porvenir mine is in the production stage and has a treatment plant capacity of 6,500 tonnes of ore per day. The table below summarizes the El Porvenir mine's concentrate production, metal contained in concentrates produced and average grades for the periods indicated. Production in 2022 was higher than in 2021 due to higher lead and silver and gold contents.

| | For the Year Ended December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| **Treatment ore (in tonnes)** | 2,111,961 | 2,077,591 | 1,502,618 |
| **Average ore grade** | | | |
| Zinc (%) | 2.80 | 2.83 | 2.65 |
| Copper (%) | 0.16 | 0.19 | 0.17 |
| Lead (%) | 1.34 | 1.08 | 0.93 |
| Silver (ounces per tonne) | 2.46 | 2.10 | 2.00 |
| Gold (ounces per tonne) | 0.01 | 0.01 | 0.01 |
| **Metal contained in concentrate production** | | | |
| Zinc (in tonnes) | 51,561 | 51,375 | 34,867 |
| Copper (in tonnes) | 266 | 505 | 334 |
| Lead (in tonnes) | 23,195 | 17,700 | 10,858 |
| Silver (in oz) | 4,195,649 | 3,467,227 | 2,315,181 |
| Gold (in oz) | 9,203 | 8,725 | 5,899 |
| **Cash Cost, net of by-product credits (in US$/t)** | 727.7 | 832.2 | 1,338.0 |
| **Cash Cost, net of by-product credits (in US$/lb)** | 0.33 | 0.38 | 0.61 |
| **Capital Expenditures (in millions of US$)** | 36.7 | 36.5 | 12.9 |

***Mineral Reserves and Mineral Resources***

The El Porvenir Mineral Reserves estimates are based on the definitions for Mineral Reserves in SK-1300 and the tables below are based on costs and modifying factors from the El Porvenir mine.

**El Porvenir – Year End Mineral Reserves as of December 31, 2022 (on an 83.48% Nexa attributable ownership basis) (1)**

| **Ownership** | **Class** | **Tonnage(2)** | **Grade** | | | | | **Contained Metal** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Zinc** | **Copper** | **Silver** | **Lead** | **Gold** | **Zinc** | **Copper** | **Silver** | **Lead** | **Gold** |
| | | **(Mt)** | **(%)** | **(%)** | **(g/t)** | **(%)** | **(g/t)** | **(kt)** | **(kt)** | **(koz)** | **(kt)** | **(koz)** |
| 83.48% | Proven | 2.12 | 3.70 | 0.21 | 67.7 | 1.12 | - | 78.5 | 4.5 | 4,618 | 23.6 | - |
| | Probable | 10.82 | 3.58 | 0.19 | 65.7 | 1.06 | - | 387.9 | 20.9 | 22,843 | 114.6 | - |
| | **Total** | **12.94** | **3.60** | **0.19** | **66.0** | **1.07** | **-** | **466.3** | **25.4** | **27,461** | **138.2** | **-** |

**Notes:**
1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions.
2. Mineral Reserves data presented in this table are reported on 83.48% Nexa attributable ownership.
3. The qualified person for the Mineral Reserves estimate is Vitor Teixeira de Aguilar, B.Eng., FAusIMM, a Nexa Resources employee.
4. Numbers may not add due to rounding.
5. The point of reference for Mineral Reserves in this table is mill feed materials.

**El Porvenir – Year End Mineral Reserves as of December 31, 2022 (on a 100% ownership basis) (1)**

| **Ownership** | **Class** | **Tonnage(2)** | **Grade** | | | | | **Contained Metal** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Zinc** | **Copper** | **Silver** | **Lead** | **Gold** | **Zinc** | **Copper** | **Silver** | **Lead** | **Gold** |
| | | **(Mt)** | **(%)** | **(%)** | **(g/t)** | **(%)** | **(g/t)** | **(kt)** | **(kt)** | **(koz)** | **(kt)** | **(koz)** |
| 83.48% | Proven | 2.54 | 3.70 | 0.21 | 67.7 | 1.12 | - | 94.0 | 5.4 | 5,532 | 28.3 | - |
| | Probable | 12.96 | 3.58 | 0.19 | 65.7 | 1.06 | - | 464.6 | 25.0 | 27,362 | 137.3 | - |
| | **Total** | **15.50** | **3.60** | **0.19** | **66.0** | **1.07** | **-** | **558.6** | **30.4** | **32,894** | **165.6** | **-** |

**Notes:**
1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions.
2. Mineral Reserves data presented in this table represents 100% of the Mineral Reserves estimates for the property. Nexa owns 83.48%.
3. The qualified person for the Mineral Reserves estimate is Vitor Marcos Teixeira de Aguilar, B.Eng., FAusIMM, a Nexa Resources employee.
4. Numbers may not add due to rounding.
5. The point of reference for Mineral Reserves in this table is mill feed materials.

The El Porvenir Mineral Reserves estimates in the table above were prepared using Deswik Stope Optimizer (“DSO”) software, mine design and scheduling software. Mining methods used are C&F mining, using unconsolidated rock fill and hydraulic backfill, and SLS using unconsolidated rock fill. NSR values were calculated using mineral reserve metal prices, metallurgical recovery and consideration of smelter terms, including revenue from payable metals, price participation, penalties, smelter losses, transportation, treatment, refining and sales charges. A minimum mining width of 5.0 m was used for reserves shapes and development design and are reported inclusive of extraction losses and dilution. The Mineral Reserves were estimated at a NSR cut-off values ranging from US$57.99/t to US$60.71/t for SLS areas and US$59.65/t to US$62.37 for C&F areas depending on the zone. Mineral Reserves are estimated using average long-term metal prices of zinc: US$2,826.35/t (US$1.28/lb); lead: US$2,043.95/t (US$0.93/lb); copper: Cu: US$7,398.47/t (US$3.36/lb) and silver: US$19.93/oz. Metallurgical recoveries are accounted for in NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at Life of Mine average head grade are 88.85% for Zn, 79.73% for Pb, 11.81% for Cu, and 63.00% for Ag. The current LOM plan continues to 2030. We have continued to make progress with our project to optimize the integration of El Porvenir and Atacocha mines, with the goal of potentially increasing mineral reserves at our Cerro Pasco complex. For further information see “Mining Operations—Growth projects—Pasco mining complex.”

**El Porvenir – Net Difference in Mineral Reserves between December 31, 2022 versus December 31, 2021 (on an 83.48% Nexa attributable ownership basis)**

| Class | Tonnage | | Contained Metal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Zinc | | Copper | | Silver | | Lead | | Gold | |
| | (Mt) | % | (kt) | % | (kt) | % | (koz) | % | (kt) | % | (koz) | % |
| Proven | (0.65) | (23.5) | (24.0) | (23.5) | (2.2) | (33.3) | (1,501) | (24.5) | (6.2) | (20.7) | - | - |
| Probable | 0.80 | 8.0 | 33.3 | 9.4 | 1.5 | 7.3 | 377 | 1.7 | 11.0 | 10.6 | - | - |
| **Total** | **0.15** | **1.2** | **9.2** | **2.0** | **(0.8)** | **(2.9)** | **(1,124)** | **(3.9)** | **4.8** | **3.6** | **-** | **-** |

**El Porvenir – Net Difference in Mineral Reserves between December 31, 2022 versus December 31, 2021 (on a 100% ownership basis)**

| Class | Tonnage | | Contained Metal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Zinc | | Copper | | Silver | | Lead | | Gold | |
| | (Mt) | % | (kt) | % | (kt) | % | (koz) | % | (kt) | % | (koz) | % |
| Proven | (0.78) | (23.5) | (28.8) | (23.5) | (2.7) | (33.3) | (1,797) | (24.5) | (7.4) | (20.7) | - | - |
| Probable | 0.96 | 8.0 | 39.8 | 9.4 | 1.7 | 7.3 | 450 | 1.7 | 13.2 | 10.6 | - | - |
| **Total** | **0.18** | **1.2** | **11.1** | **2.0** | **(0.9)** | **(2.9)** | **(1,348)** | **(3.9)** | **5.8** | **3.6** | **-** | **-** |

In comparison to 2021, El Porvenir’s Mineral Reserves slightly increased by 1.2% in mass and increased by 2.0% in zinc content (kt), mainly due to our infill drilling program. Mineral Reserve depletion during 2022 accounted for -2.10Mt containing 59.6kt of zinc.

**El Porvenir – Year End Mineral Resources as of December 31, 2022 (on an 83.48% Nexa Attributable ownership basis) (1)**

| Ownership | Class | Tonnage(2) | Grade | | | | | Contained Metal | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Zinc | Copper | Silver | Lead | Gold | Zinc | Copper | Silver | Lead | Gold |
| | | (Mt) | (%) | (%) | (g/t) | (%) | (g/t) | (kt) | (kt) | (koz) | (kt) | (koz) |
| 83.48% | Measured | 0.29 | 3.31 | 0.21 | 70.5 | 1.10 | - | 9.6 | 0.6 | 657 | 3.2 | - |
| | Indicated | 2.54 | 3.04 | 0.20 | 57.1 | 0.92 | - | 77.2 | 5.1 | 4,663 | 23.4 | - |
| | **Total** | **2.83** | **3.07** | **0.20** | **58.5** | **0.94** | **-** | **86.8** | **5.7** | **5,320** | **26.6** | **-** |
| | Inferred | 8.92 | 3.83 | 0.19 | 72.9 | 1.05 | - | 341.6 | 16.9 | 20,907 | 93.7 | - |

**Notes:**

1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions.
2. Mineral Resources Tonnes and Contained Metal presented in this table are reported on 83.48% Nexa attributable ownership.
3. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM, a Nexa Resources employee.
5. Numbers may not add due to rounding.
6. The point of reference for Mineral Resources in this table is mill feed materials.

**El Porvenir – Year End Mineral Resources as of December 31, 2022 (on a 100% ownership basis) (1)**

| Ownership | Class | Tonnage(2) | Grade | | | | | Contained Metal | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (Mt) | Zinc (%) | Copper (%) | Silver (g/t) | Lead (%) | Gold (g/t) | Zinc (kt) | Copper (kt) | Silver (koz) | Lead (kt) | Gold (koz) |
| 83.48% | Measured | 0.35 | 3.31 | 0.21 | 70.5 | 1.10 | - | 11.6 | 0.7 | 793 | 3.9 | - |
| | Indicated | 3.04 | 3.04 | 0.20 | 57.1 | 0.92 | - | 92.4 | 6.1 | 5,581 | 28.0 | - |
| | **Total** | **3.39** | **3.07** | **0.20** | **58.5** | **0.94** | **-** | **104.0** | **6.8** | **6,374** | **31.9** | **-** |
| | Inferred | 10.68 | 3.83 | 0.19 | 72.9 | 1.05 | - | 409.0 | 20.3 | 25,032 | 112.1 | - |

**Notes:**
1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions.
2. Mineral Resources data presented in this table represents 100% of the Mineral Resources estimates for the property. Nexa owns 83.48%.
3. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM, a Nexa Resources employee.
5. Numbers may not add due to rounding.
6. The point of reference for Mineral Resources in this table is mill feed materials.

The El Porvenir Mineral Resource estimates in the table above were completed using Datamine and Leapfrog software. Wireframes for geology and mineralization were constructed in Leapfrog based on geology sections, assay results, lithological information, underground mapping and structural data. Assays were capped to various levels based on exploratory data analysis and then composited to 2.0 m lengths. Wireframes were filled with blocks and sub-celling at wireframe boundaries. Blocks were interpolated with grade using OK and $ID^3$ interpolation algorithms. Block estimates were validated using industry standard validation techniques. Classification of blocks used distance-based and mineralization continuity criteria.

Mineral Resources at El Porvenir are reported using all the material within resource shapes generated in DSO software, satisfying minimum mining width of 4.0 m in areas with C&F stopes shapes and 3.0 m for SLS stopes. The Mineral Resources are estimated at a NSR cut-off grade values ranging from of US$57.99/t to US$60.71/t for SLS areas and US$59.65/t to US$62.37 for C&F areas depending on the zone. The NSR cut-off values for El Porvenir's Mineral Resources estimates are based on an average long-term zinc price of US$3,250.31/t (US$1.47/lb), a lead price of US$2,350.54/t (US$1.07lb), a copper price of US$8,508.24/t (US$3.86/lb) and a silver price of US$22.92/oz. Metallurgical recoveries are accounted for in NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at LOM average head grade are 88.85% for Zn, 79.73% for Pb, 11.81% for Cu, and 63.0% for Ag.

**El Porvenir – Net Difference in Mineral Resources between December 31, 2022 versus December 31, 2021 (on an 83.48% Nexa attributable ownership basis)**

| Class | Tonnage | | Contained Metal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Zinc | | Copper | | Silver | | Lead | | Gold | |
| | (Mt) | % | (kt) | % | (kt) | % | (koz) | % | (kt) | % | (koz) | % |
| Measured | (0.25) | (46.2) | (4.8) | (32.9) | (0.5) | (46.2) | (397) | (37.5) | (1.4) | (29.1) | - | - |
| Indicated | 0.01 | 0.3 | 2.3 | 3.0 | 0.0 | 0.0 | 742 | 18.9 | 4.2 | 21.7 | - | - |
| **Total** | **(0.24)** | **(7.9)** | **(2.5)** | **(2.8)** | **(0.5)** | **(8.1)** | **345** | **6.9** | **2.8** | **11.9** | **-** | **-** |
| Inferred | 0.22 | 2.5 | 6.6 | 1.9 | (1.4) | (7.3) | 1,551 | 8.0 | 11.0 | 13.2 | - | - |

**El Porvenir – Net Difference in Mineral Resources between December 31, 2022 versus December 31, 2021 (on a 100% ownership basis)**

| Class | Tonnage | | Contained Metal Zinc | | Copper | | Silver | | Lead | | Gold | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (Mt) | % | (kt) | % | (kt) | % | (koz) | % | (kt) | % | (koz) | % |
| Measured | (0.30) | (46.2) | (5.7) | (32.9) | (0.6) | (46.2) | (476) | (37.5) | (1.6) | (29.1) | - | - |
| Indicated | 0.01 | 0.3 | 2.7 | 3.0 | 0.0 | 0.0 | 886 | 18.9 | 5.0 | 21.7 | - | - |
| **Total** | **(0.29)** | **(7.9)** | **(3.0)** | **(2.8)** | **(0.6)** | **(8.1)** | **410** | **6.9** | **3.4** | **11.9** | **-** | **-** |
| Inferred | 0.26 | 2.5 | 7.8 | 1.9 | (1.6) | (7.3) | 1,849 | 8.0 | 13.1 | 13.2 | - | - |

In comparison to 2021, El Porvenir's Inferred Mineral Resources increased by 2.5% in mass and by 1.9% in zinc content (kt), mainly due to the addition of extension mineralization domains, as a result of exploration diamond drilling at nearby mine areas. In comparison to 2021, El Porvenir's Measured and Indicated Mineral Resources decreased by 7.9% in mass and by 2.8% in zinc content (kt), mainly due to infill drilling results.

For additional information, see the Technical Report Summary on El Porvenir, filed as Exhibit 15.2 to Nexa's annual report on Form 20-F/A for the year-ended December 31, 2021, as filed on November 4, 2021.

**Atacocha**

Atacocha is a polymetallic underground and open pit mine located in the district of San Francisco de Asís de Yarusyacán, in the province of Pasco, Peru. The property is located at approximate coordinates of 367160m E, 88304000m N, using the UTM WGS84 datum, Z18S and approximately 4,050 meters above sea level.

The Atacocha mine is operated by Nexa Resources Atacocha S.A.A., which is controlled by Nexa Peru.

The Atacocha mine has a total of 147 concessions covering approximately 2,872.5 hectares, as well as a beneficiation plant, "Chicrin N° 2." With respect to the surface property at the Atacocha project, there is a mining site of 1,343.0 hectares, where the mining concession is located, as well as additional surface property where tailings dams/ponds, camps sites and other ancillary infrastructure are located. There are royalties' payable in respect of mining operations at the Atacocha project for the mining concessions held by Nexa Resources Atacocha S.A.A. For more information, see "Information on the Company—Regulatory matters—Peruvian regulatory framework—Royalties and other taxes on mining activities."

The Atacocha mine holds a number of permits in support of the current operations. The permits are Directorial Resolutions issued by the Peruvian authorities upon approval of mining environmental management instruments filed by the mining companies. Nexa Peru maintains an up-to-date record of the legal permits obtained to date.

Atacocha operates two mines: the Atacocha underground mine and the San Gerardo open pit mine. As discussed below under "—Production", the underground mine is currently suspended, but mining continues in the San Gerardo open pit mine. Both mining operations feed the Atacocha processing plant.

In 2022, we spent US$4.4 million on sustaining capital expenditures for this property, primarily associated with mine development, equipment replacement and other major infrastructure.

***Mineralization Developments***

In 2022, we spent approximately US$0.3 million on the Atacocha brownfield project for exploration project maintenance. In 2022, we had no drilling activities at Atacocha. We have budgeted US$0.3 million for the project during 2023 for project maintenance and data interpretations, not including any drilling campaigns.

Atacocha does not currently have any estimated Mineral Reserves and is considered an exploration stage property under S-K 1300. Atacocha is not considered a material property for the purposes of S-K 1300.

***Production***

The Atacocha mine has a treatment plant capacity of 4,300 tonnes of ore per day. The table below summarizes the Atacocha mine's concentrate production, metal contained in concentrates produced and average grades for the periods indicated. Production in 2022 was higher than in 2021 due to higher treated ore volume and grades across all metals. In June 2020, once the Peruvian government allowed medium-sized mines to restart operations following COVID-19 restrictions, we announced that Atacocha would resume operations at the San Gerardo open pit mine, but we decided that the higher-cost Atacocha underground mine would remain suspended due to our efforts to reduce costs and improve our operational efficiency, placing it under care and maintenance. As of the date of this annual report, the underground mine remains suspended.

In March, May and August 2022, protest activities of various local communities blocked road access to the Atacocha San Gerardo open pit mine, temporarily suspending production at the mine for periods of up to two weeks. In each instance, mining activities were limited to critical operations with a minimum workforce to ensure appropriate maintenance, safety and security. In each of these instances, the Company pursues active dialogue with the local community and authorities for peaceful resolution. Despite these blockages, the Atacocha mine operated at high levels of capacity utilization rates throughout the year. In January 2023, protest activities temporarily suspended operations at Atacocha for approximately one week. Nexa remains committed to complying with all existing agreements, pursuing an active dialogue with the communities and authorities, and the social development of all its host communities.

| | For the Year Ended December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| **Treatment ore (in tonnes)** | 1,353,681 | 1,271,107 | 1,065,363 |
| **Average ore grade** | | | |
| Zinc (%) | 0.89 | 0.88 | 1.20 |
| Copper (%) | - | - | 0.05 |
| Lead (%) | 0.97 | 0.82 | 1.15 |
| Silver (ounces per tonne) | 1.05 | 1.01 | 1.39 |
| Gold (ounces per tonne) | 0.01 | 0.01 | 0.01 |
| **Metal contained in concentrate production** | | | |
| Zinc (in tonnes) | 9,552 | 8,522 | 9,614 |
| Copper (in tonnes) | 0 | 0 | 0 |
| Lead (in tonnes) | 11,204 | 8,708 | 10,210 |
| Silver (in oz) | 1,155,002 | 1,026,783 | 1,184,750 |
| Gold (in oz) | 13,593 | 11,947 | 6,260 |
| **Cash cost, net of by-product credits (in US$/t)** | (1,566.2) | (557.7) | 17.8 |
| **Cash cost, net of by-product credits (in US$/lb)** | (0.71) | (0.25) | 0.00 |
| **Capital Expenditures (in millions of US$)** | 4.5 | 11.6 | 15.3 |

**Aripuanã**

***Location and means of access***

The Aripuanã mine is located in the northwest corner of the Mato Grosso State in western Brazil, approximately 2,529 km by railroad and road to the Três Marias smelter, 2,831 km to the Juiz de Fora smelter or 2,660 km to the port of Santos. The approximate coordinates of the mine are 226,000m E and 8,888,000m N UTM 21L zone (South American 1969 datum) and the project is located at an average elevation of 250 meters above sea level. The project is accessible from the town of Aripuanã via a 25 km unpaved road, which is well maintained in the dry season. Aripuanã can be accessed from the state capital, Cuiabá, via a 16-hour drive (935 km) on paved and unpaved roads. The final 250 km between Cuiabá and Aripuanã are on unpaved roads.

The town of Aripuanã is also serviced by a paved airstrip suitable for light aircraft. There are no commercial flights travelling between Cuiabá and the town of Aripuanã, however the site can be accessed via a three-hour chartered flight.

***History***

Aripuanã is a world-class underground polymetallic project containing zinc, lead and copper, located in the state of Mato Grosso, Brazil. In 2000, Dardanelos was created to represent a joint venture, or "contract of association," between Karmin and Anglo American, with the intent of exploring the areas adjacent to the town of Aripuanã for base and precious metals. Anglo American and Karmin held 70% and 28.5% of Dardanelos, respectively, with the remaining interest (1.5%) owned by SGV Merchant Bank (SGV).

In 2004, the initial agreement between Karmin and Anglo American was amended to include Nexa Brazil's participation. Nexa Brazil subsequently acquired 100% of Anglo American's interest in the project. In 2007, Karmin purchased SGV's interests, raising its participation to 30%. In 2015, Nexa Peru acquired 7.7% of Nexa Brazil's interests in Dardanelos.

Up until 2019, Dardanelos was a joint venture between subsidiaries of Nexa (70%) and Karmin (30%), with Nexa acting as the operator. In 2019, Nexa purchased Karmin's interest and became the sole owner of the project. As a result of this acquisition and following the transfer of the Dardanelos interest in the Aripuanã project from Nexa Peru to Nexa Brazil, Nexa Brazil became the owner of 100% of the Aripuanã project.

In 2020, we reached an agreement with artisanal miners that are working adjacent to the property belonging to our Aripuanã project, the ANM and the state government whereby Nexa assigned these artisanal miners an area to exercise their activities subject to certain conditions. The increase of artisanal mining activity or the failure of these artisanal miners to abide with our agreement may have an adverse effect on the development of our operations in Aripuanã.

In 2021, Nexa acquired two estates (584.9 hectares) located at the vicinity of the mine and concluded the process of documenting a third acquired in the past (100.0 hectares). The total land purchase of 684.9 hectares was required to meet the Rural Environmental Registration (CAR in Brazil) which requires areas of native vegetation that are not available within the area of enterprise.

In 2022, Nexa acquired six estates (1,330.5 hectares), located at the vicinity of the mine. The Rural Environmental Registry (CAR) is in the process of being regularized by the environmental agency and we still do not have a scheduled date for completion.

On January 25, 2022, we signed an offtake agreement with a third-party international player (the "offtaker"), in which Nexa agreed to sell 100% of the copper concentrate produced by Aripuanã for a 5-year period starting in October 2022 and limited to 30,810 tons, at the lower of current market prices or a price cap. The offtake agreement was structured to completely extinguish a previous existing future royalty obligation that Nexa had with the offtaker. Additionally, the Company opted to voluntarily and irrevocably designate the entire offtake agreement at fair value through profit and loss within the scope of IFRS 9 rather than separate the value of the embedded derivative associated with the price cap, recognizing a non-cash accumulated gain of US$24.3 million in the income statement for the period ended on December 31, 2022. For further details on the offtake agreement, see Note 16 to our consolidated financial statements.

In July 2022, we started ramp-up activities at the Aripuanã will continue in 2023 targeting name plate capacity in 2H23. For further information, see "Project implementation" section below.

In July 2022, we started ramp-up activities at the Aripuanã mine and started to sell concentrates within market specifications in the fourth quarter of 2022. Ramp-up activities will continue in 2023 targeting name plate capacity in 2H23. For further information, see "Project implementation", below.

***Titles, leases and options***

The project holds one mining concession in the core area that has a total area of 3,639.9 hectares, two mining concession applications (1,387.2 hectares), one right to apply for mining concession (1,000.0 hectares), 13 exploration authorizations (33,810.9 hectares) and two exploration applications (7,833.7 hectares), totaling 47,671.7 hectares.

The Aripuanã project holds surface rights sufficient to support the future operations. There is sufficient suitable land available within the mineral rights held by the Company for tailings disposal, mine waste disposal, and installations such as the process plant and related mine infrastructure.

***Mineralization***

The Aripuanã region contains polymetallic VMS deposits with zinc, lead and copper, as well as small amounts of gold and silver, present in the form of massive mantles and veins, located in volcano sedimentary sequences belonging to the Roosevelt Group of Proterozoic age.

Four main elongated mineralized zones have been defined in the central portion of the project: (1) Arex, (2) Link, (3) Ambrex and (4) Babaçu. Limited exploration has identified possible additional mineralized bodies including Massaranduba, Boroca and Mocotó to the south and Arpa to the north.

The Aripuanã polymetallic deposits are typical VMS deposits associated with felsic bimodal volcanism. The individual mineralized bodies have complex shapes due to intense tectonic activity. Stratabound mineralized bodies tend to follow the local folds, however, local-scale, tight isoclinal folds are frequently observed, usually with axes parallel to major reverse faults, causing rapid variations in the dips.

Massive, stratabound sulphide mineralization as well as vein and stockwork-type discordant mineralization have been described on the property. The stratabound bodies, consisting of disseminated to massive pyrite and pyrrhotite, with well-developed sphalerite and galena mineralization, are commonly associated with the contact between the middle volcanic and the upper sedimentary units. Discordant stringer bodies of pyrrhotite-pyrite-chalcopyrite mineralization are generally located in the underlying volcanic units or intersect the massive sulphide lenses and have been interpreted as representing feeder zones.

In 2022, Aripuanã's mineral exploration strategy aimed to increase mineral resources and expand mineralization. Exploratory drilling in 2022 took place on two different zones, one focused on the northwest extension of the Babaçu target, which is located southeast of the Ambrex orebody, to confirm mineralization with zinc, lead and copper, and the Ambrex infill drilling, including the mineralized transition zone between both targets, which aimed to update the classification and conversion of resources into reserves.

In 2022, we spent US$3.1 million on Aripuanã exploration, including maintenance of concessions, among others, and geological activities. In 2022, we drilled 46.0 km of diamond drilling, including the Aripuanã brownfield program and infill drilling in the Ambrex orebody, totaling 80 drill holes (Mineral Exploration efforts). For 2023, we expect to invest US$1.5 million in the brownfield exploration program to diamond drill 4.4 km. An additional US$2.2 million for mineral resources expansion and reclassification with infill drilling is planned for the Babaçu deposit. For 1Q23, the infill drilling campaign will focus on the Babaçu deposit for resource conversion and expansion.

***Project implementation***

In the beginning of 2022, abnormally high rainfall levels coupled with health protocols deemed necessary to combat the surge of COVID-19 variants impacted our productivity (lower-than-anticipated workforce), which contributed to additional pressure on costs and the project timeline.

Mechanical completion was concluded in the first quarter and the commissioning process of the beneficiation plant was concluded in the second quarter of 2022. Ramp-up activities began in July 2022, and the milling capacity utilization rate reached 53% by the end of the fourth quarter of 2022. We started to sell concentrates within market specifications in the fourth quarter of 2022, with the ramp-up continuing in 2023. We expect to reach nameplate capacity in the second half of 2023. The first tests of mine filling started in January 2023 and were concluded in February 2023.

By year-end 2022, approximately 600 kt of ore was stockpiled. Horizontal mine development reached an accumulated of 26,003 meters developed for both mines (Arex and Link) by the end of 2022. Mine is fully operational, and underground activities are focused on developing and preparing new areas for mining operations.

The total headcount was more than 577 employees working in the operational areas. Of these employees, 27% are women. We also implemented the qualification program for future mine and plant operating professionals, which had 334 candidates enrolled in 2022, of which approximately 158 obtained professional qualifications in the areas of maintenance and automation, and geology and surveying. The company hired 66% (142 people) people who attended the qualification program, of which 66% (94) are men and 34% (48) are women.

In 2022, we invested US$66.5 million in capital expenditures on the project with cumulative incurred capital expenditures of US$632.7 million since the beginning of the construction.

***Mineral Reserves and Mineral Resources***

**Aripuanã – Year End Mineral Reserves as of December 31, 2022 (on a 100% ownership basis) (1)**

| Ownership | Class | Tonnage(2) | Grade | | | | | Contained Metal | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Zinc | Copper | Silver | Lead | Gold | Zinc | Copper | Silver | Lead | Gold |
| | | (Mt) | (%) | (%) | (g/t) | (%) | (g/t) | (kt) | (kt) | (koz) | (kt) | (koz) |
| 100.0% | Proven | 8.41 | 3.25 | 0.29 | 29.1 | 1.18 | 0.24 | 273.4 | 24.0 | 7,863 | 99.1 | 64.0 |
| | Probable | 21.71 | 3.48 | 0.12 | 33.2 | 1.28 | 0.22 | 755.9 | 26.4 | 23,163 | 278.6 | 156.0 |
| | **Total** | **30.12** | **3.42** | **0.17** | **32.1** | **1.25** | **0.23** | **1,029.3** | **50.4** | **31,026** | **377.7** | **220.0** |

**Notes:**
1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions.
2. Mineral Reserves data presented in this table represents 100.0% of the Mineral Reserves estimates for the property. Nexa owns 100.0% of property.
3. The qualified person for the Mineral Reserves estimate is SLR Consulting (Canada) Ltd., an independent mining consulting firm.
4. Numbers may not add due to rounding.
5. The point of reference for Mineral Reserves in this table is mill feed materials.

The Aripuanã Mineral Reserves estimates are based on modifying factors from the Aripuanã Project and based on three main orebodies: Arex, Link and Ambrex and the two main types of mineralization in the deposit are stratabound and stringer. The main commodities produced are zinc, lead, copper, silver and gold. The dilution that has been applied is related to the selected mining method. The two main mining methods used at Aripuanã are longitudinal longhole retreat ("bench stoping") and transverse longhole mining (vertical retreat mining, or "VRM") with primary and secondary stope extraction. Dilution is applied on a percentage basis, with no grade applied to the diluting material. The NSR factors were determined using long term metal price forecasts, metallurgical recoveries, transport, treatment, and refining costs. A break-even NSR cut-off value is US$48.11/t processed was estimated from forecasted operating costs and some incremental material between US$38.05/t and US$48.11/t was included. A minimum mining width of 4.0 m was used. The long-term prices derived are in line with the consensus forecasts from banks and independent institutions. The Mineral Reserves are estimated using an average long term zinc price of US$2,826.35/t (US$1.28/lb), lead price of US$2,043.95/t (US$0.93/lb), copper price of US$7,398.47/t (US$3.36/lb), silver price of US$19.93/oz and gold price of US$1,474.88/oz. Metallurgical recoveries are accounted for in NSR calculations based on metallurgical testworks and are variable as a function of head grade and oretype. Recoveries at Life of Mine average head grade for stratabound material are 89.42% for Zn, 81.06% for Pb, 60.00% for Cu, 75.10% for Ag, and 67.8% for Au. Recoveries at the LOM average head grades for stringer material are 88.68% for Cu, 50.00% for Ag, and 63.00% for Au. The current LOM plan continues to 2036.

**Aripuanã – Net Difference in Mineral Reserves between December 31, 2022 versus December 31, 2021 (on a 100% ownership basis)**

| Ownership | Class | Tonnage | | Contained Metal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Zinc | | Copper | | Silver | | Lead | | Gold | |
| | | (Mt) | % | (kt) | % | (kt) | % | (koz) | % | (kt) | % | (koz) | % |
| 100.0% | Proven | (0.56) | (6.2) | (67.3) | (19.8) | (1.4) | (5.5) | (2,416) | (23.5) | (29.0) | (22.6) | (11.2) | (14.9) |
| | Probable | 8.89 | 69.3 | 310.9 | 69.9 | 1.8 | 7.3 | 9,947 | 75.3 | 111.2 | 66.4 | 23.2 | 17.5 |
| | **Total** | **8.33** | **38.2** | **243.7** | **31.0** | **0.4** | **0.8** | **7,530** | **32.0** | **82.2** | **27.8** | **12.0** | **5.8** |

In comparison to 2021, Aripuanã's Mineral Reserves increased by 38.2% in mass and by 31.0% in zinc content (kt), mainly due to the Inferred Mineral Resources conversion to Indicated Mineral Resources, enabling the increase in Probable Mineral Reserves. The increase of 254.2kt of zinc in the Mineral Reserves was due to the Ambrex infill drilling program carried out during 2022. Mineral Reserve depletion during 2022 accounted for -0.45Mt containing 10.5kt of zinc, resulting in a net increase of 243.7kt of contained zinc.

In comparison to 2021, Aripuanã's Mineral Reserves have increased, mainly due to the inferred resources conversion to indicated resources, enabling the increase in Probable Reserves.

**Aripuanã – Year End Mineral Resources as of December 31, 2022 (on a 100% ownership basis) (1)**

| Ownership | Class | Tonnage(2) (Mt) | Grade Zinc (%) | Grade Copper (%) | Grade Silver (g/t) | Grade Lead (%) | Grade Gold (g/t) | Contained Metal Zinc (kt) | Contained Metal Copper (kt) | Contained Metal Silver (koz) | Contained Metal Lead (kt) | Contained Metal Gold (koz) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100.0% | Measured | 0.40 | 1.87 | 0.41 | 23.4 | 0.70 | 0.40 | 7.5 | 1.6 | 301 | 2.8 | 5.1 |
| | Indicated | 2.55 | 2.26 | 0.19 | 21.2 | 0.82 | 0.31 | 57.6 | 4.8 | 1,738 | 20.9 | 25.4 |
| | **Total** | **2.95** | **2.21** | **0.22** | **21.5** | **0.80** | **0.32** | **65.1** | **6.4** | **2,039** | **23.7** | **30.5** |
| | Inferred | 38.55 | 2.41 | 0.30 | 29.5 | 1.02 | 0.46 | 929.1 | 115.7 | 36,563 | 393.2 | 570.1 |

**Notes:**

1. Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions.
2. Mineral Resources data presented in this table represents 100% of the Mineral Resources estimates for the property. Nexa owns 100.00% of property.
3. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. The qualified person for the Mineral Resources estimate is SLR Consulting (Canada) Ltd., an independent mining consulting firm.
5. Numbers may not add due to rounding.
6. The point of reference for Mineral Resources in this table is mill feed materials.

The Mineral Resources estimates for the Aripuanã Project were completed for Babaçu, Arex, Ambrex and Link. The block models were created using Datamine and Leapfrog software. Wireframes for geology and mineralization were constructed in Leapfrog based on geology sections, assay results, lithological information and structural data. Assays were capped to various levels based on exploratory data analysis and then composited to one-meter lengths. Wireframes were filled with blocks measuring 5 meters by 5 meters by 5 meters for with sub-celling at wireframe boundaries. Blocks were interpolated with grade using Ordinary Krig ("OK") and Inverse Distance to the cube ("$ID^3$"). Blocks estimates were validated using industry standard validation techniques. Classification of blocks was based on distance-based criteria. Potentially mineable shapes of underground mineral resources are generated using DSO software. The Mineral Resources of the Aripuanã project are reported using a cut-off value of US$48.11/t. Mineral Resources are estimated using average long-term metal prices of zinc: US$3,250.31/t (US$1.47/lb); lead: US$2,350.54/t (US$1.07/lb); copper: US$8,508.24/t (US$3.86/lb); gold: US$1,696.11/oz and silver: US$22.92/oz. Metallurgical recoveries are accounted for in NSR calculations based on metallurgical test work and are variable as a function of head grade and oretype. Recoveries at the LOM average head grades for stratabound material are 89.42% for Zn, 81.06% for Pb, 60% for Cu, 75.10% for Ag, and 67.80% for Au. Recoveries at the LOM average head grades for stringer material are 88.68% for Cu, 50% for Ag, and 63.00% for Au.

**Aripuanã – Net Difference in Mineral Resources between December 31, 2022 versus December 31, 2021 (on a 100% ownership basis)**

| Ownership | Class | Tonnage (Mt) | Tonnage % | Zinc (kt) | Zinc % | Copper (kt) | Copper % | Silver (koz) | Silver % | Lead (kt) | Lead % | Gold (koz) | Gold % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100% | Measured | (0.04) | (9.1) | (0.4) | (5.1) | 0.1 | 6.7 | 53 | 21.4 | 0.2 | 7.7 | 0.1 | 2.0 |
| | Indicated | (0.25) | (8.9) | (3.4) | (5.6) | (3.6) | (42.9) | (53) | (3.0) | 0.2 | 1.0 | (17.8) | (41.2) |
| | **Total** | **(0.29)** | **(9.0)** | **(3.8)** | **(5.5)** | **(3.5)** | **(35.4)** | **0.0** | **0.0** | **0.4** | **1.7** | **(17.7)** | **(36.7)** |
| | Inferred | 0.07 | 0.2 | (421.5) | (31.2) | (11.3) | (8.9) | (7,356) | (16.7) | (103.2) | (20.8) | (110.3) | (16.2) |

In comparison to 2021, Aripuanã's Inferred Mineral Resources slightly increased by 0.2% in mass and decreased by 31.2% in zinc content (kt) in 2022, mainly due to conversion to Mineral Reserves with additional increase in tonnage from brownfield drilling at lower grades. In comparison to 2021, Aripuanã's Measured and Indicated Mineral Resources decreased by 9.0% in mass and decreased by 5.5% in zinc content (kt) in 2022, primarily due to conversion to Mineral Reserves.

For additional information, see the Technical Report Summary on Aripuanã, filed as Exhibit 15.4 to Nexa's annual report on Form 20-F/A for the year-ended December 31, 2021, as filed on November 4, 2021.

**Morro Agudo**

The Morro Agudo Complex consists of an underground mine and open pit, polymetallic mine, as well as three deposits along what is known as the Ambrosia Trend (Ambrosia Sul, Ambrosia Norte, and Bonsucesso). The Morro Agudo mine site is situated on Traíras Farm, about 45 km south of the municipality of Paracatu, Brazil, at a latitude of approximately -17 57' 33" S and a longitude of approximately 46°49'42" W, within Zone 23S of the Universal Transverse Mercator coordinate system (Corrego Alegre Datum). The Ambrosia Trend deposits are situated about 15 to 20 km northeast of Paracatu.

Nexa Brazil owns 100.0% of Morro Agudo. The total Morro Agudo project area is about 80 km long and 10 km wide at the widest extent and covers a significant strike extent of the lithologies that host mineralization at the Morro Agudo mine and along the Ambrosia Trend.

Nexa Brazil holds three granted mining concessions in the Morro Agudo mine area of approximately 1,446.1 hectares. In the Ambrosia Trend area, Nexa Brazil has three granted mining concessions totaling 2,495.8 hectares.

Nearby the Morro Agudo mine site and Ambrosia trend areas, Nexa Brazil also holds 36 exploration authorizations totaling 28,966.4 hectares, three rights to apply for mining concession totaling 2,679.9 hectares, three mining applications totaling 2,167.4 hectares and one mining concession totaling 1,000.0 hectares, in addition to the core tenements.

The Morro Agudo operation holds several permits in support of the current operations. The main instrument to regulate the operation is a set of operating licenses issued by the Environmental Agency from the state of Minas Gerais. The licenses are active, some of them under renewal process.

The Ambrosia mine in Morro Agudo reached the end of its life of mine during the fourth quarter of 2020 and operations were suspended due to the uncertainties associated with the geological model of the area, safety considerations and a greater movement of ore compared to the original plan.

In 2022, we spent US$6.3 million on sustaining capital expenditures for this property, primarily associated with the mine development and maintenance of plant and equipment.

***Mineralization Developments***

In 2022, mineral exploration activities in Morro Agudo focused on the search for new mineral deposits in regions close to the unit that enable the extraction of ore and its processing at the Morro Agudo plant to extend the life of mine.

In 2022, the brownfield exploration program was conducted to expand the mineralized zone of the Bonsucesso project to the north and in depth, confirming zinc and lead mineralization along the strike and opening the potential to further extend the mineralized bodies. In the exploratory drilling program, the drilling confirmed the presence of mineralization in the Poções target, 4 km from Bonsucesso and proved potential for mineralization expansion of the Ambrosia trend. In addition, Nexa performed an additional 6.8 km of diamond drilling in the Morro Agudo mine with the purpose of Mineral Resources definition.

Our expenditures for the Morro Agudo brownfield project in 2022 were US$2.0 million directed towards drilling progress on the Bonsucesso project, and its extensions, primarily related to exploratory drilling and geological activities. In 2022, we drilled 20 exploration drill holes, totaling 8.1 km, which includes 7.8 km of exploration drilling in Bonsucesso and regional targets, in addition to 0.2 km of in fill drilling. As of the date of this annual report, we are revisiting the Bonsucesso project and the potential impact on the life of mine of Morro Agudo Mine. For 2023, we have budgeted a total of US$0.4 million in mineral exploration expenditures for project maintenance, as no drilling activities are scheduled for 2023.

Morro Agudo does not currently have any estimated Mineral Reserves and is considered an exploration stage property under S-K 1300. Morro Agudo is not considered a material property for the purposes of S-K 1300.

***Production***

The Morro Agudo mine has a treatment plant capacity of 3,400 tonnes of mill feed per day. The table below summarizes the Morro Agudo mine's concentrate production, metal contained in concentrates produced and average grades for the periods indicated.

| | For the Year Ended December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| **Treatment ore (in tonnes)** | 1,016,568 | 982,036 | 1,180,621 |
| **Average ore grade** | | | |
| Zinc (%) | 2,06 | 2.05 | 2.41 |
| Lead (%) | 0.85 | 0.73 | 0.49 |
| **Metal contained in concentrate production** | | | |
| Zinc (in tonnes) | 18,700 | 17,278 | 25,177 |
| Lead (in tonnes) | 6,247 | 4.691 | 4,019 |
| Silver (in oz) | 0 | 0 | 3,458 |
| **Cash cost, net of by-product credits (in US$/t)** | 2,160.5 | 1,884.1 | 1,726.9 |
| **Cash cost, net of by-product credits (in US$/lb)** | 0.98 | 0.85 | 0.78 |
| **Capital Expenditures (in millions of US$)** | 6.8 | 7.6 | 7.4 |

**Concentrate Sales**

All the metal produced by our mines is processed into concentrates. Our mining operations sell the concentrates that they produce to third parties and to our own smelters pursuant to arm's length transactions. Each mine bears the cost of transporting the concentrate to the point of sale where the smelter or trader purchases the concentrate. The smelter or trader pays the mine for the percentage of metals contained in the concentrate, net of charges for treating the concentrate and refining the metals. The typical payable percentage is 85% for zinc contained in concentrate and 97% for copper contained in concentrated minus treatment charges.

**Growth projects**

In addition to Nexa's operating mines and smelters, a component of our business focuses on growth and exploration, which are activities associated with ascertaining the existence, location, extent or quality of a mineral deposit. Our exploration activities encompass brownfield and greenfield projects. Brownfield projects are exploration or development projects near or within our existing operations, which can share infrastructure and management of our existing operations. Greenfield projects are exploration or development projects that are located outside the area of influence of our existing mine operations and/or infrastructure, which will be independently developed and managed from our existing operations.

***Vazante mine deepening project***

One of our main brownfield projects is the Vazante Mine Deepening Project, which involves extending the mine life of Vazante. The capital expenditures related to this project in 2022 totaled US$2.2 million and we expect to invest an additional US$3.8 million in 2023. This project began in 2013 and is expected to be completed in 2024.

In addition, we are conducting exploration activities below the mine's current operating level and alongside the orebody. As part of this project, we are investing in ongoing exploration activities and infrastructure, including expansion of an underground pumping station, an increase in the capacity of the ventilation system, emergency paths, access ramps, electrical networks and substations. During 2020, we assembled and commenced operating the EB347 pumping station and during 2021, and the activities of CEMIG´s electric power line were still in progress. Due to hydrogeological studies based on the mine development review, phase 2 of the EB-140 was rescheduled. In 2023, we plan to prepare the area to receive the equipment in accordance with the project's specifications, allowing the pumps to be installed in 2024.

***Bonsucesso***

The Bonsucesso project is a brownfield underground mine project that belongs to the Morro Agudo complex (Ambrosia Trend). The project is located 8 km north of the Ambrosia Sul mine and approximately 60 km north of the Morro Agudo mine.

In 2022, our expenditures for this project in 2022 were US$2.1 million, which was primarily related to exploration and geological activities. In 2022, we drilled 20 exploration drill holes in Bonsucesso, including Bonsucesso ore bodies extension and Poções target definition, totaling 8.1 km. In 2023, we have budgeted US$0.4 million for mineral exploration, but we do not expect to drill in the Bonsucesso deposit.

The feasibility study was resumed in 2021 and it was concluded in 2022. The total investments related to this project, as of December 31, 2022, totaled US$10.3 million, which includes all project studies (from the scoping study to the feasibility study) and anticipated expenses related to construction and operating infrastructure.

We are currently revisiting the project and the potential impact on the life of mine of Morro Agudo mine, taking into consideration our capital allocation strategy and our focus on free cash flow generation.

***Pasco mining complex***

The Pasco mining complex project involves the continued integration of the El Porvenir and Atacocha mines. The project is intended to capture synergies between the two mining operations resulting from their proximity and operational similarities, with the goal of obtaining costs and investment savings, reducing our environmental footprint and extending the mine life of the mines.

The integration project is being developed through four stages. The first stage involved the administrative integration of both mines, which was completed in 2014. The second stage involved the integration of the tailing disposal system, which consolidated the operations of the two mines with a single tailing disposal system and thereby helped reduce the environmental footprint. This stage was completed in 2015 and the integrated tailing disposal system commenced operations in the beginning of 2016. The third stage, which was completed in 2016, involved the construction of a new energy transmission line with a 138-kilovolt connection that supplies both mines, replacing the prior 50 kilovolt transmission lines. The development of a 3.5 km tunnel connecting both underground mines, which is part of the fourth stage, was concluded in 2019.

In 2021, the modernization and debottleneck studies for El Porvenir to evaluate the deepening of the mine and extension of its life-of-mine were postponed due to the prioritization of the capital allocation strategy, and the reassessment of the integration with Atacocha underground mine. In 2022, we have continued to make progress with our project to evaluate the optimization of the integration of El Porvenir and Atacocha mines at our Cerro Pasco complex. We are evaluating increasing the capacity of our tailings and shaft, as well as optimizing the processing plant, to potentially increase production and extend mine life.

**Mining greenfield projects**

| Project Name | Current Project Status |
|---|---|
| Magistral | Under Review |
| Hilarión | Exploration phase |
| Florida Canyon Zinc | Exploration phase |

We summarize below certain information, including the outlook, for each of our greenfield projects. As of the date of this annual report, none of our greenfield projects, except for Aripuanã, have Mineral Reserves under S-K 1300.

In 2022, after an assessment and prioritization of our portfolio optimization, we decided not to move forward with the Pukaqaqa and the Shalipavco greenfield projects. For further information, see “Mining Operations—Growth projects—Pukaqaqa” and “Mining Operations—Growth projects—Shalipayco.”

***Magistral***

The Magistral mining project is located in the Ancash region of Peru, approximately 450 km northeast of the capital of Lima and approximately 140 km east of the port city of Trujillo. The Magistral property can be reached by vehicle by driving a total of 272 km from Trujillo, much of which consists of poorly maintained roads that traverse steep topography. The Magistral Project consists of a large, irregularly shaped block of contiguous concessions and two smaller, non-contiguous single concessions. The Magistral Project comprises 36 granted concessions, totaling 16,254.2 hectares. The project is an open pit copper mine with molybdenum concentrate as a by-product. In 2016, ProInversión approved an initial feasibility study, which set forth production rates starting at 10 thousand tonnes per day and achieving 30 thousand tonnes per day. In 2016, the MINEM approved an environmental impact assessment (“EIA”), to process up to 30 ktpd. An EIA modification is currently in progress to adjust the location of some facilities.

Nexa Peru was awarded the contract to develop the Magistral mining project in 2011, which has been amended from time to time. Nexa made an initial payment of US$8.0 million to acquire the Magistral concessions, subject to a 2.0% NSR royalty upon production. Under the terms of the contract in 2016, Nexa Peru exercised the option by committing to invest a minimum 70% of declared initial capital expenditures by September 2024 and has previously extended this period. Subsequently, as a result of the COVID-19, this term was extended by the government for an additional year, starting in September 2024. Pursuant to the terms of this commitment, Nexa Peru would be required to pay a penalty in the event it fails to invest the specified amounts during this period. Nexa Peru currently holds a 100.0% interest in 15 of the 36 concessions, Nexa holds 21 concessions by way of a lease agreement entered into with Companía Magistral S.A.C., a company also controlled by Nexa Peru. We spent approximately US$2.4 million on the Magistral project in 2022.

In 2022, the feasibility study of the Magistral project was concluded and, as of the date of this report, we intend to advance with the complementary engineering details to confirm our feasibility studies assumptions. In 2023, we expect the results of the EIA amendment request, which was submitted to the Ministry of the Environment (SENACE) in the fourth quarter of 2021 for its assessment. We continue to assess alternatives to the project, taking into consideration our capital allocation strategy.

***Mineralization Developments***

The Magistral property is near the northeastern end of the Cordillera Blanca, a region that is underlain predominantly by Cretaceous carbonate and clastic sequences. These units strike north to northwest and are folded into a series of anticlines and synclines with northwest-trending axes.

The Cretaceous sedimentary rocks are bounded to the east by an early Paleozoic metamorphic terrane composed mainly of micaceous schist, gneissic granitoid and slate. The Cretaceous sedimentary sequence unconformably overlies these metamorphic rocks. The Cretaceous rocks are structurally overlain by black shale and sandstone of the Upper Jurassic Chicama Formation that were thrust eastwards along a prominent regional structure. The Chicama Formation was intruded by granodiorite and quartz diorite related to the extensive Cordillera Blanca batholith, which has been dated at 8.2 +/- 0.2 Ma. Several major structural features are evident in the Cretaceous sedimentary rocks in the Magistral region, including anticlines, synclines, and thrust faults. The trend of the fold axes and the strike of the fault’s changes from northwest to north near Magistral.

Through the end of 2015, a total of approximately 101,900 m of surface diamond drilling has been completed in 486 drill holes. In addition, 14 short underground diamond holes were drilled for a total of 1,298.8 m in the San Ernesto, Arizona, and Sara zones between 1969 and 1973. In 1999, 2000, and 2001, Anaconda drilled 76 diamond drill holes totaling 24,640 m. All surface drilling from 2000 onward was carried out on northeast ($035^{o}$) and northwest ($305^{o}$) oriented sections. In 2004, Ancash Cobre (or Inca Pacific) completed 34 drill holes, totaling 7,985 m, and in 2005 Ancash Cobre (or Quadra) drilled 14,349 m in 60 holes. Milpo’s drilling in 2012 was contracted to Redrilsa Drilling S.A. (or Redrilsa). Since 2012, the drilling has been contracted to Geotecnia Peruana S.R. Ltda. (or Geotecnia Peruana).

Of the 71 holes drilled in 2013, six were drilled to gain geotechnical information and the remainder were infill holes. Drilling in 2014 consisted of a combination of infill, geotechnical, and metallurgical holes. The 2015 drilling consisted entirely of infill holes. No drilling program was carried out on the project during 2021 and 2022.

***Exploration Developments***

Since acquiring the Magistral project in 2011, Nexa has initiated a comprehensive exploration program consisting of geological mapping, prospecting and sampling, ground geophysical surveying, and diamond drilling. Geological mapping at a scale of 1:2,000 was completed in the Ancapata area and the area north-northeast of Magistral over an area of 386.50 hectares. The objective was to verify and supplement the information available from Ancash Cobre’s exploration.

From October 2012 to January 2014, Arce Geofisico SAC was contracted to complete ground magnetic and Induced Polarization (IP) surveying over an area of 520 hectares covering the Magistral deposit and the adjoining Ancapata area. The objective was to characterize the geophysical signature of the Magistral deposit and to survey the Ancapata area. Work was completed on 100 m spaced lines oriented at N125°W. An initial 30 line-km survey was expanded to 55.1 line-km of IP and 57.25 line-km of ground magnetics in order to delineate chargeability and resistivity anomalies. Drilling ceased on the property in 2015. No exploration work was carried out on the project during 2020, 2021 or 2022 and no exploratory drilling program is scheduled for 2023.

***Hilarión***

The Hilarión project is located in the Department of Ancash, approximately 230 km north of Lima, the capital of Peru, and approximately 80 km south of the city of Huaraz and is accessible by paved road from Lima. It consists of 72 mineral concessions covering an area of approximately 15,841.3 hectares. Hilarión is a skarn mineral deposit made of vertical tabular ore bodies containing sulfide zinc, lead, silver and copper deposits. Hilarión and El Padrino and other occurrences in proximity to them (Mia, Eureka and others) constitute a large mineralized system, open in several directions for a potential increase in resources, extended mine life and increased production capacity in the future. The conceptual plan for the project includes the development of an underground mine that could either use its own processing plant or use one of the several existing plants in the area, such as Pachapaqui, Huanzala and Atalaya plants.

From 2005 to 2014, in addition to mapping, remote sensing, topographical and geophysical surveys, we completed four drilling campaigns totaling 244.0 km on Hilarión and El Padrino deposits. During 2018-2019, two additional drilling campaigns totaling 17.1 km were carried out. The recent 2018-2019 drilling predominantly focused on the Hilarión North zone.

In 2020, we drilled 5 drill holes totaling 4.6 km and completed the sampling for metallurgical test studies. We also filed a preliminary economic assessment (“PEA”) for the Hilarión project, prepared jointly by Nexa and Roscoe Postle Associates Inc (“RPA”), disclosing an updated mineral resource, plant production and economics estimate in accordance with NI 43-101 (as of December 31, 2019 with a drilling cut-off date of December 5, 2014).

In 2021, we executed 21.3 km of diamond drilling to test Hilarión Sur target, totaling 32 drill holes confirming the southeast continuity of the Hilarión deposit towards the edge of the Hilarión stock with multiple thick intersections, in addition to 0.3 km remaining from the 2020 drilling campaign.

In 2022, mineral exploration activities started with a geological review of recent project data and with an aero magnetometry survey to structure the drilling program that began in the second quarter, focused on the target Hilarión West, with the objective of finding new mineralized zones and expand the known mineralization.Drilling at the Hilarión West target confirmed the presence of mineralization to the west of known bodies and their continuities with a total of 7.2 km of drilling, indicating solid potential for resource expansion. In 2022, we spent approximately US$6.2 million on the Hilarión project, including project maintenance and exploration activities such as geological mapping, rock chipping, diamond drilling and social permitting to continue the exploration work for the coming years.

In 2023, we have budgeted US$3.5 million for the Hilarion project and planned 3.0 km of diamond drilling to drill two targets: El Padrino and Chaupijanca.

***Florida Canyon Zinc***

The Florida Canyon Zinc project is located in the Eastern Cordillera of Peru at the sub-Andean front in the upper Amazon River Basin, 680 km north-northeast of Lima and 245 km northeast of Chiclayo and is accessible by paved road from Lima. It is comprised of 16 contiguous mining concessions, covering approximately 12,600.0 hectares, is owned by Minera Bongará S.A. and operated by Nexa Peru, a joint venture between Nexa Peru, Solitario Exploration and Royalty Corp. and Minera Solitario Peru S.A.C. (collectively, Solitario) in existence since 2006. As of December 31, 2022, Nexa Peru owns a 61.00% interest in this joint venture, which may increase up to 70.00% upon Nexa Peru’s satisfaction of certain conditions.

Although a pre-feasibility study relating to the Florida Canyon Zinc was released in 2017, the project continues to be treated as an advanced mineral exploration project.

In 2020, we continued to work on the access road repair to reduce logistical costs. Another important activity carried out in 2020 was the update of the geological model based on the 2018-2019 drilling campaign and by improving ore-type definition (oxide-mixed-sulfide) by using qualitative and quantitative analytic data, that helped in ore classification for the 2020 mineral resource estimation.

In 2021, field work focused on mapping access road from 0 km up to 19.5 km; and mapping, sampling and topographic survey of Teodolfo, Matias, Berny, and Pizarro targets, in addition to a new mineral occurrence named Aron, as well as metallurgical testing using historic drill core material.

In 2022, our objective at the Florida Canyon project was focused on advancing the opening of the road that connects the project structures to the main camp, which we expect to optimize logistical costs for future drilling campaigns. In addition, geometallurgical tests were carried out to establish better mineralogical and metallurgical knowledge of the deposit, which showed high recovery of zinc and lead concentrates, as well as the presentation of the fifth environmental modification to the competent body to support drilling in 2023.

We spent approximately US$3.7 million on this project in 2022 and we have budgeted US$4.0 million for the Florida Canyon project in 2023, including 4.0 km of drilling to expand the known mineralization in Florida Sur, road maintenance and construction of the final stretch that connects the road to the main exploration camp in the drilling area, maintenance of the project structure, and social programs.

***Pukaqaqa***

The Pukaqaqa project contemplated the development of an open pit copper and molybdenum mine, with gold credits, and is located in the Huancavelica region of Peru. The mineralization is hosted by an epithermal breccia system that is associated with exoskarn and endoskarn alterations. The Pukaqaqa project has a total of 34 concessions covering approximately 11,247.5 hectares.

In 2015, the MINEM approved Pukaqaqa's EIA, which allowed a treatment capacity of up to 30 ktpd. In 2017, a scoping study was developed by JRI, a Chilean engineering firm, enabling the start of a drilling campaign in 2018 to obtain samples for metallurgical testing.

The pre-feasibility study progressed until the end of FEL2-A phase (equivalent to the trade-offs phase). Metallurgical results indicated the need to further explore copper and molybdenum recoveries prior to progressing with the pre-feasibility study. In December 2020, the first part of a new laboratory campaign was initiated in Chile, which demonstrated better results than previous campaigns, including improved recoveries and grades. During 2021, metallurgical tests were concluded.

In 2022, we spent approximately US$0.4 million on this project, related to project maintenance.

As a result of our current capital allocation strategy and after a careful assessment and prioritization of our portfolio optimization, in 2022 we decided not to move forward with this potential greenfield project, as informed in our 4Q22 and 2022 Earnings Release, published on February 15, 2023.

***Shalipayco***

The Shalipayco project, located in the Central Andes of Peru, is a joint venture between Nexa Peru (which holds a 75.0% interest) and Pan American Silver Perú S.A.C. (which holds a 25.0% interest). It is a potential underground polymetallic project containing zinc, lead and silver deposits. The Shalipayco mineralization is mainly located within the Chambará formation that is part of the Pucará Group. The Shalipayco project has a total of 56 concessions covering approximately 22,551 hectares and one mineral claim in process totaling 740.6 hectares.

In 2022, we spent approximately US$0.2 million on this project to maintain the office and warehouse facilities in Carhuamayo, as well on the closure of exploration drilling.

As a result of our current capital allocation strategy and after a careful assessment and prioritization of our portfolio optimization, in 2022 we decided not to move forward with this potential greenfield project, as informed in our 4Q22 and 2022 Earnings Release, published on February 15, 2023.

**Other Greenfield Exploration Projects**

***Project in Namibia***

We have been developing exploratory work in Namibia since 2015, as part of a joint venture with the Japan, Oil, Gas and Metals National Corporation ("JOGMEC"), a Japanese state-owned company. The project was part of a farm-out process of the Namibian tenements inherited from the former strategy of Votorantim Metals to explore opportunities in Africa, where Nexa has a back-in right to invest and maintain participation depending on exploration results. The exploration area is located 360 km north of Windhoek. This early-stage exploratory program is targeting sediment-hosted copper mineralization, such as the Tsumeb and Kombat mines, both of which contain rocks from the Otavi Mountain land terrain.

Nexa currently holds 348,800.2 hectares in 16 exclusive prospective licenses ("EPL") for the Otavi and Namibia North targets. The 2022 exploration expenditures totaled US$3.1 million (US$2.2 million for JOGMEC expenditures and US$0.9 million for Nexa expenditures) with a total of 9.1 km drilled. The focus of the drilling campaign in 2022 was the expansion of mineralization in the Otavi target and the identification of new mineralized zones of the "Deblin" copper trend in the Namíbia North target, which indicated that copper mineralization has the potential to expand throughout the entire trend.

In 2023, we have budgeted US$0.4 million for this project to execute our exploratory drilling program. Nexa is currently focusing extending exploration activities on the "Deblin" trend, and to scout exploratory drilling to evaluate the mineral potential of previously defined targets in Namibia, as Otavi and Namibia North target upsides.

**Permits & authorizations for greenfield projects**

The following table summarizes the status of the main permits and authorizations for our greenfield projects.

| Project | Status |
|---|---|
| Magistral | An amendment to the EIA was submitted to the Ministry of the Environment (SENACE) in the fourth quarter of 2021 for its assessment. Its approval is expected in the second quarter of 2023. Negotiations between the landowners and Nexa to obtain permission are ongoing. |
| Hilarión | The most recent environmental study is the fifth modification to the Hilarion Project's EIS, which consisted of obtaining approval for new exploration platforms and reviewing the drilling program. It was approved in 2020 and is valid until 2024.<br>The authorization for exploratory activities at the El Padrino deposit was extended until March 2023 and a detailed EIS was approved in 2020, which is valid until 2025.<br>For the Azulmina target, one possible location for the plant and tailings facilities, there is an approved EIS and Technical Sustaining Instrument (STI) that allows the execution of exploration activities until 2024. |
| Florida Canyon Zinc | The most recent environmental study is the STI of the Fourth Modification EIS of the Florida Canyon project, which was approved in 2021 and is valid until 2024. |

**Tailings disposal**

***Regulatory framework***

We are subject to several environmental regulations related to the use of tailings dams and effluent dams.

In Brazil, tailings dams' failures have triggered the issuance of new regulations. On January 25, 2019, there was a tragic failure of a tailings dam in the city of Brumadinho, in the state of Minas Gerais, Brazil. The Brumadinho dam was built using the upstream method and belongs to Vale S.A. A report by a panel of technical experts commissioned by Vale S.A. found that the tailings dam failure was the result of flow liquefaction within the tailings in the dam. Another upstream-method tailings dam in Brazil, the Fundão tailings dam owned by Samarco Mineração S.A., failed in November 2015. Each of these failures released muddy tailings downstream, flooded certain communities, caused fatalities and resulted in extensive environmental damage to the surrounding area.

In response to failures of tailings dams in Brazil, the state of Minas Gerais enacted regulations in February 2019 affecting the use of dams in the state, including tailings dams and effluent dams that mandate the decommissioning of all upstream tailings dams and prohibit construction of new tailings dams using the upstream method. Additionally, a rule approved by the ANM requires all inactive upstream dams to be decommissioned by 2021 and active upstream dams to be decommissioned by 2023. We have not been impacted by these regulations as all of our tailings dams in Brazil are downstream.

In addition, in February 2019, the state of Minas Gerais enacted regulations that prohibit the construction of a new dam or the expansion of existing dams if communities are established within its self-rescue zone, an area encompassing the portion of the valley downstream of the dam where timely evacuation and intervention by the competent authorities in emergency situations is not possible. All of tailings dams located in Minas Gerais have permission to operate, however, future licensing for new tailings storage facilities or new raises must consider any community in the hazardous zone. We are undertaking a new raise of the Três Marias tailings dam, Oeste 1 and Central, and different possibilities of disposal and consolidation of the disposed tailings are being studied to reduce that risk. In 2022, we initiated negotiations for the acquisition of several properties in the self-rescue zone. The licensing process is in progress.

In 2020, the mining authorities in Brazil enacted two regulations that establish new procedures related to dams. The first resolution (Resolução ANM 32/2020), decreed in May 2020, determines procedures to develop dam break studies and deadlines to update the Emergency Action Plan ("EAP") depending on the dam class. This regulation updated previous mining agency standards. We have updated the dam break studies of all mining dams according to these procedures. The second resolution (Resolução ANM 51/2020), decreed in December 2020, defines procedures to certify the EAP. In 2022 the ANM enacted the Resolution No. 95/2022, which consolidates all dam safety standards by unifying and regulating the innovations promoted by Law No. 14,006/2020.

At the end of 2020, the Brazilian Federal Authorities decreed that the new dam safety law (Law No. 14,006/2020) updates the previous dam safety Law No. 12,334 enacted in 2010. Similar to the regulation enacted in February 2019, this new law defines that new upstream tailings dams and new raises are no longer permitted and, that the EAP is mandatory to all mining dams that storage tailings. This law also limited the construction of new tailings dams if communities are established within its self-rescue zone. In this case, the mining company must remove the residents or reinforce the dam structure according to the technical solution approved by the ANM. In 2022, the mining authorities in Brazil enacted a regulation that establishes new procedures related to dams (Resolution ANM 95/2022), which consolidated the safety standards for mining dams, revoking several previous regulations (Ordinance DNPM No. 70,389/2017 and Resolutions ANM No. 13/2019, 32/2020, 40/2020, 51/2020 and 56/2021) and also regulated items by the national legislation (Law No. 14,066/2020), which modified the National Dam Safety Policy.

The changes included the alteration of the assumptions of risk category and emergency level classifications, the inclusion of new suspension and interdiction assumptions, and the creation of new obligations such as the Risk Management Process for Mining Dams ("RMPMD"), for high Associated Potential Damage ("APD") dams. The RMPMD consists of the risk assessment of the structure in acceptable and not acceptable "As Low as Reasonably Practicable" terms and integrates the management and decision-making related to mining dams.

In 2021, we began implementing the requirements covered by these regulations to all mining dams including certification of the Emergency Action Plan ("EAP"), staff safety trainings, and dam break simulations in accordance with the new regulation.

In 2022, the Nexa revised the EAP for all mining dams to adapt to the new Brazilian regulations and considering the new EAP guidelines, detailed by specific terms of reference (*Termos de Referência*), which were published in 2021.We sent the EAP to all relevant public agencies and published the document on our website. In 2022, we also conducted the Compliance and Operational Evaluation ("COA") of the EAP for mining, which consists of a legal requirement that aims to certify that the EAPs comply and adhere to the legislation and would be operational in practice in case of an emergency. Thus, the EAP was evaluated by an external company that issued the Compliance and Operability Report ("COR") and Declaration of Conformity and Operability ("DCO") of the EAP.

The licensing process for the expansion of the Três Marias tailings dam, requested in 2021, is still being evaluated by the environmental agency of the state of Minas Gerais due to changes in the state laws on dams. While the licenses are pending, the Três Marias unit has developed several actions to optimize the disposal of tailings and the expected operation of the unit once the license is granted.

In Peru, the upstream method has long been an abandoned practice due to seismic concerns in the region. As of 1995, compulsory guidelines were passed prohibiting the use of such method. Subsequently, in 2014 environmental regulators, and later technical regulators, in 2015, adopted the same guidelines prohibiting construction and operation under the upstream method, allowing only the use and construction under the centerline and downstream methods. A specialized governmental agency carries out periodically inspections of tailings dam and mining infrastructure, ensuring technical and environmental regulations are complied with. In addition, mining operations must submit biannual stability studies, to which they are held liable. We follow these guidelines, and all operative tailings dams use the downstream and centerline lift methods.

El Porvenir's tailings dam is currently supported by an authorization for operation up to an altitude of 4,062 meters above sea level ("masl"), which was granted by the Ministry of Energy and Mines on April 26, 2022, the previous authorization was for 4,060 masl. A new expansion authorization of the El Porvenir dam is underway, allowing an elevation up to 4,064 masl.

For more information, see "Risk factors—Operational risks—The failure of a tailings dam could negatively impact our business, reputation and results of operations, and the implementation of associated regulations and decommissioning processes may be expensive."

***Nexa's practices***

We monitor tailings and waste dams in accordance with international best practice guidelines for management and project design based on criteria set by the International Commission on Large Dams ("ICOLD") and the Canadian Dam Association ("CDA") dam safety guidelines. In 2022, all of our tailings dams in Brazil received Stability Condition Declarations ("DCEs"), certifying that these facilities are safe and stable. In Brazil, these certifications are carried out twice a year for mining and once for smelting dams. In Peru, they occur once a year. As of the date of this annual report, all tailings dams in Peru have undergone the certification process, and we concluded a technical report for these dams during the first half of 2022. In addition, all our dams and dry stacking structures are monitored under a system known as the Sistema de Gestão de Barragens ou Depósitos / Tailing Dam Management System ("SIGBAR/SIGDEP"), which consists of procedures, tools and key performance indicators, monthly reports and monitoring and analysis by an independent Geotechnical Engineer. The monitoring procedures include regular inspections, as well as internal and external audits.

In addition to the above-mentioned policies and procedures, our sustainability and capital projects committee assists and advises our board in supporting safe and sustainable business practices in our conduct and activities, as well as in reviewing technical, economic and social matters with respect to our projects.

In 2020, management reviewed the EAP for all mining dams in accordance with the new Brazilian regulations released midway through 2020 and we trained our internal team in these new procedures. New EAP guidelines, detailed by specific terms of reference, were published in April, May and June 2021. In 2022, all plans for the units in Brazil were reviewed and filed with their respective government's environmental agencies.

For more information about our sustainability committee and ESG initiatives, see Information on the Company—Environmental, Social and Governance (ESG) and corporate initiatives—Sustainability Committee and Reporting."

We use four disposal options for tailings. Our preferred option is to convert part or all of the tailings material into a commercially viable product. We use this method at our Morro Agudo mine, where most of the tailings that we produce are ZinCal, a limestone rich in zinc that is used as fertilizer. This option does not require disposal of tailings materials.

When the conversion method is not available, we prefer to use the backfill method for our underground mines. This technique involves removing moisture from tailings, creating a mixture with cement and filling open spaces in the mines with this combination. We believe this method reduces safety risks related to tailings disposal given that it provides greater geotechnical stability and does not involve the building of a dam or dry stacking structure.

If neither the conversion nor the backfill method is available, we prefer to use the dry stacking method, which involves removing moisture from tailings and stacking them in layers to form an artificial mountain covered with soil and vegetation, causing it to integrate into the local landscape. We use the dry stacking and backfill methods at our Cerro Lindo mine in Peru since the startup of our mine. In 2019, we started operating a dry stacking facility, which substituted the tailings dam in Vazante. With this new structure, over 80% of our tailings disposal is done either through backfill or dry staking, reducing our exposure to dams. We are currently developing the backfill and dry stacking methods at our Aripuanã greenfield project, which began the ramp-up in July 2022.

When neither of these three methods is possible, we use tailings dams. The dam acts as a solid barrier engineered to prevent the tailings material from escaping to the environment around the mine. We use this method in Peru at our El Porvenir and Atacocha mines and at our Cajamarquilla smelter, and in Brazil at our Vazante and Morro Agudo mines and Juiz de Fora and Três Marias smelters. We also use a combination of the backfill method and tailings dams at our El Porvenir and Atacocha mines in Peru. At the Aripuanã project, we have built a water dam to supply water to our plant. This dam is engineered with borrowed material and uses the technical control of compaction of the soil.

We raise our tailings dams using the following two methods: (i) the downstream method, where the building material is disposed downstream of the crest of the dam body; and (ii) the center-line method, where the building material is disposed partially downstream and partially upstream of the crest of the dam body, while maintaining the same centerline of the crest. Historically, we have also used the upstream method – where the building material is disposed upstream of the crest of the dam body – in certain instances.

In addition, we also use effluent dams, which are dams used to treat water that contains tailings particles or other solid particles. The effluent dams separate the tailings particles or other solid particles from the water by retaining the particles and releasing the clean water downstream. Finally, we use products dams for the provisional storage of ZinCal prior to its sale.

We currently have 49 disposal facilities (including tailings dams, dry stacking facilities, effluent dams and products dams), 24 of which are operational and 25 of which are non-operational tailings dams. 16 of the non-operational dams are in the process of being decommissioned, and we have plans to decommission the others. The following is an overview of the dams we have in place at our principal mining and smelting facilities:

***Peru***

- At Cerro Lindo, we have no tailings dams, and tailings are disposed of using a combination of the backfill method, two dry stacking structures and two effluent dams.
- At El Porvenir and Atacocha, tailings are disposed of using a combination of the backfill method and tailings dams; there are two tailings dams in active use and four non-operational tailings dams, which are in the process of being decommissioned.
- At Cajamarquilla, there are three tailings dams in active use and four non-operational tailings dams, which are in the process of being decommissioned.
- At the Chapi mine property, which is currently inactive, there are five non-operational tailings dams.
- At the Sinaycocha property, which is part of our Atacocha mine property, there are two non-operational tailings dams.

***Brazil***

- At Morro Agudo, most tailings are converted for sale, and the product is stored temporarily at two products dams until it is sold. A separate tailings dam is used to store tailings that are not convertible into product.
- At our Ambrósia mine, there is one effluent dam in active use. In 2020 the mine was closed, and it is in process of decommissioning.
- At Vazante, tailings are disposed of using a combination of tailings dams and dry stacking; there is one tailings dam and one effluent dam in active use.
- At Juiz de Fora, there is one tailings dam in active use, three effluent dams in active use and six non-operational tailings dams, five of which are in the process of being decommissioned.
- At Três Marias, there are three tailings dams in active use and three non-operational tailings dams, which are in the process of being decommissioned.

## SMELTING OPERATIONS

The table below provides an overview of our smelting facilities:

| Smelting Unit | Location | Smelting Process | Principal Refined Zinc Products | Plant Capacity | Metallic Zinc Production in 2022 | Zinc Oxide Production in 2022 | Other Products |
|---|---|---|---|---|---|---|---|
| | | | | (in tonnes of refined zinc per year) | (in tonnes of zinc metal available for sale, includes alloys) | (in tonnes of zinc oxide) | |
| Cajamarquilla | Peru | RLE | Metallic zinc (SHG, CGG jumbos and alloys) | 344,436 | 332,824 | 0 | Sulfuric acid, silver concentrate, copper cement and cadmium sticks |
| Três Marias | Brazil | RLE | Metallic zinc (SHG, CGG jumbos, alloys and Zamac) and zinc oxide | 192,199 | 189,915 | 40,322 | Cadmium briquettes |
| Juiz de Fora | Brazil | Waelz Furnace and RLE | Metallic zinc (SHG, alloys and Zamac) | 96,923 | 84,160 | 0 | Sulfuric acid, sulfur dioxide, silver concentrate, copper sulfate and zinc ash |
| **Total** | | | | **633,558** | **606,899** | **40,322** | |

(1) Including 27,244 tonnes of zinc ashes and drosses, as well as metallic zinc used in the production of zinc oxide, zinc granules and zinc powder.

(2) Including 3,710 tonnes of zinc ashes and drosses.

***Notes:***

RLE stands for Roast-Leach-Electrowinning.
Alloys are zinc-based products with the addition of up to 1.0% of a specified metal, which are primarily used in the galvanizing market.
Special alloys are zinc-based products with addition of specified metals, which are primarily used in galvanizing market.
Zamac is a zinc-based product with the addition of specified metals, which are primarily used in the die casting market.

### Smelter sales

We produce various kinds of refined zinc products. In 2022, we sold a total of 575.9 thousand tonnes of our metallic zinc line of products (including SHG, CGG jumbos, alloys, Galvalume and Zamac). In addition, we commercialized 40.3 thousand tonnes of zinc oxide at 80.0% standard zinc content in 2022, totaling 616.2 thousand tonnes of zinc metal products sold, including the resale of 9.3 thousand tonnes from third parties.

In March 2021, one of our calcine suppliers in Peru shut down its facility, reducing our calcine availability and, consequently, impacting our production and sales going forward. During 2022, we were able to mitigate part of this supply decrease by sourcing raw materials from other suppliers, in addition to sales of third-party products.

### Cajamarquilla

The Cajamarquilla smelter is located in the district of Lurigancho/Chosica in Lima, Peru, and is accessible by road.

The Cajamarquilla smelter is currently the largest zinc smelter in Latin America and the only zinc smelter in Latin America outside Mexico and Brazil, according to Wood Mackenzie. It uses the RLE process to produce metallic zinc. With an annual production capacity of 344.4 thousand tonnes of metallic zinc, the Cajamarquilla smelter produced 332.8 thousand tonnes of zinc metal available for sale in 2022. In recent years, Cajamarquilla developed operational efficiencies, including debottlenecking projects, which increased the production of calcine from concentrates obtained from Nexa Peru, and the use of calcine and waelz oxide processed by third parties. See "Risk factors—Operational risks—Inadequate supply of zinc secondary feed materials and zinc calcine could affect the results of our smelters."

The Cajamarquilla smelter produces zinc primarily from zinc concentrates and, to a lesser extent, recycled zinc secondary feeds (also referred to as pre-treated concentrate). In 2022, the Cajamarquilla smelter consumed approximately 343.7 thousand tonnes of zinc contained in concentrates. In 2022, 30.3% of the zinc contained in concentrates used by the Cajamarquilla smelter was sourced from our mines in Peru and 69.7% was purchased from third parties.

In 2022, the Cajamarquilla smelter sold approximately 340.4 thousand tonnes of metallic zinc, of which 38.3% of the volume was sold to Latin America (including Mexico), 17.0% to Europe, 13.2% to the United States, 8.0% to international traders, 20.6% to Asia and 2.7% to Africa. The Cajamarquilla smelter also produces sulfuric acid, silver concentrate, copper cement, manganese dioxide, oxides (ashes) and cadmium sticks. These products are sold primarily to international traders and local customers.

The following table presents the historical concentrates processed and zinc recovery rate in Cajamarquilla for the periods indicated.

| | For the Year Ended December 31, | | |
|---|---|---|---|
| | 2022 | 2021 | 2020 |
| **Input (in tonnes)** | | | |
| Zinc Contained in Concentrate from Our Mines | 104,150 | 130,614 | 119,843 |
| Zinc Contained in Concentrate from Third Parties | 239,587 | 213,703 | 202,687 |
| Secondary Raw Material | 17,081 | 9,583 | 1,966 |
| **Total Inputs** | **360,819** | **353,899** | **324,495** |
| Zinc Recovery (%) | 94.7 | 94.3 | 93.7 |

**Brownfield project**

***Conversion to Jarosite process***

In 2017, we announced our intention to convert our Cajamarquilla smelter to the Jarosite process, which would allow for the recovery of a greater percentage of zinc. The project was estimated to improve the zinc recovery rate by 3.0% at the Cajamarquilla smelter. We initiated the construction phase in 2018 and during 2019 civil works and procurement activities continued to progress. In December 2019, the implementation of the conversion process was suspended due to problems with contractors and suppliers and the project remained on hold following our capital allocation strategy. In 2023, we expect to review and update the engineering studies of the project, for consideration by our capital projects committee.

**Três Marias**

The Três Marias smelter is located in the municipality of Três Marias in the state of Minas Gerais, Brazil, 250 km from the Morro Agudo mine and 253 km from the Vazante mine and is accessible by road.

The Três Marias smelter was built to treat the zinc silicate concentrates from the Vazante mine (willemite and calamine) and sulfide concentrates from the Morro Agudo mine, from Nexa Peru and from third-party concentrates. Currently, this smelter is integrated with the operations of the Vazante and Morro Agudo mines, and it uses the RLE process to produce metallic zinc and zinc oxide. The annual production capacity of our Três Marias smelter is 192.2 thousand tonnes of refined metal per year. Production in 2022 totaled 189.9 thousand tonnes of zinc metal available for sale.

The Três Marias smelter produces zinc primarily from zinc contained in concentrates and, to a lesser extent, recycled zinc secondary feeds. In 2022, this smelter consumed approximately 184.3 thousand tonnes of zinc contained in concentrates and 3.3 thousand tonnes of secondary raw material.

In 2022, Três Marias sold approximately 151.8 thousand tonnes of metallic zinc and 40.3 thousand tonnes of zinc oxide, of which 74.7% of the volume was sold to Latin America (including Mexico), 4.2% to international traders, 14.0% to Africa, 3.5% to Asia, 3.5% to Europe and 0.1% to the United States. The Três Marias smelter also produces copper/cobalt cement, Oxides (ashes) and cadmium briquettes. These products are sold to local customers.

The Três Marias smelter contains a zinc oxide production plant intended for the chemical, pneumatic, ceramic, animal feed and fertilizer industries. In 2022, the production of zinc oxide was approximately 40.3 thousand tonnes. In zinc content, approximately 61.9% of the raw material was electrolytic zinc that originated from the melting stage. In addition, we purchased 38.1% of raw material from third parties, in the form of dross and skims, to produce zinc oxide as well as the generation of by-products.

In 2021, the request for environmental licensing for a new expansion of the Três Marias tailings dam was submitted to the environmental agency of the state of Minas Gerais. The licensing process is still being evaluated by the environmental agency of the state of Minas Gerais. Due to changes in legislation, licensing processes are increasingly difficult in the state. As of the date of this filing, the government has not yet made a final assessment for the Preliminary License requested by the Três Marias unit. For more information, see "Mining Operations—Tailings Disposals—Regulatory framework." See also "Risk factors—Operational risks—The failure of a tailings dam could negatively impact our business, reputation and results of operations, and the implementation of associated regulations and decommissioning processes may be expensive."

The following table presents the historical concentrates processed and zinc recovery rate in Três Marias for the periods indicated.

| | For the Year Ended December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| **Inputs (in tonnes) (1)** | | | |
| Zinc Contained in Concentrate from Our Mines | 146,006 | 161,070 | 176,893 |
| Zinc Contained in Concentrate from Third Parties | 38,319 | 30,148 | 26,403 |
| Secondary Raw Material | 3,320 | 3,231 | 1,374 |
| **Total Inputs** | **187,645** | **194,449** | **204,669** |
| Zinc Recovery (%) | 91.6 | 94.7 | 94.8 |

(1) Impacted by higher secondary raw material consumption and concentrates with contaminants (mainly iron and arsenic).

**Juiz de Fora**

The Juiz de Fora smelter is located in the municipality of Juiz de Fora in the state of Minas Gerais, Brazil, and is accessible by road.

The Juiz de Fora smelter produces zinc from sulfide concentrates and secondary sources such as EAF dust, batteries, and brass oxide, and uses the RLE process to produce metallic zinc. The annual production capacity of our Juiz de Fora smelter is 96.9 thousand tonnes of metallic zinc per year. In 2022, Juiz de Fora produced 84.2 thousand tonnes of zinc metal available for sale. In recent years, Juiz de Fora used calcine processed by third parties in its production process.

The Juiz de Fora smelter produces zinc from zinc concentrates and recycled zinc secondary feeds. In 2022, this smelter consumed 71.3 thousand tonnes of zinc contained in concentrates and 17.6 thousand tonnes of zinc from secondary raw material and secondary sources. This smelter also produces sulfuric acid, sulfur dioxide, silver concentrate and copper sulfate.

In 2022, the Juiz de Fora smelter sold approximately 83.7 thousand tonnes of metallic zinc, of which 98.1% of the volume was sold to Latin America (including Mexico) and 1.9% to international traders outside of Latin America.

The smelter operated at 60% of its normal production capacity in May and June 2020, in anticipation of a lower market demand due to the global economic conditions due to the COVID-19 pandemic, to normal production level during the second half of 2020. In 2021 and 2022, although we had planned and unplanned maintenances, the Juiz de Fora Smelter operated at high-capacity utilization rates.

The following table presents the historical concentrates processed and zinc recovery rate in Juiz de Fora for the periods indicated.

| | For the Year Ended December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| **Inputs (in tonnes)** | | | |
| Zinc Contained in Concentrate from Our Mines | 27,874 | 27,873 | 22,291 |
| Zinc Contained in Concentrate from Third Parties | 43,419 | 40,704 | 47,500 |
| Secondary Raw Material | 17,554 | 16,356 | 14,925 |
| **Total Inputs** | **88,847** | **84,933** | **84,716** |
| Zinc Recovery (%) | 93.1 | 93.6 | 92.8 |

## OTHER OPERATIONS

### Transportation and shipping

#### *Concentrates in our mines*

Our Cerro Lindo operation transports 100.0% of its concentrates by road. The concentrates are trucked in a dedicated fleet through the Panamericana Sur road to the port of Callao, or to the Cajamarquilla smelter. This transportation is covered by long-term contracts entered with two trucking companies.

Our Atacocha and El Porvenir operations use both road and rail transportation. The concentrates are trucked through the Carretera Central Road to the port of Callao, or to the Cajamarquilla smelter. We also use railway transportation to secure logistic availability and maintain high environmental standards. Our use of railway transportation is covered by a long-term contract.

The zinc concentrate produced in the Cerro Lindo, Atacocha and El Porvenir mines supply both our Peruvian and Brazilian smelters, as well as third-party customers, while the lead and copper concentrates produced by these mines are transported to third-party customers from the port of Callao. Our smelters use zinc concentrate supplied from our mines and from third-party suppliers to meet the blending needs of each smelter.

The Peruvian zinc concentrate supplied to the Brazilian smelters is loaded in bulk and sent to the Port of Rio de Janeiro, where it is cleared through customs and then loaded into railcars to the Juiz de Fora smelter or into trucks and railcars to the Três Marias smelter. The ocean freight for this Peruvian zinc is covered by a long-term freight contract.

All the zinc concentrates produced at our Vazante and Morro Agudo mines are transported by road to the Três Marias smelter using two trucking companies. These mines also produce lead and lead/silver concentrates, which are loaded into containers at the mine and are transported using trucks and trains to the Sepetiba Tecon Terminal in Itaguaí, Rio de Janeiro, Brazil. The lead and lead/silver concentrates are then exported in accordance with our annual contracts with container shipping lines.

All the zinc concentrates produced at our Aripuanã mine are transported by road to the Três Marias and Juiz de Fora smelters. The mine also produces lead and copper concentrates, which are loaded into containers at the mine and are transported using trucks and trains to the Terminal in Santos, São Paulo, Brazil. A small portion of zinc, and all lead and copper concentrates are then shipped to foreign customers.

#### *Smelters*

The metallic zinc produced in the Cajamarquilla smelter is transported by train or truck to the terminals. The material intended for the Peruvian domestic market is distributed by truck from these terminals, while exports to foreign markets are loaded into containers and transported by truck from these terminals to the port of Callao.

The metallic zinc produced in the Juiz de Fora and Três Marias smelters is transported by truck for either local customers or exports. In the case of exports, the material is transported to terminals near the ports of Rio de Janeiro or Itaguaí, both in the state of Rio de Janeiro, or the port of Santos, in the state of São Paulo. The material is then loaded into containers at the terminal and transported to the ports by truck, where it is shipped to customers abroad.

The metallic zinc and zinc oxide production process in our smelters also produces by-products. The most relevant by-products are sulfuric acid and silver concentrate. Sulfuric acid produced in the Cajamarquilla smelter is loaded into dedicated FCCA tank railcars and transported to be stored. The sulfuric acid is then loaded in bulk into chemical ship-tanks destined to our customers and discharged at the Chilean ports of Mejillones and Barquito. The silver concentrate produced in the Cajamarquilla and Juiz de Fora smelters is loaded into containers and are dispatched to the port of Callao in Peru or to the port of Itaguaí.

We ship all our refined zinc and silver concentrate exports in containers. Transportation of this material is covered by annual agreements with the liner shipping providers, which are responsible for 85.0% of these shipments.

**Sales and marketing**

We sell most of our products through supply contracts with terms between one and four years. Only a small portion of our products is sold on the spot market. The agreements with our customers include customary international commercial terms, such as CIF, FOB and other delivery terms based on Incoterms 2010/2020. Our ability to deliver significant volumes across several regions worldwide makes us a significant supplier to a client base of end users and global traders. As a result, we can obtain competitive commercial terms for our products in the long term. In 2022, our top 10 metallic zinc customers represented approximately 50.5% of the total sales volume for such products, with our top 10 zinc oxide customers representing 63.0% of the total sales volume for that product, and our top five concentrate customers represented approximately 88.1% of the total sales volume for such products, in each case excluding intercompany sales.

***Concentrates***

In 2022, 99.8% of our total production volume of zinc concentrates went to our smelting operations in Peru and Brazil. In 2022, we did not sell Zinc concentrates produced from our Peruvian operations to third-party customers. Sales prices are established mainly by reference to prices quoted on the LME less a discount based on either the treatment charge or smelter charge. The LME price quotes are based on prevailing LME average prices for the period set forth in our sale agreements, and generally refer to either the month following the shipment or the period near the execution date of the relevant agreement.

We also purchase zinc contained in concentrate from third-party suppliers to meet our raw material requirements. In 2022, 43.6% of the total zinc raw material consumption in our smelters was produced by our mines and 56.4% was purchased from third parties or obtained from secondary raw materials.

*Refined Metals*

Our metallic zinc and zinc oxide are sold worldwide through our commercial offices located in:

- São Paulo, Brazil;
- Lima, Peru;
- Houston, United States; and
- Luxembourg, Grand Duchy of Luxembourg.

We hold a leadership position in our home market, Latin America (excluding Mexico), with an estimated market share of 89.3% in 2022, according to our sales volume, import databases and demand forecasts sourced from specialized consultancy groups and customs websites. In other regions, we hold a strategic position, with estimated market share of 30.6% in Africa, 3.4% in North America, 2.9% in Europe and 0.8% in Asia, according to our sales volumes, import databases and demand forecasts sourced from specialized consultancy groups and customs websites.

In 2022, 81.4% of our total sales of refined metals were to customers in the continuous galvanizing, general galvanizing, die casting, transformers and alloy segments and 18.6% of our total sales were to international traders. Our products are sold to end users in the transport, construction, infrastructure, consumer goods and industrial machinery industries. Of our volume of metallic zinc and zinc oxide sales in 2022, 57.8% were to Latin America (including Mexico), 10.5% to Europe, 7.3% to the United States, 5.9% to Africa and 12.5% to Asia, with the remaining 6.0% to international traders. Sales prices are mainly established by reference to prices quoted on the LME plus a negotiable premium. Pricing is based on prevailing LME average prices for a period set forth in our sale agreements, which generally refer to the month or month prior to shipment.

***By-products***

We sell a wide variety of chemical and metallurgic by-products generated during the production processes in our smelters and mines to a broad customer base. Our sales include more than 25 different by-products, most of which are sold based on the characteristics of each market or region.

**Power and energy supply**

***Peru***

With respect to our Peruvian operating units, we obtained 97.5% (1,878.7 GWh) of the electricity for our operations from the SEIN and 2.5% (47.5 GWh) from our own hydroelectric power plants and the Cajamarquilla cogeneration power plant. We own three hydroelectric power plants, two at Atacocha and one at El Porvenir, with a total installed gross rated capacity of 9,726 kilowatts, or kW. We also received our energy from third parties through electricity supply contracts. Our Cerro Lindo, El Porvenir and Atacocha units have electricity supply contracts with Electroperú S.A., which cover 100% (278.1 GWh), 100% (126.3 GWh) and 57.8% (36.1 GWh) of their electricity requirements, respectively. In July 2019, we signed a new long-term energy agreement with Electroperú S.A, a well-known Peruvian state-owned company, which started supplying energy our operations in Peru in January 2020, totaling a supply of 1,826.0 GWh in 2022. Electroperú was the sole supplier for our operations in Peru following the expiration of an electricity spot supply contract between the Cajamarquilla unit and Engie Energía Perú S.A. (formerly Enersur S.A.) in July 2020. In June 2021, however, another spot contract was signed with Kallpa Generación S.A. for the supply of electricity to the Cajamarquilla unit. The contract, which expired on December 31, 2021, was automatically renewed for another six months, supplying a total of 19.4 GWh in 2021. In 2022, it supplied a total of 52.6 GWh of energy.

The following table sets forth the energy sources and electricity consumption with respect to our Peruvian operating units in 2022.

| Operating Unit | Energy Source | Total Energy Consumed in 2022 (GWh) | Percentage of Total Energy Usage in 2022 |
|---|---|---|---|
| ***Third Party*** | | | |
| Cerro Lindo | Third Party (Electroperú S.A.) | 278.1 | 14.4% |
| El Porvenir | Third Party (Electroperú S.A.) | 126.3 | 6.6% |
| Atacocha | Third Party (Electroperú S.A.) | 36.1 | 1.9% |
| Cajamarquilla | Third Party (Kallpa Generación S.A.) | 52.6 | 2.7% |
| Cajamarquilla | Third Party (Electroperú S.A.) | 1,385.6 | 71.8% |
| **Total Energy Usage** | | **1,878.7** | **97.5%** |
| ***Own Power Plant*** | | | |
| El Porvenir | Own Power Plant (Candelaria) | 0 | 0% |
| Atacocha | Own Power Plant (Chaprin and Marcopampa) | 26.4 | 1.4% |
| Cogeneration CJM | Two steam turbines with HRSG from tostación | 21.1 | 1.1% |
| **Total Energy Usage** | | **1,926.2** | **100.0%** |

***Hydroelectric plants***

*Candelaria*

The El Porvenir unit has one hydroelectric plant, the Candelaria Hydroelectric Power Plant, which is located along the Llocla River. The plant contains three separate hydroelectric turbines, two of which have been operational since 1957 and the third since 1998, and which together have an installed rated capacity of 4.8 MW.

*Chaprin and Marcopampa*

The Atacocha unit has two hydroelectric plants. The Chaprin Hydroelectric Power Plant is located along the Lagia Ravine near the Huallaga River. The plant has been operating since 1953 and its installed rated capacity is 5.9 MW. The Marcopampa Hydroelectric Power Plant has been operating since 1937, and was overhauled in 1984, increasing its installed rated capacity of 1.2 MW. Since the beginning of 2020, Marcopampa has been shut off indefinitely. During 2022, Atacocha consumed 26.4 GWh from these plants, which represented approximately 57.8% of the energy usage of the mine.

***Brazil***

With respect to our Brazilian operations, as of December 31, 2022, energy supply comes from various contracts, and our subsidiary Pollarix S.A ("Pollarix").

On November 17, 2022, Nexa, through Pollarix, acquired 1.46% of Enercan's additional shares for US$4 million by exercising its proportional preemptive rights given the withdrawal of one of Enercan's previous shareholders. Before this date, Nexa and the other shareholders had joint control of Enercan. However, because of this withdrawal, Enercan remaining shareholders exercised their option to obtain these additional shares, which led one of them (not a Nexa-related party) to acquire control over Enercan, causing Nexa and the other shareholders to lose their joint control. Since this date, Nexa stopped recognizing Enercan's proportion of jointly held assets, liabilities, revenues and expenses and began to recognize it as an associate, through the equity method, as it still holds significant influence over this entity.

The five hydroelectric plants in which our subsidiary Pollarix has directly or indirectly the following interests: a 22.4% equity participation in Enercan (Campos Novos hydroelectric power plant), a 100.0% ownership of the hydroelectric power plant Picada located in Minas Gerais, a 12.6% equity participation in the Amador Aguiar I, a 12.6% equity participation in the Amador Aguiar II and a 23.9% equity participation in the Igarapava. These plants have hydroelectric power facilities in the states of Minas Gerais, Santa Catarina and São Paulo. All hydroelectric power plants of Pollarix provide electricity to the four operating units (Vazante, Morro Agudo, Três Marias and Juiz de Fora).

The only activity of Pollarix is to own our energy assets and sell energy to our Brazilian operating subsidiaries at market prices. We own all the common shares of Pollarix, which represents 33.33% of its total share capital. The remaining shares are preferred shares with limited voting rights, which are owned by our shareholder VSA and/or its affiliates. Under the terms of the preferred shares, VSA is entitled to dividends per share equal to 1.25 times the dividends per share payable on the common shares. See "Operating and financial review and prospects—Overview—Key factors affecting our business and results of operations—Operating costs and expenses—Energy costs."

We have a contract with Auren, which provides energy from various sites, with a total of supply of 5.0 MWavg of energy in 2022. During 2022, it provided electricity only to the Aripuanã mine.

In January 2020, we began a new long-term energy supply agreement with Furnas, a Brazilian energy company, controlled by Eletrobras, to help address the increased electricity demand in our operations. Nexa Brazil currently consumes nearly all the energy supplied by Pollarix and Votorantim Energia in its existing operations. Furnas provides electricity to the four operating units (Vazante, Morro Agudo, Três Marias and Juiz de Fora), with 13.8 MWavg per year of energy, which represented 7.2% of our total energy purchased. The agreement is valid for 15 years.

The following table sets forth our energy sources and consumption with respect to our Brazilian operations in 2022.

| Operating Unit | Energy Source | Total Energy Consumed in 2022 (GWh) | Percentage of Total Energy Usage in 2022 |
|---|---|---|---|
| ***Third Party and Own Power Plants*** | Pollarix S.A,Furnas S.A., Auren and Market | | |
| Morro Agudo | | 75.4 | 4.8% |
| Vazante | | 315.2 | 19.8% |
| Três Marias | | 722.6 | 45.9% |
| Juiz de Fora | | 412.5 | 26.2% |
| Aripuanã | | 56.5 | 3.3% |
| **Total Energy Usage** | | **1,703.1** | **100%** |

***Hydroelectric plants***

*Campos Novos*

Campos Novos is a hydroelectric plant located along the Canoas River. The plant has an installed capacity of 880 MW and has been authorized by the Brazilian Electricity Regulatory Agency (*Agência Nacional de Energia Elétrica* or ANEEL), to produce 379.7 MWavg. In 2022, the plant's physical guarantee for ballast purposes was 3,901.2 GWh, 17.3% of this total was acquired to our operating plants. During 2022, our Morro Agudo, Vazante, Três Marias and Juiz de Fora units acquired 674.4 GWh from Campos Novos, which represented approximately 39.6% of our total energy purchased.

*Picada*

Picada is a hydroelectric plant located along the Peixe River. The plant has an installed capacity of 50 MW and has been authorized by ANEEL to produce 30.8 MWavg. During 2022, our Morro Agudo, Vazante, Três Marias and Juiz de Fora units acquired 264.4 GWh, which represented 15.5% of our total energy purchased.

*Igarapava*

Igarapava is a hydroelectric plant located along the Grande River. The plant has an installed capacity of 210 MW and has been authorized by ANEEL to produce 32.1 MWavg. During 2022, our Morro Agudo, Vazante, Três Marias and Juiz de Fora units acquired 276.1 GWh from Igarapava, which represented approximately 16.2% of our total energy purchased.

*Amador Aguiar I*

Amador Aguiar is a hydroelectric plant located along the Araguari River. The plant has an installed capacity of 240 MW and has been authorized by ANEEL to produce 19.5 MWavg. During 2022, our Morro Agudo, Vazante, Três Marias and Juiz de Fora units acquired 155.5 GWh from Amador Aguiar I, which represented 9.1% of our total energy purchased.

*Amador Aguiar II*

Amador Aguiar is a hydroelectric plant located along the Araguari River. The plant has an installed capacity of 210 MW and has been authorized by ANEEL to produce 16.65 MWavg. During 2022, our Morro Agudo, Vazante, Três Marias and Juiz de Fora units acquired 155.5 GWh from Amador Aguiar II, which represented 9.1% of our total energy purchased.

## MINERAL RESERVES AND RESOURCES

**Disclosure of Mineral Reserves and Resources**

The Securities and Exchange Commission (“SEC”) amendments to its disclosure rules modernizing the mineral property disclosure requirements for mining registrants became effective on January 1, 2021. The amendments include the adoption of S-K 1300, which governs disclosure for mining registrants (the “SEC Mining Modernization Rules”). The SEC Mining Modernization Rules replaced the historical property disclosure requirements for mining registrants that were included in the SEC’s Industry Guide 7 and better align disclosure with international industry and regulatory practices, including the Canadian National Instrument 43-101—*Standards of Disclosure for Mineral Project*s (“NI 43-101”). We began voluntarily complying with the SEC Mining Modernization Rules in our 2020 annual report.

For the meanings of certain technical terms used in this prospectus, see “Additional Information—Glossary.”

As a reporting issuer in Canada, we are also subject to NI 43-101, which is an instrument administered by the provincial and territorial securities regulatory authorities that governs how issuers in Canada disclose scientific and technical information about their mineral projects to the public. NI 43-101 imposes certain requirements in respect of such disclosure, including the requirement to have prescribed information prepared by, or under the supervision of, a qualified person and the filing of NI 43-101 technical reports in the prescribed circumstances. Any reference to a NI 43-101 report is for informational purposes only, and such reports are not incorporated herein by reference.

Descriptions in this report of our mineral deposits prepared in accordance with S-K 1300, as well as similar information provided by other issuers in accordance with S-K 1300, may not be comparable to similar information prepared in accordance with NI 43-101 that is presented elsewhere outside of this report.

The qualified persons that have reviewed and approved the scientific and technical information contained in this annual report are identified in the footnotes to the tables summarizing the Mineral Reserves and Resources estimates below, see “Information on the Company—Mining operations” below. For the meanings of certain technical terms used in this report, see “Additional information—Glossary.”

**Presentation of information concerning Mineral Reserves**

The estimates of proven and probable reserves at our mines and projects and the estimates of life of mine included in this annual report have been prepared by the qualified persons referred to herein, and in accordance with the technical definitions established by the SEC. Under S-K 1300:

- Proven Mineral Reserves are the economically mineable part of a Measured mineral resource and can only result from conversion of a measured mineral resource.
- Probable Mineral Reserves are the economically mineable part of an indicated and, in some cases, a measured mineral resource.
- Indicated Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated based on adequate geological evidence and sampling. The level of geological certainty associated with an Indicated Mineral Resource is sufficient to allow a qualified person to apply modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Because an Indicated Mineral Resource has a lower level of confidence than the level of confidence of a measured mineral resource, an indicated mineral resource may only be converted to a probable mineral reserve.

- Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated based on limited geological evidence and sampling. The level of geological uncertainty associated with an Inferred Mineral Resource is too high to apply relevant technical and economic factors likely to influence the prospects of economic extraction in a manner useful for evaluation of economic viability. Because an Inferred Mineral Resource has the lowest level of geological confidence of all mineral resources, which prevents the application of the modifying factors in a manner useful for evaluation of economic viability, an Inferred Mineral Resource may not be considered when assessing the economic viability of a mining project and may not be converted to a mineral reserve.

- Measured Mineral Resource is that part of a mineral resource for which quantity and grade or quality are estimated based on conclusive geological evidence and sampling. The level of geological certainty associated with a Measured Mineral Resource is sufficient to allow a qualified person to apply modifying factors, as defined in S-K 1300, in sufficient detail to support detailed mine planning and final evaluation of the economic viability of the deposit. Because a Measured Mineral Resource has a higher level of confidence than the level of confidence of either an Indicated Mineral Resource or an Inferred Mineral Resource, a Measured Mineral Resource may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

We periodically update our reserves and resources estimates when we have new geological data, economic assumptions or mining plans. During 2022, we performed an analysis of our reserves and resources estimates for certain operations, which is reflected in new estimates as of December 31, 2022. Reserves and resources estimates for each operation assume that we either have or expect to obtain all the necessary rights and permits to mine, extract and process mineral reserves or resources at each mine. Where we own less than 100% of the operation, reserves and resources estimates have been adjusted to reflect our ownership interest. Certain figures in the tables, discussions and notes have been rounded. For a description of risks relating to our estimates of Mineral Reserves and Resources, see “Risk factors—Risks related to our Mineral Reserves and Resources.”

**Mineral Reserves**

The following table shows our estimates of Attributable Mineral Reserves for our material mining properties as of December 31, 2022, prepared in accordance with Subpart 1300 of Regulation S-K. The Morro Agudo mine, Atacocha underground mine and Atacocha open pit mine do not have known Mineral Reserves under Subpart 1300 of Regulation S-K.

| | | | | Grade | | | | | Contained Metal | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Ownership Interest (%)** | **Class** | **Total Attributable[1]** | **Zinc** | **Copper** | **Silver** | **Lead** | **Gold** | **Zinc** | **Copper** | **Silver** | **Lead** | **Gold** |
| | | | **(Mt)** | **(%)** | **(%)** | **(g/t)** | **(%)** | **(g/t)** | **(kt)** | **(kt)** | **(koz)** | **(kt)** | **(koz)** |
| **Cerro Lindo (3)** | 83.48 | Proven | 22.04 | 1.75 | 0.64 | 21.0 | 0.21 | - | 385.9 | 141.8 | 14,896 | 46.8 | - |
| | | Probable | 12.55 | 1.26 | 0.50 | 25.1 | 0.23 | - | 157.5 | 62.4 | 10,138 | 29.2 | - |
| | | **Subtotal** | **34.59** | **1.57** | **0.59** | **22.5** | **0.22** | **-** | **543.4** | **204.2** | **25,034** | **76.0** | **-** |
| **El Porvenir (4)** | 83.48 | Proven | 2.12 | 3.70 | 0.21 | 67.7 | 1.12 | - | 78.4 | 4.5 | 4,618 | 23.6 | - |
| | | Probable | 10.82 | 3.58 | 0.19 | 65.7 | 1.06 | - | 387.9 | 20.9 | 22,843 | 114.6 | - |
| | | **Subtotal** | **12.94** | **3.60** | **0.19** | **66.0** | **1.07** | **-** | **466.3** | **25.4** | **27,461** | **138.2** | **-** |
| **Vazante (5)** | 100 | Proven | 6.82 | 9.98 | - | 18.0 | 0.30 | - | 680.6 | - | 3,949 | 20.5 | - |
| | | Probable | 6.68 | 9.30 | - | 12.4 | 0.23 | - | 621.2 | - | 2,670 | 15.4 | - |
| | | **Subtotal** | **13.50** | **9.64** | **-** | **15.2** | **0.27** | **-** | **1,301.8** | **-** | **6,619** | **35.9** | **-** |
| **Aripuanã (6)** | 100 | Proven | 8.41 | 3.25 | 0.29 | 29.1 | 1.18 | 0.24 | 273.4 | 24.0 | 7,863 | 99.1 | 64.0 |
| | | Probable | 21.71 | 3.48 | 0.12 | 33.2 | 1.28 | 0.22 | 755.9 | 26.4 | 23,163 | 278.6 | 156.0 |
| | | **Subtotal** | **30.12** | **3.42** | **0.17** | **32.1** | **1.25** | **0.23** | **1,029.3** | **50.4** | **31,026** | **377.7** | **220.0** |
| **Total** | | **Proven** | 39.39 | 3.60 | 0.43 | 24.7 | 0.48 | 0.05 | 1,418.3 | 170.3 | 31,326 | 190.0 | 64.0 |
| | | **Probable** | 51.76 | 3.71 | 0.21 | 35.3 | 0.77 | 0.10 | 1,922.5 | 109.6 | 58,814 | 437.8 | 156.0 |
| | | **Total** | **91.15** | **3.67** | **0.31** | **30.8** | **0.69** | **0.08** | **3,340.8** | **280.0** | **90,140** | **627.8** | **220.0** |

**Notes:**

* Numbers may not add due to rounding.

* The point of reference for Mineral Reserves in this table is mill feed materials.

The following table shows our estimates of Mineral Reserves (100% ownership basis) for our material mining properties as of December 31, 2022 prepared in accordance with Subpart 1300 of Regulation S-K. The Morro Agudo mine, Atacocha underground mine and Atacocha open pit mine do not have known Mineral Reserves under Subpart 1300 of Regulation S-K.

| | | | | Grade | | | | | Contained Metal | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Ownership Interest** | **Class** | **Total[2]** | **Zinc** | **Copper** | **Silver** | **Lead** | **Gold** | **Zinc** | **Copper** | **Silver** | **Lead** | **Gold** |
| | **(%)** | | **(Mt)** | **(%)** | **(%)** | **(g/t)** | **(%)** | **(g/t)** | **(kt)** | **(kt)** | **(koz)** | **(kt)** | **(koz)** |
| **Cerro Lindo[3]** | 83.48 | Proven | 26.40 | 1.75 | 0.64 | 21.0 | 0.21 | - | 462.2 | 169.9 | 17,843 | 56.0 | - |
| | | Probable | 15.03 | 1.26 | 0.50 | 25.1 | 0.23 | - | 188.7 | 74.7 | 12,144 | 35.0 | - |
| | | **Subtotal** | **41.43** | **1.57** | **0.59** | **22.5** | **0.22** | **-** | **650.9** | **244.6** | **29,987** | **91.0** | **-** |
| **El Porvenir[4]** | 83.48 | Proven | 2.54 | 3.70 | 0.21 | 67.7 | 1.12 | - | 94.0 | 5.4 | 5,532 | 28.3 | - |
| | | Probable | 12.96 | 3.58 | 0.19 | 65.7 | 1.06 | - | 464.6 | 25.0 | 27,362 | 137.3 | - |
| | | **Subtotal** | **15.50** | **3.60** | **0.19** | **66.0** | **1.07** | **-** | **558.6** | **30.4** | **32,894** | **165.6** | **-** |
| **Vazante[5]** | 100 | Proven | 6.82 | 9.98 | - | 18.0 | 0.30 | - | 680.6 | - | 3,949 | 20.5 | - |
| | | Probable | 6.68 | 9.30 | - | 12.4 | 0.23 | - | 621.2 | - | 2,670 | 15.4 | - |
| | | **Subtotal** | **13.50** | **9.64** | **-** | **15.2** | **0.27** | **-** | **1,301.8** | **-** | **6,619** | **35.9** | **-** |
| **Aripuanã[6]** | 100 | Proven | 8.41 | 3.25 | 0.29 | 29.1 | 1.18 | 0.24 | 273.4 | 24.0 | 7,863 | 99.1 | 64.0 |
| | | Probable | 21.71 | 3.48 | 0.12 | 33.2 | 1.28 | 0.22 | 755.9 | 26.4 | 23,163 | 278.6 | 156.0 |
| | | **Subtotal** | **30.12** | **3.42** | **0.17** | **32.1** | **1.25** | **0.23** | **1,029.3** | **50.4** | **31,026** | **377.7** | **220.0** |
| **Total** | | **Proven** | 44.17 | 3.42 | 0.45 | 24.8 | 0.46 | 0.05 | 1,510.2 | 199.3 | 35,187 | 203.9 | 64.0 |
| | | **Probable** | 56.38 | 3.60 | 0.22 | 36.0 | 0.83 | 0.09 | 2,030.4 | 126.1 | 65,339 | 466.3 | 156.0 |
| | | **Total** | **100.55** | **3.52** | **0.32** | **31.1** | **0.67** | **0.07** | **3,540.6** | **325.4** | **100,526** | **670.2** | **220.0** |

**Notes:**

* Numbers may not add due to rounding.

* The point of reference for Mineral Reserves in this table is mill feed materials.

(1) The total tonnage and content amounts presented in this table represent Nexa's attributable ownership basis.

(2) The total amounts and content presented in this table have not been adjusted to reflect our ownership interest. The information presented in this table includes 100% of the Mineral Reserve estimates for the property. Please refer to our ownership percentage for the amounts attributable to our ownership interest in the property.

(3) The qualified person for the Mineral Reserves estimate is SLR Consulting (Canada) Ltd., an independent mining consulting firm. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions. Mineral Reserves are estimated at a NSR break-even cut-off value of US$48.11/t processed. Some incremental material with values between US$38.05/t and US$48.11/t was included. Mineral Reserves are estimated using average long-term metal prices of Zn: US$2,826.35/t (US$1.28/lb), Pb: US$2,043.95/t (US$0.93/lb); Cu: US$7,398.47/t (US$3.36/lb); Au: US$1,474.88/oz; and Ag: US$19.93/oz. Metallurgical recoveries are accounted for in the NSR calculations based on metallurgical test work and are variable as a function of head grade. Recoveries at the LOM average head grades for stratabound material are 89.42% for Zn, 81.06% for Pb, 60.00% for Cu, 75.10% for Ag, and 67.8% for Au. Recoveries at the LOM average head grades for stringer material are 88.68% for Cu, 50.00% for Ag, and 63.00% for Au. A minimum mining width of 4.0 m was applied.

(4) The qualified person for the Mineral Reserves estimate is Vitor Marcos Teixeira de Aguilar, B.Eng., FAusIMM, a Nexa Resources employee. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions. Mineral Reserves are estimated at NSR cut-off grade values ranging from US$57.99/t to US$62.37/t depending on the zone and mining method. Mineral Reserves are estimated using average long-term metal prices of Zn: US$2,826.35/t (US$1.28/lb); Pb: US$2,043.95/t (US$0.93/lb); Cu: US$7,398.47/t (US$3.36/lb); and Ag: US$19.93/oz. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average head grades are 88.85% for Zn, 79.73% for Pb, 11.81% for Cu, and 63.00% for Ag. Minimum mining width of 5.0 m was applied. Average Bulk density of 2.94 t/m$^3$.

(5) The qualified person for the Mineral Reserves estimate is Vitor Marcos Teixeira de Aguilar, B.Eng., FAusIMM, a Nexa Resources employee. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions. Mineral Reserves are estimated at a NSR cut-off value of US$ 60.61/t processed. Mineral Reserves are estimated using average metal prices of Zn: US$2,826.35/t (US$1.28/lb); Pb: US$2,043.95/t (US$0.93/lb); and Ag: US$19.93/oz. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average head grades are 87.20% for Zn, 40.74% for Pb, and 42% for Ag. A minimum mining width of 4.0 m was applied. Average Bulk density of 2.8 t/m$^3$.

(6) The qualified person for the Mineral Reserves estimate is SLR Consulting (Canada) Ltd., an independent mining consulting firm. Subpart 1300 of Regulation S-K definitions were followed for Mineral Reserves, which also are consistent with the CIM (2014) definitions. Mineral Reserves are estimated at a NSR break-even cut-off value of US$48.11/t processed. Some incremental material with values between US$38.05/t and US$48.11/t was included. Mineral Reserves are estimated using average long-term metal prices of Zn: US$2,826.35/t (US$1.28/lb), Pb: US$2,043.95/t (US$0.93/lb); Cu: US$7,398.47/t (US$3.36/lb); Au: US$1,474.88/oz; and Ag: US$19.93/oz. Metallurgical recoveries are accounted for in the NSR calculations based on metallurgical test work and are variable as a function of head grade. Recoveries at the LOM average head grades for stratabound material are 89.42% for Zn, 81.06% for Pb, 60.00% for Cu, 75.10% for Ag, and 67.8% for Au. Recoveries at the LOM average head grades for stringer material are 88.68% for Cu, 50.00% for Ag, and 63.00% for Au. A minimum mining width of 4.0 m was applied.

**Mineral Resources**

The following table shows our estimates of Attributable Mineral Resources for our material mining properties as of December 31, 2022 prepared in accordance with Subpart 1300 of Regulation S-K.

| | Ownership Interest (%) | Class | Total Attributable[1] (Mt) | Grade | | | | | Contained Metal | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Zinc (%) | Copper (%) | Silver (g/t) | Lead (%) | Gold (g/t) | Zinc (kt) | Copper (kt) | Silver (koz) | Lead (kt) | Gold (koz) |
| **Cerro Lindo [3]** | 83.48 | Measured | 4.49 | 1.84 | 0.62 | 22.2 | 0.23 | - | 82.6 | 27.8 | 3,205 | 10.3 | - |
| | | Indicated | 2.69 | 1.15 | 0.49 | 25.6 | 0.24 | - | 30.9 | 13.2 | 2,214 | 6.5 | - |
| | | **Subtotal** | **7.18** | **1.58** | **0.57** | **23.5** | **0.23** | **-** | **113.5** | **41.0** | **5,419** | **16.8** | **-** |
| | | Inferred | 7.09 | 1.65 | 0.24 | 37.1 | 0.45 | - | 117.0 | 17.0 | 8,457 | 31.9 | - |
| **El Porvenir [4]** | 83.48 | Measured | 0.29 | 3.31 | 0.21 | 70.5 | 1.10 | - | 9.6 | 0.6 | 657 | 3.2 | - |
| | | Indicated | 2.54 | 3.04 | 0.20 | 57.1 | 0.92 | - | 77.2 | 5.1 | 4,663 | 23.4 | - |
| | | **Subtotal** | **2.83** | **3.07** | **0.20** | **58.5** | **0.94** | **-** | **86.8** | **5.7** | **5,320** | **26.6** | **-** |
| | | Inferred | 8.92 | 3.83 | 0.19 | 72.9 | 1.05 | - | 341.6 | 16.9 | 20,907 | 93.7 | - |
| **Vazante [5]** | 100 | Measured | 0.63 | 8.32 | - | 14.8 | 0.24 | - | 52.4 | - | 300 | 1.5 | - |
| | | Indicated | 3.90 | 5.97 | - | 6.8 | 0.19 | - | 233.0 | - | 858 | 7.6 | - |
| | | **Subtotal** | **4.53** | **6.30** | **-** | **8.0** | **0.20** | **-** | **285.4** | **-** | **1,158** | **9.1** | **-** |
| | | Inferred | 15.15 | 9.53 | - | 12.7 | 0.19 | - | 1443.1 | - | 6,184 | 29.2 | - |
| **Aripuanã [6]** | 100 | Measured | 0.40 | 1.87 | 0.41 | 23.4 | 0.70 | 0.40 | 7.5 | 1.6 | 301 | 2.8 | 5.1 |
| | | Indicated | 2.55 | 2.26 | 0.19 | 21.2 | 0.82 | 0.31 | 57.6 | 4.8 | 1,738 | 20.9 | 25.4 |
| | | **Subtotal** | **2.95** | **2.21** | **0.22** | **21.5** | **0.80** | **0.32** | **65.1** | **6.4** | **2,039** | **23.7** | **30.5** |
| | | Inferred | 38.55 | 2.41 | 0.30 | 29.5 | 1.02 | 0.46 | 929.1 | 115.7 | 36,563 | 393.2 | 570.1 |
| **Total** | | **Measured** | **5.81** | **2.62** | **0.52** | **23.9** | **0.31** | **0.03** | **152.1** | **30.0** | **4,463** | **17.8** | **5.1** |
| | | **Indicated** | **11.68** | **3.41** | **0.20** | **25.2** | **0.50** | **0.07** | **398.7** | **23.1** | **9,473** | **58.4** | **25.4** |
| | | **Total** | **17.49** | **3.15** | **0.30** | **24.8** | **0.44** | **0.05** | **550.8** | **53.1** | **13,936** | **76.2** | **30.5** |
| | | **Inferred** | **69.71** | **4.06** | **0.21** | **32.2** | **0.79** | **0.25** | **2830.8** | **149.6** | **72,111** | **548.0** | **570.1** |

**Notes:**

* Numbers may not add due to rounding.

* The estimation of Mineral Resources involves assumptions about future commodity prices and technical mining matters. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

* The point of reference for Mineral Resources in this table is mill feed materials.

The following table shows our estimates of Mineral Resources (100% ownership basis) for our material mining properties as of December 31, 2022 prepared in accordance with Subpart 1300 of Regulation S-K.

| | Ownership Interest (%) | Class | Tonnage[2] (Mt) | Grade Zinc (%) | Grade Copper (%) | Grade Silver (g/t) | Grade Lead (%) | Grade Gold (g/t) | Contained Metal Zinc (kt) | Contained Metal Copper (kt) | Contained Metal Silver (koz) | Contained Metal Lead (kt) | Contained Metal Gold (koz) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cerro Lindo [3]** | 83.48 | Measured | 5.38 | 1.84 | 0.62 | 22.2 | 0.23 | - | 99.0 | 33.4 | 3,840 | 12.4 | - |
| | | Indicated | 3.22 | 1.15 | 0.49 | 25.6 | 0.24 | - | 37.0 | 15.8 | 2,650 | 7.7 | - |
| | | **Subtotal** | **8.60** | **1.58** | **0.57** | **23.5** | **0.23** | **-** | **136.0** | **49.2** | **6,490** | **20.1** | **-** |
| | | Inferred | 8.49 | 1.65 | 0.24 | 37.1 | 0.45 | - | 140.1 | 20.4 | 10,127 | 38.2 | - |
| **El Porvenir [4]** | 83.48 | Measured | 0.35 | 3.31 | 0.21 | 70.5 | 1.10 | - | 11.6 | 0.7 | 793 | 3.9 | - |
| | | Indicated | 3.04 | 3.04 | 0.20 | 57.1 | 0.92 | - | 92.4 | 6.1 | 5,581 | 28.0 | - |
| | | **Subtotal** | **3.39** | **3.07** | **0.20** | **58.5** | **0.94** | **-** | **104.0** | **6.8** | **6,374** | **31.9** | **-** |
| | | Inferred | 10.68 | 3.83 | 0.19 | 72.9 | 1.05 | - | 409.0 | 20.3 | 25,032 | 112.1 | - |
| **Vazante [5]** | 100 | Measured | 0.63 | 8.32 | - | 14.8 | 0.24 | - | 52.4 | - | 300 | 1.5 | - |
| | | Indicated | 3.90 | 5.97 | - | 6.8 | 0.19 | - | 233.0 | - | 858 | 7.6 | - |
| | | **Subtotal** | **4.53** | **6.30** | **-** | **8.0** | **0.20** | **-** | **285.4** | **-** | **1,158** | **9.1** | **-** |
| | | Inferred | 15.15 | 9.53 | - | 12.7 | 0.19 | - | 1443.1 | - | 6,184 | 29.2 | - |
| **Aripuanã [6]** | 100 | Measured | 0.40 | 1.87 | 0.41 | 23.4 | 0.70 | 0.40 | 7.5 | 1.6 | 301 | 2.8 | 5.1 |
| | | Indicated | 2.55 | 2.26 | 0.19 | 21.2 | 0.82 | 0.31 | 57.6 | 4.8 | 1,738 | 20.9 | 25.4 |
| | | **Subtotal** | **2.95** | **2.21** | **0.22** | **21.5** | **0.80** | **0.32** | **65.1** | **6.4** | **2,039** | **23.7** | **30.5** |
| | | Inferred | 38.55 | 2.41 | 0.30 | 29.5 | 1.02 | 0.46 | 929.1 | 115.7 | 36,563 | 393.2 | 570.1 |
| **Total** | | **Measured** | **6.76** | **2.52** | **0.53** | **24.1** | **0.30** | **0.02** | **170.5** | **35.7** | **5,234** | **20.6** | **5.1** |
| | | **Indicated** | **12.71** | **3.30** | **0.21** | **26.5** | **0.51** | **0.06** | **420.0** | **26.7** | **10,827** | **64.2** | **25.4** |
| | | **Total** | **19.47** | **3.03** | **0.32** | **25.7** | **0.44** | **0.05** | **590.5** | **62.4** | **16,061** | **84.8** | **30.5** |
| | | **Inferred** | **72.87** | **4.01** | **0.21** | **33.3** | **0.79** | **0.24** | **2921.3** | **156.4** | **77,906** | **572.7** | **570.1** |

**Notes:**

* Numbers may not add due to rounding.

* The estimation of Mineral Resources involves assumptions about future commodity prices and technical mining matters. Mineral Resources are reported exclusive of those Mineral Resources that were converted to Mineral Reserves, and Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

* The point of reference for Mineral Resources in this table is mill feed materials.

(1) The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM Geo, a Nexa Resources employee. The total tonnage and content amounts presented in this table represents Nexa's attributable ownership basis.

(2) The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM Geo, a Nexa Resources employee. The tonnage and content amounts presented in this table represents 100% of the Mineral Resources estimates for the property. Please refer to our ownership percentage for the amounts attributable to our ownership interest in the property.

(3) Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources which also are consistent with the CIM (2014) definitions. Mineral Resources are estimated at an NSR cut-off value of US$42.65/t. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,250.31/t (US$1.47/lb), Pb: US$2,350.54/t (US$1.07/lb); Cu: US$8,508.24/t (US$3.86/lb); and Ag: US$22.92/oz. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at LOM average head grades 88.72% for Zn, 66.75% for Pb, are 85.92% for Cu, and 68.8% for Ag. A minimum mining width of 4 m was used to create resource shapes. Bulk density varies depending on mineralization domain.

(4) Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions. Mineral Resources are estimated at NSR cut-off grade values ranging from of US$57.99/t to US$60.71/t for SLS areas and US$59.65/t to US$62.37 for C&F areas depending on the zone. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,250.31/t (US$1.47/lb), Pb: US$2,350.54/t (US$1.07/lb); Cu: US$8,508.24/t (US$3.86/lb) and Ag: US$22.92/oz. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average head grades are 88.85% for Zn, 79.73% for Pb, 11.81% for Cu, and 63.00% for Ag. A minimum mining width of 4 m was used for C&F and SLS resource stopes shapes respectively. Bulk density varies depending on mineralization domain.

(5) Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions. Mineral Resources are estimated at various NSR cut-off values appropriate to the mineralization style and mining method. For Supergene Mineralization (Calamine) the resources are estimated at a NSR cut-off value of US$23.13/t for soil and US$28.38/t for fresh rock and transition material. For Aroeira Tailings the resources are estimated ate a NSR cut-off value of US$29.40/t and for Hypogene Mineralization (Willeminte) a cut-off value of US$60.61/t for all resources shapes. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,250.31/t (US$1.47/lb), Pb: US$2,350.54/t (US$1.07/lb); and Ag: US$22.92/oz. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average hypogene mineralization (Willemita) head grades are 87.20% for Zn, 40.74% for Pb, and 42.0% for Ag. Recovery at supergene mineralization is 55.00% for Zn. Recoveries for Tailings are 68.11% for Zn, 38.46% for Pb and 42.00% for Ag. A minimum thickness of 3.0 m for underground SLS, open pit shell for Calamine and above original topography for tailings. Bulk density was assigned based on rock type.

(6) The qualified person for the Mineral Resources estimate is SLR Consulting (Canada) Ltd., an independent mining consulting firm. Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions. Mineral Resources reported using a cut-of value of US$48.11/t. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,250.31/t (US$1.47/lb), Pb: US$2,350.54/t (US$1.07/lb); Cu: US$8,508.24/t (US$3.86/lb); Au: US$1,696.11/oz; and Ag: US$22.92/oz. Metallurgical recoveries are accounted for in the NSR calculations based on metallurgical test work and are variable as a function of head grade. Recoveries at the LOM average head grades for stratabound material are 89.42% for Zn, 81.06% for Pb, 60% for Cu, 75.10% for Ag, and 67.80% for Au. Recoveries at the LOM average head grades for stringer material are 88.68% for Cu, 50.00% for Ag, and 63.00% for Au. A minimum thickness of 3.0 m was used for stopes shapes. Bulk density varies depending on mineralization domain.

The following table shows our estimates of Attributable Mineral Resources for our other operating mines which do not currently have estimated Mineral Reserves as of December 31, 2022 prepared in accordance with Regulation S-K 1300.

| | Ownership (%) | Class | Total Attributable[1] (Mt) | Grade Zinc (%) | Grade Copper (%) | Grade Silver (g/t) | Grade Lead (%) | Grade Gold (g/t) | Contained Metal Zinc (kt) | Contained Metal Copper (kt) | Contained Metal Silver (koz) | Contained Metal Lead (kt) | Contained Metal Gold (koz) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Atacocha (Underground) [3]** | 75.96 | Measured | 2.10 | 4.18 | - | 78.9 | 1.52 | - | 87.7 | - | 5,327 | 31.9 | - |
| | | Indicated | 3.27 | 4.15 | - | 76.0 | 1.43 | - | 135.7 | - | 7,990 | 46.8 | - |
| | | **Subtotal** | **5.37** | **4.16** | **-** | **77.1** | **1.47** | **-** | **223.4** | **-** | **13,317** | **78.7** | **-** |
| | | Inferred | 6.16 | 4.45 | - | 82.0 | 1.26 | - | 274.1 | - | 16,240 | 77.6 | - |
| **Atacocha (Open pit) [4]** | 75.96 | Measured | 2.42 | 1.04 | - | 36.9 | 1.02 | 0.25 | 33.2 | - | 2,871 | 24.7 | 19.5 |
| | | Indicated | 5.22 | 1.09 | - | 30.0 | 0.94 | 0.19 | 74.9 | - | 5,035 | 49.1 | 31.9 |
| | | **Subtotal** | **7.64** | **1.41** | **-** | **32.2** | **0.97** | **0.21** | **108.1** | **-** | **7,906** | **73.8** | **51.4** |
| | | Inferred | 2.92 | 1.13 | - | 31.7 | 1.01 | 0.20 | 43.4 | - | 2,976 | 29.5 | 18.8 |
| **Morro Agudo [5]** | 100 | Measured | - | - | - | - | - | - | - | - | - | - | - |
| | | Indicated | 12.77 | 3.56 | - | - | 0.60 | - | 455.1 | - | - | 76.6 | - |
| | | **Subtotal** | **12.77** | **3.56** | **-** | **-** | **0.60** | **-** | **455.1** | **-** | **-** | **76.6** | **-** |
| | | Inferred | 4.00 | 3.93 | - | - | 0.57 | - | 157.1 | - | - | 22.9 | - |
| **Total** | | **Measured** | **4.52** | **2.67** | **-** | **56.4** | **1.25** | **0.13** | **120.9** | **-** | **8,198** | **56.6** | **19.5** |
| | | **Indicated** | **21.26** | **3.13** | **-** | **19.1** | **0.81** | **0.05** | **665.7** | **-** | **13,025** | **172.5** | **31.9** |
| | | **Total** | **25.78** | **3.05** | **-** | **25.6** | **0.89** | **0.06** | **786.6** | **-** | **21,223** | **229.1** | **51.4** |
| | | **Inferred** | **13.08** | **3.63** | **-** | **45.7** | **0.99** | **0.04** | **474.6** | **-** | **19,216** | **130.0** | **18.8** |

**Notes:**

* Numbers may not add due to rounding.

* The estimation of Mineral Resources involves assumptions about future commodity prices and technical mining matters. Mineral Resources are not mineral reserves and do not have demonstrated economic viability.

* The point of reference for Mineral Resources in this table is mill feed materials.

The following table shows our estimates of Mineral Resources (100% ownership basis) for our other operating mines which do not currently have estimated Mineral Reserves as of December 31, 2022 prepared in accordance with Regulation S-K 1300.

| | Ownership (%) | Class | Tonnage [2] (Mt) | Grade Zinc (%) | Grade Copper (%) | Grade Silver (g/t) | Grade Lead (%) | Grade Gold (g/t) | Contained Metal Zinc (kt) | Contained Metal Copper (kt) | Contained Metal Silver (koz) | Contained Metal Lead (kt) | Contained Metal Gold (koz) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Atacocha (Underground) [3]** | 75.96 | Measured | 2.76 | 4.18 | - | 78.9 | 1.52 | - | 115.3 | - | 7,001 | 42.0 | - |
| | | Indicated | 4.31 | 4.15 | - | 76.0 | 1.43 | - | 178.9 | - | 10,531 | 61.6 | - |
| | | **Subtotal** | **7.07** | **4.16** | **-** | **77.1** | **1.47** | **-** | **294.2** | **-** | **17,532** | **103.6** | **-** |
| | | Inferred | 8.11 | 4.45 | - | 82.0 | 1.26 | - | 360.9 | - | 21,381 | 102.2 | - |
| **Atacocha (Open pit) [4]** | 75.96 | Measured | 3.19 | 1.04 | - | 36.9 | 1.02 | 0.25 | 33.2 | - | 3,784 | 32.5 | 25.6 |
| | | Indicated | 6.87 | 1.09 | - | 30.0 | 0.94 | 0.19 | 74.9 | - | 6,626 | 64.6 | 42.0 |
| | | **Subtotal** | **10.06** | **1.07** | **-** | **32.2** | **0.97** | **0.21** | **108.1** | **-** | **10,410** | **97.1** | **67.6** |
| | | Inferred | 3.84 | 1.13 | - | 31.7 | 1.01 | 0.20 | 43.4 | - | 3,914 | 38.8 | 24.7 |
| **Morro Agudo [5]** | 100 | Measured | - | - | - | - | - | - | - | - | - | - | - |
| | | Indicated | 12.77 | 3.56 | - | - | 0.60 | - | 455.1 | - | - | 76.6 | - |
| | | **Subtotal** | **12.77** | **3.56** | **-** | **-** | **0.60** | **-** | **455.1** | **-** | **-** | **76.6** | **-** |
| | | Inferred | 4.00 | 3.93 | - | - | 0.57 | - | 157.1 | - | - | 22.9 | - |
| **Total** | | **Measured** | **5.95** | **2.50** | **-** | **56.4** | **1.25** | **0.13** | **148.5** | **-** | **10,785** | **74.5** | **25.6** |
| | | **Indicated** | **23.95** | **2.96** | **-** | **22.3** | **0.85** | **0.05** | **708.9** | **-** | **17,157** | **202.8** | **42.0** |
| | | **Total** | **29.90** | **2.87** | **-** | **29.1** | **0.93** | **0.07** | **857.4** | **-** | **27,942** | **277.3** | **67.6** |
| | | **Inferred** | **15.95** | **3.52** | **-** | **49.3** | **1.03** | **0.05** | **561.4** | **-** | **25,295** | **163.9** | **24.7** |

**Notes:**

* Numbers may not add due to rounding.

* The estimation of Mineral Resources involves assumptions about future commodity prices and technical mining matters. Mineral Resources are not mineral reserves and do not have demonstrated economic viability.

* The point of reference for Mineral Resources in this table is mill feed materials.

(1) The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM Geo, a Nexa Resources employee. The total tonnage and content amounts presented in this table represents Nexa's attributable ownership basis.

(2) The qualified person for the Mineral Resources estimate is José Antonio Lopes, B.Geo., FAusIMM Geo, a Nexa Resources employee. The tonnage and content amounts presented in this table represents 100% of the Mineral Resources estimates for the property. Please refer to our ownership percentage for the amounts attributable to our ownership interest in the property.

(3) Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions. Mineral Resources are estimated at a NSR cut-off value of US$62.81/t. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,250.3/t (US$1.47/lb), Pb: US$2,350.5/t (US$1.07/lb); and Ag: US$22.92/oz. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average head grades are 85.35% for Zn, 84.65% for Pb, and 76.19% for Ag. A minimum mining width of 4 m was used for resources shape. Density was assigned based on rock type.

(4) Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions. Mineral Resources are reported within optimized pit shell. Mineral Resources are estimated at a NSR cut-off value of US$23.81/t. Some marginal material with cut-off value of US$21.69/t was included. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,250.3/t (US$1.47/lb), Pb: US$2,350.5/t (US$1.07/lb); Au: US$1,696.11/oz; and Ag: US$22.92/oz. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average head grades are 70.44% for Zn, 83.64% for Pb, 75.76% for Ag, and 65.46% for Au. Mineral resources are reported within open pit shell. Density was assigned based on rock type.

(5) Subpart 1300 of Regulation S-K definitions were followed for Mineral Resources, which also are consistent with the CIM (2014) definitions. Mineral Resources are reported within underground mining shapes and the NSR cut-off values are calculated based on the life of mine costs for each mine. Morro Agudo: US$52.43/t and Bonsucesso: US$55.85/t. Mineral Resources are estimated using an average long-term metal prices of Zn: US$3,250.3/t (US$1.47/lb) and Pb: US$2,350.5/t (US$1.07/lb). Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Recoveries at the LOM average head grades for Morro Agudo are 90.47% for Zn and 75.46% for Pb, and for Bonsucesso are 92.5% for Zn and 55.73% for Pb. A minimum thickness of 3 m was applied for Bonsucesso and 4.5 m for Morro Agudo underground. Density was assigned based on rock type.

**Internal Controls Disclosure**

Nexa has used well-established quality assurance/quality controls (“QA/QC”) protocols since 2007 for core samples from operating mines and its Brownfield/Greenfield projects. Nexa has used a corporate database (GDMS Fusion) from Datamine since 2017, which replaced the previous corporate database system used from 2007 to 2016. The current database system has several default laboratory packages, specific for different Business Units (ore deposit types/countries) with pre-defined preparation and assay methods, reporting units and over-limit methods. All assay dispatches from all mines and projects follows the same protocols for each medium type (core, rock, soil, stream sediment samples). All written protocols are in a corporate internal system that requires revisions and updates every three years.

Nexa Quality Control include three types of duplicates (pulp, coarse rejects and half core duplicates), blank controls and certified standards. Inter-laboratory checks are also carried out on an annual basis at certified laboratories. Fusion database has a collection of pre-defined QA/QC charts for each type of control where Nexa parameters for each control are built in. All blanks and certified standards are approved and registered in Fusion by the database administrator. Nexa protocols for construction and certification of new standards from operating mines and projects include a minimum of ten laboratories and minimum of ten samples per lab in the Round Robin. Laboratories need to be form different continents and only three laboratories from the same group are allowed.

Every mine and advanced project provides a detailed QA/QC report at least once a year, which is appended to the updated mineral resources technical reports prepared by our engineers.

With respect to the verification of analytical procedures, Nexa carries out periodic reviews of the QA/QC programs to ensure that an adequate level of quality is maintained in the process of sampling, preparing and testing drill core samples and that the QA/QC programs are designed and implemented to prevent or detect contamination and allow analytical precision and accuracy to be quantified. Nexa’s internal qualify person performed this review and concluded that Nexa's QA/QC programs meet or exceed industry standards and the data are suitable for Mineral Resources and Mineral Reserves purposes.

Internally, regular data verification workflows are carried out to ensure the collection of reliable data. Coordinates, core logging, surveying, and sampling are monitored by exploration, mine geologists, and verified routinely for consistency.

The Mineral Resource and Mineral Reserve estimates are supported by a review of the recent operation results including operating costs, production, metallurgical performance and reconciliation. The LOM plan supporting the estimates includes consideration of changes to the permits required, capital costs, tailings capacity and other production constraints. The estimates are subject to normal industry risks including metal prices, metallurgical performance and geological modeling. For geological risk Nexa has modeling and estimation procedures following mining industry best practices including drilling, borehole survey, core logging, sampling, and density protocols.

## CAPITAL EXPENDITURES

Our capital expenditures from January 1, 2020 through December 31, 2022 totaled US$1,225.6 million and we have budgeted US$310.0 million for 2023, reflecting an 18.6% decrease compared to our 2022 investment mainly driven by completion of construction at the Aripuanã project. Our projections include US$7.0 million directed towards expansion projects and US$286.0 million towards non-expansion investments, mainly related to sustaining and HSE. The following table sets forth our capital expenditures for the periods indicated.

| | For the Year Ended December 31, | | |
|---|---|---|---|
| | 2022 | 2021 | 2020 |
| | (in millions of US$) | | |
| **Capital Expenditures** | | | |
| Expansion (1) | 88.5 | 271.2 | 221.7 |
| Modernization | 10.3 | 8.8 | 8.1 |
| Sustaining | 239.7 | 189.0 | 107.5 |
| Health, Safety and Environment ("HSE") | 40.1 | 31.6 | 16.2 |
| Others | 1.1 | 3.6 | 1.3 |
| **Subtotal** | **379.7** | **504.3** | **354.8** |
| Reconciliation to Financial Statements (2) | 1.6 | 3.6 | (18.3) |
| **Total** | **381.2** | **507.9** | **336.5** |

(1) For a description of the projects, see "Information on the Company—Mining operations."

(2) The amounts under "Reconciliation to Financial Statements" are mainly related to advance payment of imported materials, capitalization of interest net of advanced payments and tax credits"

Our main capital expenditures during the years ended December 31, 2022, 2021 and 2020 include the following:

- In 2022, our capital expenditures were US$381.2 million, a 24.9% decrease compared to 2021, mainly due to a decrease in growth capital expenditures related to the conclusion of construction at Aripuanã, which was partially offset by an increase in sustaining Capex, including US$46 million invested in the Aripuanã mine.
- In 2021, our capital expenditures were US$507.9 million, a 51.0% increase compared to 2020, mainly due to expenditures related to the construction of the Aripuanã project (50.7% of total Capex) and higher non-expansion investments, including an increase in Sustaining and HSE expenses to historical levels, which were minimal in 2020 due to the impact of the COVID-19 pandemic.
- In 2020, our capital expenditures were US$336.5 million, mainly due to effects of the COVID-19 pandemic in international prices and demand in 1H21, leading to our decision to reduce exploration projects and maintain only essential investments (non-expansion), except for Aripuanã. In 2020, 65.9% of our capital expenditures were related to expansion, primarily the construction of Aripuanã (US$187 million), as well as the Vazante mine deepening project (US$13 million), which aims to extend the life of mine by seven years.

We expect to meet these capital expenditure needs from our operating cash flow and our current cash position. We may need to incur indebtedness to finance a portion of these expenditures or also incur indebtedness if financing is available at attractive terms. Our actual capital expenditures may vary from the expected amounts we have described here, both in terms of the aggregate capital expenditures we incur and when we incur them.

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG)

We are committed to fully integrating sustainability into our business through a comprehensive approach based on systematic planning and execution, prioritizing risk and impact management, and establishing a positive social, economic and environmental legacy in the places where we operate. Our practices related to ESG are continuously evolving to adapt to new framework, and regulatory and disclosure requirements, as well as to consider best practices and respond to stakeholder feedback.

Nexa integrates sustainability practices into its business, focused on generating a positive social, economic and environmental impact in the places where it operates. Within this context, the Company has a multidisciplinary and integrated task force that is continually assessing and refining its Environmental, Social and Governance ("ESG") strategy and future actions including risks analyses with respect to climate change and global, regional and local weather conditions, as well as those related to the emission of greenhouse gases, among other matters. In October 2022, Nexa formally announced updated medium- and long-term goals regarding its ESG strategy. The Company disclosed updated targets related to key ESG topics, such as climate change, water consumption, safety and diversity, and social commitments. In 2022, Nexa also announced its ESG purpose as "*Mining that changes with the world.*" Nexa's ESG strategy takes a long-term approach, and as a result the Company could in the future change its accounting estimates, assumptions and judgments regarding new definitions, practices or commitments that would be assumed by management in relation to its ESG strategy.

Our sustainability approach is set out in our code of conduct and Compliance and Sustainability policies. We adhere to the United Nation's Global Compact and the goals related to our material topics discussed below seek to contribute to fulfilling the UN's Sustainable Development Goals ("SDGs"). Our current material topics and ESG initiatives, as discussed below, strive to meet the SDGs.

We view ESG as core to our efforts to generate shareholder and social-environmental value, including:

- Putting the health, safety and well-being of our people first;
- Being environmentally responsible and accountable;
- Respecting and fostering the human rights agenda; and
- Supporting and constantly dialoging with the communities where we operate.

**Sustainability and Capital Projects Committee, Compensation, Nominating and Governance ("CNG") Committee, and Audit Committee reporting**

Our board of directors oversees our ESG strategy, given its strategic importance to the Company and our operations. The board of directors is responsible for guidance, governance and oversight of ESG, and overseeing the Company's twelve current material topics described below, that emerged from the Nexa materiality matrix. The board committees, and in particular the CNG committee, the sustainability committee and the audit committee, support the board in its monitoring and oversight of ESG matters.

Our CNG committee assists our board of directors in fulfilling its governance and supervisory responsibilities and advises our board of directors with respect to evaluation and monitoring of compensation models and policies and other related matters. The committee's responsibilities also include the supervision and approval of our social responsibility plans and policies. We also have a sustainability and capital projects committee ("sustainability committee" or "SCP committee") that oversees sustainability-related issues, which include the prioritization of safe and sustainable business practices with respect to environmental, health, safety and social matters, as well as the oversight of the management and governance of our tailings disposals. The sustainability committee also oversees our capital projects, monitoring technical, economic and social issues with respect to our projects, including exploration, development, licensing, construction and operation of mines and metallurgical plants and key assets for our strategy and growth.

During 2021 and 2022, our CNG and sustainability committees oversaw and contributed to our ESG strategy plan. The CNG committee focused on the governance approach, while the sustainability committee oversaw and contributed to the environmental and social aspects of ESG. Both committees ensured that we were considering material and relevant topics to Nexa and its stakeholders, as well as proposing reasonable ESG targets and benchmarks.

In 2022, our sustainability committee reaffirmed our ESG strategy, restated our framework and approved new long-term targets. The sustainability committee also reviewed the plan presented by management for the projects and stages necessary for Nexa to achieve its ESG commitments.

During 2022, Nexa also concluded an internal ESG ownership project, which focused on introducing ESG into Nexa's overall governance strategy and defining how the Company intends to address ESG internally with respect to key ESG topics.

The audit committee is also involved in ESG matters, in particular with respect to the analysis of the impact on financial reporting, as well as preparedness in order to meet financial reporting and disclosure requirements that may be implemented in the near future. In 2022, we updated the charters of each of our committees (except for the Finance Committee) and the internal rules for our Board of Directors to reflect their respective responsibilities with regards to the oversight and implementation of our ESG commitments.

*ESG Commitments*

In October 2022, we announced our new long-term ESG commitments, aligned with the Paris Agreement and focused on reducing the impacts of climate change. We adopted a new ESG Governance framework that is intended to enable Nexa to enhance our position in the industry and capture potential opportunities. Nexa's eight long-term sustainability commitments, which we aim to achieve by 2030, are focused on four areas: emission reduction and neutrality; safety; water usage and disposal; and plurality.

<u>Emission Reduction and Neutrality</u>: Nexa has been reducing GHG emissions for more than a decade, and currently has one of the lowest carbon footprints in the world in the zinc production industry (scopes 1 and 2). In alignment with the Paris Agreement, Nexa's goal is to reach net zero by 2050. Our commitments in this category are:

- Absolute reduction of scope 1 emissions by 20% (52 thousand tons of CO2 equivalent), keeping Nexa's electrical energy matrix almost entirely composed of renewable sources[1] by 2030;
- Reach net neutrality – the balance between carbon emissions and absorption – by 2040; and
- Reach net-zero greenhouse gas emissions ("GHG") by 2050.

In order to reduce greenhouse gas emissions, Nexa is currently developing innovative projects in collaboration with different partners to improve its performance in the use and increase of clean energy, with projects aimed at optimizing treatment and operational systems.

<u>Safety</u>: Nexa seeks to be a model when it comes to safety, focusing on building a safer environment with zero fatalities and a reduction of severe accidents through a robust cultural transformation program in health and safety, including awareness campaigns, counseling, and monitoring for both employees and third parties. Our commitments in this category are:

- Zero fatalities in all operating units (annually); and
- By 2030, consolidate all units in the first quartile of the mining industry with regard to the Total Recordable Injury Frequency Rate ("TRIFR").

<u>Water usage and disposal</u>: Nexa prioritizes the responsible management of water and seeks to reduce its consumption by 2030. Our commitment in this category are:

- 10% reduction of water consumption in mining operations (from 1.68 $m^3$/ton of run-of-mine ("ROM") - crude ore, extracted directly from the mine without undergoing any kind of processing - to 1.51 $m^3$/ton of ROM) and metallurgy units (from 24.01 $m^3$/ton of metal to 21.61 $m^3$/ton of metal), considering as a baseline the consumption of the last 12 months (September 2021 - August 2022).

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[1] 99.4% renewable energy (Annual report 2021)

Plurality (diversity, equity, and inclusion): Nexa is committed to being an increasingly plural company which emphasizes diversity, equity, and inclusion, to promote an environment of opportunity, recognition, and acceptance for all. Our commitments in this category are:

- 30% of women in the workforce by 2030;
- 30% of women in leadership positions by 2030.

As of the date of this report, our workforce is made up of 16.7% women, with 22.1% serving in leadership positions. The workforce at the Aripuanã mine in Brazil is currently 30% women.

In 2022, we developed a dedicated website to provide our stakeholders and investors with greater transparency about our ESG initiatives: www.nexaresources.com/esg. Information contained on our website is not incorporated by reference into this report, and you should not consider it to be part of this report. Booklets and videos were also developed to expand the communication of ESG topics internally and externally throughout Nexa.

In the second half of 2023, we intend to publish another edition of our sustainability report as of 2022 that will outline our ongoing commitment to ESG and discuss a range of strategy, risk and governance-related matters that we have implemented or are implementing to accelerate our ESG initiatives. The annual report follows the guidelines of the International Integrated Reporting Council (IIRC) and the Global Reporting Initiative (GRI), Core option, in addition to the guidelines of the Sustainability Accounting Standards Board (SASB) and recommendations of the Task Force on Climate-Related Financial Disclosure (TCFD). The information contained is submitted to external assurance.

In 2022, ESG targets were considered in senior leadership goals panels, as well as for employees who were eligible for variable compensation, representing 20% of the executive's short-term incentives and 10% for other managerial or professional levels. Two options were followed: (i) a corporate goal based on initiatives connected with key topics on the ESG Strategy; (ii) specific goals that were unfolded according to the responsibilities of the area and the projects related to the theme to give a sense of responsibility to all employees on the subject.

**Nexa Materiality Matrix**

The Nexa materiality matrix defines the issues that are most relevant to our business and our stakeholders, guiding how we plan and execute our ESG initiatives. We use this matrix to help inform our sustainability strategies and to ensure that our sustainability disclosures include the issues of most interest to our business and stakeholders in line with the principles established by the International Integrated Reporting Council ("IIRC") and Global Reporting Initiative ("GRI"). In 2020, we updated our matrix to evaluate the most relevant topics for the mining and metals sector by incorporating the Sustainability Accounting Standards Board ("SASB") guidelines for the mining and metals sector and other sector benchmarks. The matrix additionally includes a survey of external stakeholders. We combined the results of these surveys with insights from our sustainability committee and leadership teams to define the 12 material topics that are most relevant to us and to our stakeholders. By reviewing these material topics regularly, we seek to guide our reporting and management strategies, considering the short, medium, and long-term context, impacts, risks and opportunities of each material topic. We intend to review the materiality matrix in 2023.

Nexa's current material topics leads corporate goals and ESG management guidelines towards the following themes: waste and tailings management, climate change (formerly called emissions), water resources management, dam management, social management, health, safety and well-being, plurality (formerly called diversity), decommissioning, innovation, ethics and compliance, operational excellence and reputation. The new ESG long-term commitments that Nexa announced in October 2022 are an important part of some of these topics, enhancing the Company's commitment to a more sustainable operation.

***Environmental***

- ***Waste and tailings management.*** We aim to reduce our residue footprint. Our activities generate a significant amount of waste. We seek to reduce the generation of mining and metallurgical waste, complying with applicable local legislation, and acting in accordance with our strategic commitment, attempting to co-create a positive legacy for society. Our Morro Agudo site is considered a pioneer in eliminating waste production with one of the main projects being agricultural lime powder, also known as Zincal200. The project is based on technology created to reprocess the tailings produced in the zinc beneficiation process, which used to be dumped in dams. In addition, our Cerro Lindo and Vazante mines already use the dry stacking method for tailings disposal (and our Aripuanã project is also designed to use the same). Peru's mining operating units have a significant volume of tailings disposed in the backfill system. Approximately, 31.8% of the tailings generated by Nexa were disposed of in dams in 2022, as compared to 31% in 2021.

- ***Climate change.*** We are also committed to reducing greenhouse gas emissions to minimize our impact on climate change, contributing to a low-carbon economy. We consume large amounts of energy due to the nature of our activities and transportation processes, which is why we seek new technologies and progress in sustainable energy generation. Much of the electric energy consumed by our operations is from renewable and low emission sources, predominantly hydroelectricity. In 2020, we implemented a project for a biomass boiler at the Três Marias unit, in which fuel oil was substituted by eucalyptus wood chips and sugar cane bagasse, highlighting our commitment to energy efficiency. Another important initiative is underway at the Cajamarquilla unit in Peru, which includes the substitution of diesel oil with natural gas, made viable through the implementation of a gas pipeline in the region. At the Juiz de Fora unit, we have an ongoing project to replace natural gas by reusing solid waste as fuel to generate steam. We remain committed to diminish our waste volumes and transforming them into secondary products, reducing the usage of our tailing dams. In 2022, we consolidated the use of tools for calculating GHG emissions following the GHG Protocol in all operating units and corporate areas, as well as progressed on mapping out its strategy with respect to measuring scope 3 emissions.

- ***Water resources management.*** Our target is to reduce water consumption and increase recirculation. Mining activity involves technical procedures in which water assumes an important role, both for extraction and processing, making it even more important to reduce water use and increase reuse throughout the value chain. Advanced investments in efficient water recirculation programs contribute not only to lowering the intake of new water but also reducing the volume of effluents and the environmental impact of the discharge. In 2022, we have allocated approximately 36% of our environmental spending resources (as compared to 30% in 2021) towards efforts to keep our effluents disposed through proper treatment and to comply with the new dam legislation published in the year. In our Cerro Lindo mine, we have 91.2 % of water recirculation. We use a desalination plant, extracting salt by a reverse osmosis process and pumping it up to a plant, at an altitude of 2,200 meters. In an area with scarcity of water resources, this technology is important to avoid competing with the local population in demand for water. In addition, we encourage and guide the community in the region to store rainwater.

- ***Dam management.*** Tailings disposals are one of the main risks associated with mining activity. We have safe tailings disposal practices, and we constantly review our dam management policy, which goes beyond the requirements of the legislation of the jurisdictions in which we operate. We apply guidelines from the ICOLD to control and monitor our 48 dams and tailings deposits (24 in Brazil and 24 in Peru). We also have 7 Golden Rules for Managing Dams and Tailings Sites, which are internal guidelines that we use to ensure the management of geotechnical structures and the safety of all employees and third parties. All of our projects are required to comply with these guidelines and any non-compliance must be analyzed by the audit team.

- ***Decommissioning.*** Our activities impact the environment and the communities in the vicinity of our units. As a way of minimizing these impacts, we seek to designate alternative future uses, with the goal of co-creating a positive legacy in neighboring communities, free of environmental liabilities. Some of our achievements include: the definition of general guidelines for decommissioning (governance and corporate committee for approval of new plans); assessment of future uses and preliminary liabilities valuation; integrated management of decommissioning cash flow; and review of our decommissioning plans and updated Asset Retirement Obligation ("ARO") costs and liabilities. We also perform benchmark visits to assess best practices in decommissioning. For further details on our ARO and environmental obligations revisions, see Note 27 to our consolidated financial statements.

We have developed decommissioning plans for all of our units that not only go beyond adopting best-practices and regulatory requirements from our operating markets (Peru and Brazil) but are also based on international standards from the EPA and Minerals Council of Australia ("MCA"). These plans are developed at early stages of the projects, which are initially conceptual, and are revised and updated every five years or whenever there is a material change in the unit's operations. In addition, we develop a technical execution plan to decommission two years prior to closure which is submitted to local authorities in Brazil, while in Peru the execution plan submission is defined when the EIA is approved and updated every five years or when there is a need to update information.

***Social***

- ***Social development.*** We aim to develop mutually beneficial relationships with the communities in which we operate. The object of Nexa's social strategy to leave a long-lasting relevant legacy for local communities (including rural producers, suppliers and local entrepreneurs) by contributing to the improvement of social indicators and the quality of life of the people living in the municipalities near our operations. In 2022, we re-prioritized our social management strategy with respect to investments, focusing on assertive and value-added projects, which demands a structured partnership with communities to minimize reputational risks and business impacts. As a result, global strategic themes were simplified to foster ongoing business development of Nexa and its host communities, as well as maintaining a social license to operate and co-creating a positive legacy. Four pillars were determined to guide the Company's plan on social development: (i) Income Generation: to enhance local economic development through the qualification of local suppliers/entrepreneurs and rural producers; (ii) Water: to protect water springs and develop projects focused on revitalization, rainwater harvesting and/or water quality improvement; (iii) Education: to contribute to basic and technical education, aiming at improving the qualification of the local population for the job market, especially young people and adults; and (iv) Social License to Operate: to fulfill social and legal commitments to stakeholders, focused on mitigating impacts and obtaining social licenses to operate in the host communities.

  In addition, in 2022, we dedicated over 11,980 hours to volunteer action across our units, benefitting more than 395 people. Our focus in 2022 was to carry out volunteer work with greater social impact.

  In Aripuanã, we have a qualification program for future mine and plant operating professionals. In 2022, we had 334 candidates enrolled, of which approximately 158 received professional qualifications in maintenance and automation and geology and surveying. The company hired 142 people who attended the qualification program, of which 66% are men and 34% are women.

  In Cerro Lindo, we have an approximately year-long dual training program to train future technicians for the mining and plant that consists of classroom lessons providing a theoretical understanding coupled with practical classes which take place in UMCL facilities. In 2022, the program benefited 14 men and women from our DIA (Direct Influence Areas). At the end to the program, we expect to hire 100% of the trainees.

- ***Health, safety and well-being.*** Our goal is to reduce our injury frequency rate and to reduce fatalities to zero. We continuously invest in strengthening a culture focused on safety and health for both our own as well as outsourced employees, through training, especially for risky activities, and in enhancing working conditions. We launched a quality-of-life program in 2016, seeking to emphasize the dimensions of integral health. We also have health initiatives in place for the Aripuanã project, aimed at disease prevention and a much healthier operating environment (i.e., Dust Zero Project). We also try to maintain the adequacy level of Nexa's chemical management flow, which includes both the products used and produced. For further discussion of our safety records, please refer to "Health and safety compliance" in the following section.

- ***Plurality.*** We target the increase of diversity in the workplace. Our personnel management model and our policies and tools have guided the development of people based on culture and performance, a focus on guaranteeing employee satisfaction, and the continuity and evolution of the business, in addition to generating an environment that fosters innovation and disruptive solutions. For further information please see "Corporate Governance, management and employees—Board of directors—Diversity" section. In 2021, we established a governance structure for the program, which involves not only the affinity groups, but also an Executive Committee, formed by our board of directors, CEO, and the Diversity Committee, formed by employees from key areas of the company so that the theme is multiplied: legal, compliance, sustainability, operations, and institutional relations. All of them have the objective of coordinating the implementation of several actions aimed at promoting diversity in a transversal and uniform manner, generating greater impact in all units.

  In 2021, we received the Women on Board certificate and we also signed the letter of adhesion and the 10 commitments of the LGBTI+ Business and Rights Forum. Additionally, we launched a talent program focused on the admission and training of diverse professionals with disabilities and/or special needs, and the program is ongoing to date.

  In 2022, we focused our diversity initiatives on three main areas:

  (i) the individual: we believe that an inclusive environment with emotional security encourages creativity, a sense of belonging, and innovation;

  (ii) the company: we believe that plurality is a strategic pillar that expands the potential of our teams and multiplies the results of our business; and

  (iii) the society: we believe that our practices and results contribute to society becoming increasingly ethical, humane, and equitable. Our diversity programming is becoming increasingly more robust and mature and has resulted in significant changes through the actions of affinity groups across the Company.

  During 2022, we carried out a "Plurality" census to map representativity and our employees' perceptions regarding the topic. 4,445 employees participated (71% engagement) and 84% of respondents reported a "favorable" outlook our diversity initiatives. Nexa also signed a partnership with the Artemis Project with the aim of collaborating with associated companies to increase diversity in their supply chain.

  Finally, we held our first Plurality Week in 2022, which focused on fostering a deeper understanding of questions around diversity, inclusion and strengthening a culture of ethics and respect both within and outside the Company. We prepared a "Good Practices Guide" with online training modules to help all employees better understand and achieve these goals.

  In 2022, 16.7% of Nexa's workforce was comprised of women (939 employees). According to Women in Mining, this index is higher than the global average of 7.0%.

***Governance***

- ***Ethics and compliance.*** Acting responsibly and transparently is one of our core values. We are committed to high standards of ethics and integrity across the entire company, which principles stated in our Code of Conduct and reflected in our Compliance Program. Our board of directors is one of the main agents in promoting the program and ensuring compliance with our code of conduct, which is a public document shared with all stakeholders, including employees, suppliers, customers, communities, NGOs, government agencies, shareholders and other individuals and organizations with which we have a relationship. In 2021, we updated our Code of Conduct to include topics such as plurality and ESG practices, as well as adaptations to new laws, such as the general law of data. In 2022, Nexa continued to enhance its supplier assessment program to include reviews of ESG indicators and best practices and a new code of conduct for suppliers was also launched in 2021. In 2022, as in previous years, we disseminated our Code of Conduct among all employees at a global level and started to disseminate of the Code of Conduct for Suppliers within those considered strategic vendors. In addition, Nexa implemented the following initiatives, among others: (i) created committees against sexual harassment at the Brazilian units, based on those existing in our operations in Peru, (ii) trained all units in Peru and Brazil on these topics, reinforcing Nexa's commitment to zero tolerance for any harassment and discrimination, and (iii) appointed "Compliance Influencers", employees at the units who will support Nexa's culture and commitment to ethics and integrity.

In addition, in 2022, we continued to assess the Company's risks aimed at continuously improving our risk management and governance. We also updated the charters of each of our committees to include the responsibility of supporting the Board in monitoring enterprise risk management in matters related to the responsibilities of each committee. In 2022, we also conducted a review of the Related Party Transaction Policy and approved a new version. We also updated the Audit Committee charter to incorporate new NYSE and SEC requirements, including obligations relating to related party transactions.

For further information on our Company's governance, see "Corporate governance, management and employees".

***Other***

- ***Operational excellence.*** We seek continuous improvement in competitiveness to maximize the value of existing operations. We invest in projects that ensure we have operational stability, increased capacity utilization, constant cost improvement, productivity and rationalization of capital employed.

- ***Reputation.*** We want to stand out from our competitors and be recognized as one of the leading players of the mining of the future, through sustainable production and by co-creating a legacy for society.

- ***Innovation.*** Enabling the strategic axes of growth and operational excellence makes our operations safer, minimizes waste and optimizes production. For seven years, we have managed a powerful tool for open innovation, the Mining Lab platform, which allows us to deliver projects in energy, circular economy, IT and automation, in Brazil and Peru.

  Nexa incorporates and develops innovative practices to extract the mineral resources necessary for its operations and works to continuously reduce the impact of its activities on the environment.

**Health and safety compliance**

Health and safety in the workplace are among our main values, and our policies and procedures seek to eliminate accidents. We are committed to protecting the health and wellbeing of our employees and contractors and have set standards to identify and assess health risks, manage their impact and monitor the health of our people. Nevertheless, mining is an activity that involves substantial risks. We established a Health and Safety Director Plan ("H&S Director Plan") focused on the following objectives (i) eliminate fatalities; (ii) reduce the severity and number of accidents and illnesses; and (iii) raise the health, safety and well-being culture standards in our sites. The H&S Director Plan has facilitated the improvement of our health and safety culture and performance, and includes eight pillars of focus: cultural transformation, risk management, emergency response systems, health and safety management system, chemical safety guidelines and infrastructure systems.

A main focus of the H&S Director Plan is cultural transformation. In 2022, we started training all leaders in the G-MIRM (“Global Minerals Industry Risk Management”) program. This program started at the University of Queensland (Australia) and currently involves several universities around the world. In Brazil, the representative is the University of São Paulo (USP). Throughout 2022, Nexa’s leadership team had the opportunity to participate in this training provided by USP, seeking significant and lasting changes in decision-making at all hierarchical levels, and creating and improving risk management in companies in a sustainable and effective way. The main benefits of the program are: (i) awareness and early recognition at all levels of significant hazards and risks to the enterprise; (ii) development of internal competencies for the scope of a risk assessment and applying tools for comparison with good practice approaches; (iii) providing practical tools to improve risk management and advance security procedures; (iv) improved understanding of a personal commitment to safety and defining responsibilities for risk management leading to better decision-making processes; and (v) identification of new opportunities to strengthen internal security policies and procedures.

In 2022, we continued to reinforce the initiatives which have been set in the creation of the Master Plan in 2020, related to our health and safety culture, which are set to be implemented over a five-year term. Many of the initiatives, such as Global SIPAT (an internal week of discussion forums and seminars related to health and safety across our organization), Safety Workshops at all Nexa units and the PROA Movement (a year-end campaign by our safety department to promote prevention of work accidents), contribute to our enhanced safety culture.

In April 2022, we reported two fatalities that occurred at the El Porvenir mine. In August 2022, we reported a fatal accident at the Cajamarquilla smelter. These incidents are still under investigation by the Peruvian authorities and as of the date of this filing their work-related status has not yet been established.

We have also sought to improve our safety record as it relates to recordable injury frequency, lost worktime incident, and severity rates, in conformity with standards in the mining industry. In 2022, our total recordable injury frequency rate was 1.98 compared to 1.92 in 2021 and 2.39 in 2020. This rate is defined as the number of injuries with and without lost time per one million man-hours worked. In 2022, our lost worktime incident rate was 0.75 compared to 0.60 in 2021 and 0.79 in 2020. This rate is defined as the number of injuries with lost time per one million man-hours worked. Our severity rate for 2022 was 163 (including the fatal accidents) compared to 24 in 2021 and 178 in 2020. To calculate the severity rate, we consider the sum of lost, transported and debited days, divided by the total number of man-hours worked times one million. In addition to these efforts, we also operate programs aimed at improving working conditions, including medical services, for our mining operations and monitoring employees’ health.

## REGULATORY MATTERS

We are subject to a wide range of governmental regulation in the jurisdictions in which we operate. The following discussion summarizes the kinds of regulation that have the most significant impact on our operations.

### Brazilian regulatory framework

#### *Mining rights and regulation of mining activities*

Mining activities in Brazil are governed by the Brazilian Federal Constitution of 1988, the Brazilian Mining Code and other decrees, laws, ordinances and regulations, such as the Decree nº 9.406/2018 which renewed the regulation of the Mining Code. These regulations impose several obligations on mining companies relating to, among other things, the way mineral deposits are exploited, the health and safety of workers and local communities where mines are located, and environmental protection and remediation measures. They also set forth the Brazilian federal government's jurisdiction over, and scope of activities within, the industry. The MME and ANM regulate mining activities in Brazil. As of July 2017, the ANM replaced the National Department of Mineral Production ("DNPM"), and is responsible for monitoring, analyzing and promoting the performance of the Brazilian mineral economy, granting rights related to the exploration and exploitation of mineral resources and other related activities in Brazil.

Under the Brazilian Federal Constitution, surface property rights are distinct from mineral rights, which belong exclusively to the Brazilian federal government, the sole entity responsible for governing mineral exploration and mining activity in Brazil.

#### *Summary of Brazilian concessions*

In Brazil, we hold 563 exploration authorizations, 20 mining concessions, ten mining concession applications, eight rights to apply for mining concession and 37 exploration authorization applications, which we broadly and collectively refer herein to as mineral rights, that cover a total area of 2,066,834.3 hectares, of which: (i) 1,516,378.3 hectares, or 90.1%, are exploration authorizations, (ii) 11,990.85 hectares, or 0.7%, are mining concessions, (iii) 8,281.9 hectares, or 0.5%, are mining concession applications, (iv) 5,661.9 hectares, or 0.3%, are rights to apply for mining concession and (v) 139,957.2 hectares, or 8.3%, remain as exploration authorization applications and are presently under initial geological reconnaissance.

The term of each of the mining concessions mentioned above is valid for the life of the mine, evaluated pursuant to the specific mining project. All our mineral rights in Brazil are in good standing. Maintaining our mineral rights in Brazil in good standing involves: (i) maintaining production on the mineral concessions and/or satisfying the ANM's requirements if production has been suspended; (ii) developing exploration work and paying an annual property fee for the exploration authorizations; and (iii) complying with all the legal requirements, including not only as to mining, but also as to environmental and real estate requirements applicable to claiming a property with respect to exploration applications.

Failure to pay the applicable fees for any given year will result in us forfeiting our mineral rights. As of December 31, 2022, we have paid all applicable royalties, taxes and fees on our mineral rights. Our mineral rights in Brazil that are not currently undergoing exploration or production will not expire unless we fail to timely pay the applicable royalties, taxes and fees, as well as the applicable penalties and meet the ANM's and environmental authorities' requirements, as applicable. See "Information on the Company—Regulatory matters—Brazilian regulatory framework—Royalties and other taxes on mining activities."

The following table summarizes our mineral rights in Brazil.

| | | Mineral Right | |
|---|---|---|---|
| | **Project** | **Titles** | **Area (hectares)** |
| **Mines** | Morro Agudo | 6 | 3,941.9 |
| | Vazante | 9 | 2,120.8 |
| | Aripuanã | 1 | 3,639.9 |
| **Prospective Projects** | Various | 621 | 1,670,113.6 |
| **Total** | | **640** | **1,682,270.1** |

***Exploration authorization and mining concession regimes***

Exploration authorizations grant the rights to conduct exploration activities for a period from one to four years, which may be renewable for an additional period (and potentially additional renewals on a case-by-case basis). Exploration authorizations are granted on a first come, first serve basis, and the ANM will only grant one exploration authorization for any given area. Mining concessions are currently valid until the mineral deposit reserves are exhausted. Mining concessions may be transferred to eligible third parties with the ANM's prior approval, pursuant to applicable legislation.

***Decommissioning***

In Brazil, enterprises dedicated to the exploitation of mineral resources shall submit a recovery plan to receive a mining concession. Accordingly, the environmental recovery of the degraded areas caused by mineral exploitation activities shall have been planned since their conception. According to Minas Gerais law, entrepreneurs must also submit to the environmental agency an environmental plan for closing two years before the planned mine closing.

On October 1, 2020, the Brazilian federal government issued law No. 14,066 which, among other provisions, amended the Brazilian Mining Code in order to explicitly state that all mine closure plans must be approved by the ANM as well as the environmental licensing agency. In addition, on April 30, 2021, the ANM published new rules regarding the Mine Closure Plan – PFM. We have been complying with legal requirements regarding mine closure plans and continue to comply with all regulatory and environmental requirements.

***Royalties and other taxes on mining activities***

Revenues from mining activities are subject to the Brazilian mining royalty, *Compensação Financeira pela Exploração de Recursos Minerais* ("CFEM"), which is paid to the ANM. CFEM is a monthly royalty based on gross revenue, excluding taxes on the sale of minerals. When the produced minerals are used in its internal industrial processes, CFEM is determined based on the costs incurred to produce them. CFEM is determined by a reference price of the respective mineral to be defined by the ANM. The applicable rate varies according to the mineral product (currently 2.0% for zinc, lead, copper and silver). In addition, we are required to make certain fee payments for exploration authorizations known as the Annual Fee per Hectare (*Taxa Anual por Hectare*). There is also a monthly inspection fee related to the transfer and commercialization of certain minerals in some Brazilian states, such as Minas Gerais and Mato Grosso, where the concessions are located.

In 2019, the State of Minas Gerais adopted a tax benefit that suspended the VAT on the commercialization of several products, including metallic zinc for companies incorporated in the State. There are no formal requirements to obtain the benefit (such as demonstrating that the legal entity is the company actually industrializing the zinc), however the existence of the tax benefit has resulted in increased scrutiny by the tax authorities in the State. We are currently collaborating with all the requested information by the tax authorities in this process of reviewing the commercialization of our products throughout the zinc value chain. In case the buyer does not comply with the VAT deferred regulation, Nexa may be subject to (i) subsidiary liability (pursuant to art. 57, IN, RICMS/MG); or (ii) joint liability (pursuant to art. 124, I of National Tax Code and art. 56, XI, RICMS/MG). For additional information, see "Risk Factors—Changes in tax laws may increase our tax burden and, as a result, could adversely affect our business, financial position and results of operations.".

In December 2022, a new tax on mining operations (the "TRFM") was approved in the State of Mato Grosso, where the Aripuanã project is located. The regulation will come into force in April 2023 and will be valid for one year and can be renewed. The tax will be collected according to the nature of the extracted ore. Similar taxes on mining operations have been implemented in other Brazilian states, such as the state of Minas Gerais.

***Environmental regulations***

We are subject to several environmental regulations related to, among other matters, water resources, caves, waste management, contaminated areas, areas of permanent preservation, and conservation of protected areas. Specifically, we have taken the following actions regarding contaminated areas and areas of permanent preservation:

*Contaminated areas.* We have carried out environmental assessments on our operation units to verify the existence of contamination in groundwater and soil. The assessments prepared for the Brazilian units identified deviations in soil, groundwater and surface water quality standards. We are committed to improving the management of areas identified as contaminated. For most of the identified deviations, we developed a robust remediation plan in order to comply with all legal requirements. We recorded provisions in our consolidated financial statements in respect of any potential liabilities associated with these deviations from applicable standards. See "Operating and financial review and prospects—Overview—Key factors affecting our business and results of operations—Environmental expenses." We continue to conduct similar assessments with respect to the Peruvian operating units.

*Areas of permanent preservation.* Permanent Preservation Areas (*Áreas de Preservação Permanente*, or APP) are areas that, because of their importance for preserving water resources, geological stability, biodiversity protection and erosion control, receive special legal protection. The existence of such protected areas within a property, whether in urban or rural locations, may cause restrictions to the performance of the intended activities. Interference or removal of APP vegetation is only allowed in cases of public utility (such as mining activities), social interest or low environmental impact, if there is a prior authorization from the applicable environmental authorities. Most of our properties in the state of Minas Gerais interfere in APPs in some way, however all are authorized by environmental agencies. For such properties, we have either already established an advanced ongoing regularization process or have started the process for other properties. The regularization process includes the implementation of rigid controls over the properties.

***Environmental licenses***

The Brazilian Federal Constitution grants federal, state and municipal governments the authority to issue environmental protection laws and to publish regulations based on those laws. While the Brazilian federal government has authority to issue environmental regulations setting general standards for environmental protection, state governments have the authority to issue stricter environmental regulations. Municipal governments may only issue regulations regarding matters of local interest or as a supplement to federal or state laws.

Under Brazilian law, the construction, installation, expansion and operation of any establishment or activity that uses environmental resources, or is deemed to be actually or potentially polluting, as well as those capable of causing any kind of environmental degradation, is subject to a prior licensing process.

Notably, in addition to the general guidelines set by the Brazilian federal government, each state is legally competent to promulgate specific regulations governing environmental licensing procedures under its jurisdiction. Depending on the level of environmental impact caused by the exploration/exploitation activities, the procedures for obtaining an environmental license may require assessment of the environmental impact and public hearings, which may considerably increase the complexity and duration of the licensing process and expose the exploration/exploitation activities to potential legal claims.

***Environmental liability***

Environmental liability may be determined by civil, administrative and criminal courts, with the application of administrative and criminal sanctions, in addition to the obligation to redress the damages caused. All our operating units, except for Cerro Lindo, have obtained certification under the ISO 14001 standard.

***Regulation of other activities***

In addition to mining and environmental regulation, we must abide by regulations related to, among other things, the use of explosives and fuel storage. We are also subject to more general legislation on labor, occupational health and safety, and support of communities near mines, among other matters.

**Peruvian regulatory framework**

***Mining rights and regulation of mining activities***

In Peru, surface land is owned by private landowners, while the government retains ownership of all subsurface land and mineral resources. The Natural Resources chapter of the Peruvian Constitution, enacted in 1993, states that mineral resources are the property of the Nation, and the Peruvian State is sovereign in their administration. The Peruvian government may establish by law the conditions for granting exploitation rights and titles to individuals and legal entities.

The General Mining Law (*Texto Único Ordenado de la Ley General de Minería*) is the primary law governing both metallic and non-metallic mining activities in Peru and is complemented by other regulations approved by the MINEM. Under the General Mining Law, mining activities such as exploration, exploitation, mining labor, beneficiation and mining transport (except sampling, prospecting and trade) are carried out exclusively by means of concessions granted by the Peruvian State. The *Dirección General de Minería* ("DGM") is the regulatory body of the MINEM responsible for proposing and evaluating regulations in the Peruvian mining sector as well as authorizing the commencement of mining activities in Peru.

A mining concession allows its holder to carry out exploration and exploitation activities within the area established in the respective concession title, provided that prior to the beginning of any mining activity, such concession title is granted by the *Instituto Geológico, Minero y Metalúrgico* ("INGEMMET") and other applicable administrative authorizations are obtained (*e.g.*, mining, environmental, use of water, use of explosives, impact on indigenous communities, etc.). A concession provides its titleholder with the exclusive right to undertake mineral exploration and mining activity within a determined area but does not grant the titleholder the right to own the surface land where the concession is located. Therefore, for the holder of a mining concession to develop exploration and/or exploitation works, the latter must purchase the corresponding surface land from the owners, reach an agreement for its temporary use or obtain the imposition of a legal easement by the MINEM, which is rarely granted. There are special proceedings for purchasing or acquiring temporary rights over barren lands owned by the state.

Mining concessions are irrevocable, provided the holder of a mining concession complies with the obligations set forth in the General Mining Law and applicable regulations. Such concessions have an indefinite term, subject to payment of an annual validity fee per hectare granted and achievement of minimum annual production for each hectare, or payment of a production penalty when applicable. Failure to achieve annual production targets will result in a penalty. Failure to pay annual validity fees or production penalties for two consecutive years in any mining concession will result in the cancellation of such mining concession. Failure to satisfy minimum annual production thresholds for a specified period of time (currently thirty years beginning the year after the mining concessions were granted for mining concessions granted after October 10, 2008, and thirty years beginning on January 1, 2009 for mining concessions granted before October 10, 2008) could result in cancellation of the mining concessions.

***Summary of Peruvian concessions***

In Peru, we hold, through Nexa Peru and its subsidiaries, 841 mining and exploration concessions, which cover a total area of 359,727.6 hectares and 92 mineral claims totaling 71,560.7 hectares. Of our mines in Peru, the Atacocha mine property includes 147 mining concessions that cover an area of 2,872.5 hectares and one beneficiation concession, the El Porvenir mine property includes 25 mining concessions that cover an area of 4,846.7 hectares and one beneficiation concession, the Cerro Lindo mine has 68 mining concessions that cover an area of 43,750.2 hectares and one beneficiation concession and the inactive Chapi mine property includes 32 mining concessions that cover an area of 4,625.6 hectares and one beneficiation concession. In addition, we have 124 mineral rights concessions for greenfield projects in Peru that cover a total area of 44,695.5 hectares. Our prospective projects include 445 mining concessions that cover an area of 258,937.2 hectares.

All our mining and processing concessions in Peru are in good standing. Maintaining our concessions in Peru in good standing involves, among other requirements, (i) paying the annual validity fee and production penalties (when applicable) for mining concessions with no production or with no effective exploration or (ii) paying the annual validity fee and complying with minimum production or investment requirements established in mining law.

Failure to pay such validity fees or production penalties (when applicable) for two consecutive years results in the cancellation of the respective mining concessions or beneficiation concessions granted by the Peruvian government. Our mining and beneficiation concessions will not expire unless we do not timely comply in paying these fees or with the minimum production or investment as required by law in respect of such rights and depending on the applicable regime.

The following table summarizes our mining concessions in Peru:

| | | Concessions | |
|---|---|---|---|
| | **Project** | **Titles** | **Area (hectares)** |
| **Mines** | Atacocha | 147 | 2,872.5 |
| | El Porvenir | 25 | 4,846.7 |
| | Cerro Lindo | 68 | 43,750.2 |
| | Chapi (inactive) | 32 | 4,625.6 |
| **Greenfield Projects** | Florida Canyon Zinc | 16 | 12,600.0 |
| | Hilarión | 72 | 15,841.2 |
| | Magistral | 36 | 16,254.2 |
| **Prospective Projects** | Various | 445 | 258,937.2 |
| **Total** | | 841 | 359,727.6 |

***Exploration and authorization and mining concession regimes***

Mining concessions are granted for an indefinite term, though dependent on the fulfillment of certain legal obligations. The commencement and re-commencement of exploration and/or exploitation mining activities are subject to the prior obtainment of an authorization for the commencement of activities before the DGM. Such authorizations could be subject to a prior consultation procedure with indigenous communities, carried out by MINEM, if mining activities were to impact said communities' collective rights and territories as determined by the Ministry of Culture.

As of December 31, 2022, we primarily owned metallic mining concessions with respect to zinc, copper, silver and lead. Our mining rights and concessions are in full force and effect under applicable Peruvian laws. We believe that we comply in all material respects with the terms and requirements applicable to our mining rights and concessions.

***Decommissioning***

Title holders of mining exploitation and beneficiation activities, and, in some cases, of exploration activities require the prior approval of a mine closure plan, which includes the environmental rehabilitation, restoration and remediation measures that shall be executed along with the mining operations and until its closure. Once the corresponding mine closure plan is approved, a guarantee (usually a bank performance bond) must be granted in favor of the MINEM to back up the environmental costs associated with the execution of the mine closure plan. Mining exploitation and beneficiation activities may only be initiated once the mine closure plan is approved and the corresponding environmental guarantee is duly submitted before the competent authority. The referred guarantee is renewed yearly. If the titleholder of an ongoing mining operation fails to comply with this obligation, the MINEM is entitled to suspend the execution of such mining operation. For additional information, see "Risk Factors—Political, economic, social and regulatory risks—Our mineral rights may be terminated or not renewed by governmental authorities".

***Royalties and other taxes on mining activities***

Holders of mining concessions are required to pay a mining royalty (*regalía minera*) to the Peruvian government for the exploitation of metallic and non-metallic resources. The amount of the royalty is payable on a quarterly basis and is equal to the greater of (i) an amount determined in accordance with a statutory scale of marginal tax rates from 1.0% to 12.0% based on a company operating income margin and applied to that company's operating income and (ii) 1.0% of a company's sales, in each case during the applicable quarter. We are also required to pay annual fees (*derecho de vigencia*) for our mining concessions and, in some cases, mining production penalties for not timely reaching the minimum production levels set by Peruvian mining law.

Holders of mining concessions are also required to pay a Special Mining Tax (*Impuesto Especial a la Minería*) to the Peruvian government. The Special Mining Tax is payable on a quarterly basis and is calculated based on the operating income derived exclusively from the sale of metallic resources, with marginal rates between 2.0% and 8.4%.

Holders of mining concessions that are subject to administrative legal stability (in force as of the effective date) under an Agreement of Guarantees and Measures for Investment Protection entered into with the MINEM shall enter into an agreement with the Peruvian government for the payment of a Special Charge on Mining (*Gravamen Especial a la Minería*, or "GEM"). The GEM is payable on a quarterly basis and is calculated based on the operating income derived exclusively from the sale of metallic resources, with marginal rates between 4.00% and 13.12%.

***Tax stability agreements***

On March 26 of 2002, Nexa Peru entered into an Agreement of Guarantees and Measures for Investment Protection with the MINEM with respect to our Cerro Lindo unit. Pursuant to section 9 of said Agreement, until December 31, 2021, certain guarantees and benefits were available with respect to operations of the Cerro Lindo unit including, among others, free commercialization of the products proceeding from such unit, free disposition of the currencies generated from the export of the products proceeding from such unit, the right to use the global depreciation rate applicable on the fixed assets relating to the Cerro Lindo unit up to 20.0% per year, the right to keep the accounting corresponding to the Cerro Lindo unit in U.S. dollars, and tax stability. The tax stability agreement expired on December 31, 2021. As of January 2022, Nexa Peru is required to pay taxes at statutory rates to the Peruvian government. For more information, see "Risk Factors—Changes in tax laws may increase our tax burden and, as a result, could adversely affect our business, financial position and results of operations."

***Municipal permits***

Under the General Mining Law, all Peruvian mines located in rural areas such as Cerro Lindo, Atacocha, El Porvenir and Chapi are exempted from paying municipal taxes and obtaining municipal permits.

***Environmental regulations***

The development of economic activities in Peruvian territory, such as those related to the mining industry, are subject to a broad range of general environmental laws and regulations related to the generation, storage, handling, use, disposal and transportation of hazardous and controlled materials; the emission and discharge of hazardous materials into the ground, air or water; and the protection of migratory birds and endangered and threatened species and plants. These regulations also set environmental quality standards for noise, water, air and soil, which shall be considered for the preparation, assessment and approval of the corresponding environmental management instrument, granted by the National Service for Environmental Certification of Sustainable Investments ("SENACE") for exploitation and beneficiation activities, or the MINEM for exploration activities.

The Ministry of Environment and other administrative entities, such as the *Dirección General de Asuntos Ambientales Mineros* ("DGAAM"), have the authority to enact regulations related to environmental matters. Additionally, the Environmental Supervision Agency (*Organismo de Evaluación y Fiscalización Ambiental*, or "OEFA"), is the competent authority in charge of supervising and imposing sanctions on mining companies upon non-compliance of applicable environmental legislation. In addition, there are other competent governmental agencies or authorities on specific environmental matters such as water, forestry resources, protected natural areas and aquatic environment that regulate, authorize and supervise environmental compliance and liability.

***Environmental permit regularization processes***

Supreme Decree 040-2014-EM provided special procedures allowing us to acquire environmental and operational permits for mining operations and to regularize the mining of certain areas within the Cerro Lindo and Atacocha mines. These regularization procedures, however, are independent from any sanctioning administrative procedure that the OEFA may initiate in connection with the construction and operation of mining components in the first place without the corresponding environmental permits.

Similarly, Supreme Decree 013-2019-EM allowed for further regularization procedures to be carried out as of January 6, 2020, which will also allow us to acquire environmental and operational permits for infrastructure and mining areas in the Cerro Lindo, Atacocha, El Porvenir and Chapi mines. The regularization procedures for Cerro Lindo, Atacocha and El Porvenir mines are currently underway. The Chapi mine procedure did not fall through and the areas subject to the procedure must follow the standard mine closure regulations.

***Regulation of other activities***

In addition to mining and environmental regulation, we must abide by regulations related to, among other activities, the use of explosives, fuel storage, controlled substances, telecommunications, archeological remains, and electricity concessions. We are also subject to more general legislation on labor, occupational health and safety, and indigenous communities, among others. With respect to labor regulations, the Peruvian government enacted Supreme Decree 001-2022-TR in February 2022, establishing a series of measures to eliminate the outsourcing of a company´s “core business” activities, which are defined as the main activities of a company, such as any activities that differentiate and identify it within the market, generate the most income for the company or add the most value for the company’s customers. In June 2022, we filed an injunction with the Instituto Nacional de Defensa de la Competencia y de la Protección de la Propiedad Intelectual (“INDECOPI”), the government office that oversees competition policy. In August 2022, in a judgment of first instance, INDECOPI held that the Supreme Decree 001-2022-TR was an “illegal bureaucratic barrier” and blocked the law from implementation until the Specialized Court in Bureaucratic Barrier Elimination issues a final decision. For additional information, see “Risk Factors—Operational risks—We may be liable for certain payments to individuals employed by third party contractors” and “Risk Factors—Operational risks—The nature of our business includes risks related to litigation and administrative proceedings that could materially adversely affect our business and financial performance in the event of unfavorable rulings.”

## II. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

### OVERVIEW

**Executive summary**

The following is an overview of 2022, compared to 2021. For an overview of 2021 compared to 2020, please refer to "Operating and financial review and prospects" in our Annual Report on Form 20-F for the year ended December 31, 2021, filed with the SEC on March 17, 2022. During 2022, we operated our assets safely and delivered strong results and solid operational performance.

In 2022, we had net revenues of US$3,034.0 million, a 15.7% increase from 2021, mainly due to higher zinc LME prices and changes in market prices that resulted in MTM adjustment, and higher by-products contribution. We also had net income of US$76.4 million, a 51% decline as compared to 2021. The decrease in net income was due to, among other things, a 20.6% increase in costs of sales (as discussed below), and the non-cash impairment of long-lived assets recorded in the year ended December 31, 2022, in addition to the increase of pre-operating expenses and ramp-up adjustments related to Aripuanã as compared to 2021.

Despite continued challenges associated with market expectations for a global recession driven by rising inflation, as well as aggressive monetary policy tightening, increasing commodity price volatility – which put base metal prices under significant pressure since the middle of the second quarter of 2022 – social and political instability, and lasting impacts from the COVID-19 pandemic and its macroeconomic effects, we achieved the highest Adjusted EBITDA in our history, US$760.3 million, up 2.2% compared to 2021. We use Adjusted EBITDA as an additional measure of operational performance of the Company's business (used in addition to, and not as substitute for, net income) without the impact of (i) share in the results of associates, depreciation, amortization, net financial results and income taxes, (ii) non-cash events and non-cash gains or losses that do not specifically reflect our operational performance for the specific period, and (iii) the impact of pre-operating and ramp-up expenses incurred during the commissioning and ramp-up phases of greenfield projects (currently, Aripuanã). For a discussion of our Adjusted EBITDA, reconciliation with most comparable IFRS figures and changes made in 2022, see "Operating and financial review and prospects—Results of operations—Non-IFRS measures and reconciliation."

We measure our liquidity by cash flows. For a description of our cash flows, see "Operating and financial review and prospects—Liquidity and Capital Resources—Source of funds."

Although we believe we are well-positioned for continued growth, benefitting from our unique position in Latin America, with flagship assets and a strong balance sheet, challenges like difficult macroeconomic conditions are likely to continue in 2023, which may affect our operations.

In January 2023, protest activities temporarily suspended operations at Atacocha. Nonetheless, Nexa is complying with all existing agreements, pursuing an active dialogue with the communities and authorities, in addition to remaining committed to the social development of all its host communities.

From January 2022 to mid-February, the underground operation of Vazante mine reduced its daily production by approximately 60% of its daily capacity due to heavy rainfall levels in the state of Minas Gerais. As a result, Vazante's underground mine received more water than it could pump to the surface, partially flooding the lower levels of the mine. We gradually improved our utilization rates in March, which averaged 70%. During this period, we also took advantage of the opportunity to plan the replacement of our main mill, trunnion and gear box. Operations resumed at full capacity in the beginning of April 2022.

In March 2023, production at the Cerro Lindo mine was suspended due to heavy rainfall levels in the region. Nexa is focused on the safety of the mine and has taken measures to ensure the wellbeing of its employees, contractors and host communities. Nexa also continues to monitor and assess the situation as it develops. As of the date of this report, the time to resume full operational capacity and the potential impact on 2023 guidance and results are still uncertain.

Aripuanã's mechanical completion was concluded in the first quarter of 2022, the ramp-up activities safely started in July 2022 and the first batch of copper concentrate was delivered. In December we started selling concentrates within market specifications, and we have achieved our first revenues. Ramp-up activities will continue in 2023 and we expect to reach nameplate capacity in the second half of 2023. The mine is fully operational, and underground activities in 2022 were focused on developing and preparing areas for mining operations and increasing mineral reserves with drilling in new areas, seeking operational stability during the entire operation. Currently, capacity utilization rate is around 60%.

Regarding our exploration activities, in 2022 we continued to focus our investments on projects around the mines we operate. We believe that our exploration program and disciplined approach on project evaluation, will contribute to replace and increase mineral reserves and resources of our current assets, and define the materiality of exploration stage projects. We will continue to seek new regional targets to identify prospective areas and define materiality for new projects.

In terms of our brownfield projects, our objective is to extend the life of mine, therefore, most of the mineral exploration budget in 2022 was allocated to drilling activities in these projects, with emphasis on Cerro Lindo and El Porvenir. In terms of greenfield projects, we direct continuous efforts to define the expansion of the known mineralization and identify new mineralized zones in regional prospective trends, with emphasis on Hilarión and Namibia, as well as focusing on commissioning/ramp-up expenses for Aripuanã, the only greenfield project to have reached the ramp-up phase.

Our 2022 financial results were affected by factors including: (i) higher zinc LME prices and changes in market prices that resulted in Mark to Market ("MTM") adjustment; and (ii) higher by-products contribution; partially offset by (iii) higher operational costs, such as third-party services, energy, royalties, and increased in maintenance costs; and (iv) the increase in other income and operating costs and Aripuanã results.

In 2022, we had a 0.1% increase in our zinc equivalent (mine production), from 495.3 thousand tonnes in 2021 to 495.7 thousand tonnes in 2022, mainly driven by the increase in lead and copper production as a result of higher average grades, which was partially offset by lower zinc production. Our total zinc metal (metallic zinc and zinc oxide) sales decreased by 0.4% in our smelting operations, from 618.8 thousand tonnes in 2021 to 616.2 thousand tonnes in 2022.

In 2022, our net revenues were 15.7% higher compared to 2021, reaching US$3,034.0 million, primarily driven by higher LME zinc prices. See "Overview—Results of operations—Net revenues" for more information.

Our capital expenditures totaled US$381.2 million in 2022, a 24.9% decrease compared to 2021, mainly due to the conclusion of construction at the Aripuanã project. In 2022, 23.2% of our capital expenditures was allocated to expansion projects, mainly related to the construction of Aripuanã of US$66.5 million.

***Outlook***

In 2023, we estimate that we will produce (i) between 307.0 thousand tonnes and 351.0 thousand tonnes of zinc contained in concentrate, (ii) between 31.0 thousand tonnes and 36.0 thousand tonnes of copper contained in concentrate, (iii) between 56.0 thousand tonnes and 71.0 thousand tonnes of lead contained in concentrate and (iv) between 9.0 million ounces to 11.0 million ounces of silver contained in concentrate.

In 2023, zinc production at the mid-range of the guidance is estimated to increase 11% over 2022 (33kt) driven by the Aripuanã mine. For 2024, zinc production is estimated to increase 6% over 2023 due to the increased production at the Aripuanã mine. For the forecasted period, zinc head grade is expected to be in the range of 2.75% and 2.89%, copper head grade is expected to be in the range of 0.29% and 0.30% and lead head grade is expected to be in the range of 0.65% and 0.68%.

In 2023, we expect to sell between 545.0 thousand tonnes and 565.0 thousand tonnes of metallic zinc product volume and between 35.0 thousand tonnes and 40.0 thousand tonnes of zinc oxide product volume.

Metal sales volume at the midpoint of the guidance range 580.0 to 605.0 thousand tonnes in 2023 is estimated to decrease by 4% compared to 2022, as these estimates do not assume the resale of material from third parties.

For 2024, metal sales volume is forecasted to remain stable over 2023 (ranging from 580.0 to 605.0 thousand tonnes). For 2024-2025, we assume supply from our mines maintain historical levels.

These estimates are based on several assumptions, including but not limited to metal prices, operational performance, grades, maintenance, input costs, exchange rates, political and social situation in the countries where we operate.

Regarding our cash cost net of by-product credits estimates for 2023, for our mining segment, we estimate cash cost after by-product credits at US$0.49-0.54 of zinc sold in 2023. This cost does not include Aripuanã, which is in the ramp-up phase. The estimated increase as compared to 2022 is mainly driven by lower zinc production volumes, by-products credits, and higher costs. For our smelting segment, cash cost after by-product credit is estimated at US$$1.13-1.18 per pound of zinc sold. The estimated cost decrease reflects the expectation of lower zinc prices compared to 2022 and higher treatment charges, which should be partially offset by lower by-products credits.

Our estimated capital expenditures for 2023 is US$310.0 million, sustaining investments are expected to total US$268.0 million, with smelting accounting for US$66.0 million and mining accounting for US$200.2 million, including US$53.5 million at Aripuanã. In 2023, we also expect to incur US$110.0 million in mineral exploration and project evaluation expenses, with US$33.0 million allocated to mineral exploration (including brownfields, greenfields and administrative issues) and US$55.0 million allocated to project evaluation. In mineral exploration, we plan to continue our efforts to replace and increase mineral reserves and resources in our operating assets and define and expand the mineralized zones in exploration phase projects, focusing on Cerro Lindo and Vazante (brownfields) and Hilarión and Florida Canyon (exploration phase), respectively.

These estimates should be considered preliminary, subject to change and are based on several assumptions that management believes to be reasonable as of the date of this annual report, which are subject to change based on internal and external developments. As of the date of this annual report, we continue to monitor developments related to socio-political environment in the countries we operate, COVID-19 pandemic and the impacts of Ukraine-Russia war in the global economy. We cannot predict how and to what extent the pandemic, any protest activities or other operational issues may impact our current plans and objectives for 2023, including with respect to our consolidated production guidance and our current capital expenditure, mineral exploration, and project evaluation disbursements. See "Forward-looking statements." For cash cost guidance, see "Presentation of financial and other information—Non-IFRS measures."

**Key factors affecting our business and results of operations**

***Reporting segments***

We have two reportable segments: mining and smelting. A major part of our zinc mining production, representing approximately 99.8% of production in 2022, is processed in our own smelters. Similarly, a major part of the zinc raw material consumption for our smelting operations, representing approximately 46.4% of concentrates in 2022, comes from our own mines. As a result, the revenues of our mining segment include sales to the smelting segment, and the costs of our smelting segment include purchases from the mining segment. We calculate internal transfer prices from our mines to the smelters on an arm's length basis to evaluate the performance of our mining and smelting segments individually. These revenues and costs are eliminated in our consolidated financial statements.

The profitability of our mining segment depends primarily on world prices of the metals we produce, and on our costs to produce concentrates. It is also affected by treatment charges, which are amounts representing the cost of further processing that are applied to reduce the price of concentrate. Other factors affecting pricing are discussed below.

The profitability of our smelting segment does not depend directly on market prices for metals because they have a similar impact on our revenues and our costs. It is affected primarily by treatment charges (which reduce our costs to acquire concentrates), by the premium over the market price of metals that we can charge for our products, and by the operating costs of our smelters and their efficiency in recovering the metal content of the concentrates we purchase.

Segments are reported in accordance with IFRS 8 "Operating Segments," and the information is presented to the chief executive officer, who is the chief operating decision maker in accordance with IFRS 8. Segment results are derived from the accounting records and are adjusted for reallocations between segments, depreciation and amortization and miscellaneous adjustments, if any, for the period. For more information, see "Operating and Financial Review and Prospects—Results of Operations—Non-IFRS measures and reconciliation" in this report. See also Note 2 to our consolidated financial statements.

***Metal prices***

Our financial performance is significantly affected by the market prices of zinc, copper and lead, and, to a lesser extent, silver, gold and the other by-products of our smelting operations. Metal prices have historically been subject to wide fluctuations and are affected by numerous factors beyond our control, including the impact such factors have on industries representing first-uses and end-uses of our products. These factors, which affect each metal to varying degrees, include international economic and political conditions, political changes in the countries in which we operate (for example, political instability surrounding the recent presidential elections in Peru and its aftermath, including new government legislation that could affect our operations), levels of supply and demand, the availability and cost of substitutes, inventory levels maintained by producers and others and, to a lesser degree, inventory carrying costs and currency exchange rates. In addition, market prices have on occasion been subject to rapid short-term changes due to speculative activities.

The market prices for zinc, copper and lead are typically quoted as the daily cash seller and settlement price established by the LME. LME zinc prices are influenced by global supply and demand for metallic zinc and zinc oxide. The supply of metallic zinc and zinc oxide depends on the amount of zinc concentrates and secondary feed materials produced and the availability of smelting capacity to convert them into refined metal. This also applies to copper and lead.

The table below sets forth the average published market prices for the metals and periods indicated:

| Average Market Prices of Base Metals | For the Year Ended December 31, | | | |
|---|---|---|---|---|
| | 2022 | | 2021 | |
| | (US$/tonne) | (US¢/lb) | (US$/tonne) | (US¢/lb) |
| Zinc (LME) | 3,478.32 | 157.77 | 3,007.38 | 136.41 |
| Copper (LME) | 8,797.01 | 399.03 | 9,317.49 | 422.63 |
| Lead (LME) | 2,150.17 | 97.53 | 2,206.23 | 100.07 |

| Average Market Prices of Precious Metals | For the Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | (in US$/oz) | |
| Silver (LBMA) | 21.73 | 25.14 |
| Gold (Fix) | 1,800.09 | 1,798.61 |

The key drivers and recent trends of each of the metals that we produce are discussed below.

***Zinc***

Zinc is a major material for the construction and transport industries, which represent approximately 50% and 21% of the zinc end-use, respectively, according to Wood Mackenzie.

The annual average price of zinc on the LME as of December 31, 2022, was 15.7% higher when compared to the corresponding period in 2021. In 2022, the main factor contributing to the increase in price of zinc as compared to 2021 were smelter production cuts on top of extremely low level of stocks that persisted throughout the year. Energy prices in Europe were already getting higher by last quarter of 2021, leading to announcements of closures of 4 different smelters from two of the top producing companies in the world. Russia’s invasion of Ukraine and the beginning of the conflict aggravated the energy scenario, as Europe previously received approximately 40% of its energy supply from Russia. Further announcements of smelters cutbacks were made by the end of 2022 and production levels should only begging to normalize by, at least, the end of 1Q23.

Another key factor influencing zinc’s price during the year was the US dollar appreciation with increasing interest rates. Although the US dollar has always had a strong correlation with commodities prices, this year it had such an impact as the continuing interest rate hikes corresponded to a future demand slowdown with a possible recession of the US economy. However, US dollar depreciated in 4Q22, which contributed to firmer price levels despite slack demand.

In China, after a year of uncertainty regarding COVID-19 restrictions and lockdowns, both zinc supply and demand struggled. There were several stimuli injected by the government including decreases in interest rates, as opposed to the rest of the world, which kept the economy ongoing. During the 4Q22, Chinese authorities abandoned the “zero Covid” policy, causing hope of earlier-than-expected improvement in demand. However, this generated a new wave of infections, and the market remains skeptical with respect to demand.

Spot treatment charges for imported concentrates in China increased from US$155 per tonne in January 2022 to US$275 per tonne in December 2022, as reported by Wood Mackenzie, while long-term treatment charges increased from US$159 per tonne in 2021 to US$230 per tonne in 2022. The benchmark for long-term treatment charges was set in early April 2022, reflecting a modest improvement in concentrate supply and smelters cutbacks.

According to Wood Mackenzie’s December 2022 report, in 2022, with the decrease in production year-over-year (4% lower than 2021), the zinc metal market closed with a deficit of 487 thousand tonnes resulting from a metal production of 13,310 million tonnes and consumption of 13,797 million tonnes (1.4% lower than 2021). Mine supply presented an increase of 0.2% in 2022, with a total of 12,870 million tonnes, leading to a concentrate surplus of 498 thousand tonnes, which is expected to drive benchmark treatment charges up during the negotiation of contracts in 2023.

***Copper***

Copper is used for building construction, power generation and transmission, electronic product manufacturing and the production of industrial machinery and transportation vehicles. The annual average price of copper on the LME as of December 31, 2022 was 5.6% lower than in the corresponding period in 2021. Copper prices reached a historical record price of US$10,730 per tonne on March 7, 2022, but failed to maintain such high levels over the remainder of the year. This was mainly a result from the increase in dollar value as the US Central Bank kept increasing interest rates in an attempt to contain high levels of inflation. Total mine production, refined production, as well as global demand for refined copper increased in 2022 compared to 2021, according to Wood Mackenzie.

***Lead***

Lead is used in batteries as energy storage and in other products such as ammunition, oxides in glass and ceramics, casting metals and sheet lead. The annual average price of lead on the LME as of December 31, 2022 was 2.5% lower than in the corresponding period in 2021. This small decrease reflects the effects of macroeconomic events that also affected all other base metals, despite a small metal deficit expected for the year.

***Silver***

Silver is considered a precious metal and generally seen as a store of value, so its price tends to be resilient in times of economic uncertainty. In addition, applications in electronics and solar cells have added to the already broad range of uses of silver in currency, jewelry, and silverware. The annual average LBMA silver price for the year ended December 31, 2022 was 13.5% lower than in the corresponding period in 2021. Silver prices hit the lowest level of the year on September 1, 2022, US$17.77 per ounce, which was 13% below the highest point of the previous year reached on February 1, 2021. This was mainly due to the appreciation of the US dollar and interest rate hikes.

***Production volumes, ore grade and metal mix***

Our production volumes, the ore grade from our mines and the mix of metals in our product portfolio affect our business performance. For more details, see “Information on the Company—Mining operations.” Our zinc contained in concentrates production decreased by 7.3%, while copper and lead increased by 12.2%, and 26.1%, respectively, in 2022. Production of silver contained in concentrates increased by 13.2% in 2022.

***Commercial terms***

We sell our concentrates and metallic zinc and zinc oxide products mostly through supply contracts with terms between one and four years, and only a small portion is sold on the spot market. The agreements with our customers include customary international commercial terms, such as cost, insurance and freight, or CIF; free on board, or FOB; free carrier, or FCA; and cost and freight, or CFR; pursuant to Incoterms 2010/2020, as published by the International Chamber of Commerce. For concentrates, revenues are recorded at provisional prices and, typically, an adjustment is then made after delivery, based on the pricing terms provided for under the relevant contract.

Sales prices for our products are based on LME and/or LBMA quotations. Concentrates are typically sold at the LME price reference minus a discount (treatment charge for zinc and lead; treatment charge and refining charge for copper). Metallic zinc and zinc oxide are typically sold at the LME quotation averaged during a quotation period, such as the month after shipment, the month prior to shipment or another agreed period, plus a negotiable premium that varies based on quality, shape, origin, and delivery terms and also according to the market where metal will be sold. In 2022, 42.5% of the total zinc raw material consumption in our smelters was produced by our mines and 57.5% was purchased from third parties or was obtained from secondary raw materials (including oxide). We buy zinc concentrates from different suppliers in the market to meet our raw material requirements. We sell all our copper and lead concentrates production to metal producers and international traders, on international market terms.

Our sales of metallic zinc are highly diversified. Our customer base is composed mainly of end users. Our products reach the following end use industries: transport, construction, infrastructure, consumer goods and industrial machinery. In 2022, 81.4% of our total sales were to customers in the continuous galvanizing, general galvanizing, die casting, transformers and alloy segments, and 18.6% were to international traders. Our ten largest customers represented approximately 50.5% of our total sales volume in 2022. In 2022, we sold to more than 341 customers across 45 different countries.

***Free zinc, treatment charges, premiums and smelter by-products***

Smelters are processing businesses that achieve a margin on the concentrates and other feedstocks they process; in large part, the price for the underlying metal is effectively passed through from the miner supplying the concentrate, or the supplier of the secondary feed material, to the smelter's customer. Our smelters use zinc concentrate as feedstock, which is supplied from our mines and from third-party suppliers. The smelter earns revenue from (i) the treatment charge reflected as a discount in the purchase price it pays, (ii) the refined metal it can produce and sell over and above the metal content it has paid for in concentrates purchased from the miner (free metal) and (iii) any premium it can earn on the refined products it sells to its customers. By-products can also contribute to a smelter's revenue. By-products from our smelting operations include, among others, silver, gold, copper, cement, sulfuric acid, lead concentrate, lead-silver concentrate, silver concentrates, limestone and copper sulfate.

***Free zinc and treatment charges***

Free zinc is the difference between the amount of zinc that is paid for in the concentrates and the total zinc recovered for sale by the smelter. The value of the zinc that is paid for corresponds to 85.0% of zinc content, which has historically been the industry standard, multiplied by the LME price of zinc. The zinc content which is not paid for is considered "free zinc." The margin of a zinc smelter improves as the amount of metal in zinc concentrates that it can recover increases.

The treatment charge ("TC") is a discount per tonne of concentrates, which is determined by negotiation between the seller (a mine or a trading company) and the buyer (a smelter). Treatment charges can be benchmark TC (negotiated by the major miners and buyers), spot or negotiated.

We apply a Benchmark TC for our integrated mining and smelter operations in Peru. For our other purchases of zinc concentrate from third-party miners and trading companies, the treatment charge is based on the Benchmark TC, spot treatment charges or treatment charges negotiated annually with miners or trading companies.

In order to reduce volatility, for most of our third-party contracts, which are renewed throughout different periods during the year, we consider the 3-years average TC. The reference (average benchmark TC of 2022, 2021 and 2020) for 2022 stood at US$230/t concentrate, down 0.9% from the previous reference (average benchmark TC of 2021, 2020 and 2019).

The market trend for treatment charges reflects the supply and demand for concentrates in the market. Treatment charges tend to fall when concentrate demand increases relative to supply, and they tend to rise when demand falls. In other words, when there is an excess of concentrate compared to the smelting processing capacity, treatment charges tend to rise and when there is a deficit of concentrate in the market, treatment charges tend to fall. For information regarding our actual treatment charges, see "Information on the Company—Smelting operations."

The following table sets forth, for the periods indicated, the zinc realized Benchmark TC, expressed in dollars per dry metric tonne (“dmt”) of concentrate.

| | For the Year Ended December 31, | |
|---|---|---|
| | **2022** | **2021** |
| Treatment Charge (in US$/dmt) | 230 | 159 |

*Source*: Wood Mackenzie.

***Premiums***

Like other smelters, we sell metallic zinc and zinc oxide products at a premium over the base LME price. The premium reflects a combination of factors, including the service provided by the smelter in delivering zinc of a certain size, shape or quality specified by its customers and transportation costs, as well as the conditions of supply and demand prevailing in the regional or local market where the metal is sold.

Premiums tend to vary from region to region, as transportation costs and the value attributable to customer specifications tend to be influenced by regional or local customs rather than being a function of global market dynamics.

The following table sets forth, for the periods indicated, information on premiums for the markets indicated, expressed in U.S. dollars per tonne.

| | For the Year Ended December 31, | |
|---|---|---|
| | **2022** | **2021** |
| Rotterdam (in US$/tonne) | 456 | 145 |
| Singapore (in US$/tonne) | 143 | 114 |
| United States (in US$/tonne) | 750 | 227 |

*Source*: Wood Mackenzie.

The following table sets forth, for the periods indicated, the gross premium over the base LME price for zinc oxide realized by our smelting operations in Brazil, expressed in dollars per tonne.

| | For the Year Ended December 31, | |
|---|---|---|
| | **2022** | **2021** |
| Brazilian operations (in US$/tonne) | 548 | 492 |

***Smelter by-products***

The quantity of by-products produced in our smelters depends on several factors, including the chemical composition of the concentrate and the recovery rates achieved. Concentrates from some mines contain higher levels of by-product metals than concentrates from other mines. In addition, the higher rate of by-product recovery, increase the number of by-products that can be produced and sold.

Sulfuric acid is the principal by-product we sell. It is manufactured from the sulfur dioxide gas generated from roasting zinc concentrates. While the zinc smelters use sulfuric acid in their leach plants, almost all this requirement is generated in each zinc smelter’s electrolysis plant, and only small amounts of the sulfuric acid produced are used in its facilities, leaving the rest available for sale. We sell sulfuric acid under annual or multi-year contracts and spot sales.

Silver concentrate is another relevant by-product that we produce at our Cajamarquilla and Juiz de Fora smelters. Silver concentrate is one of the components of zinc concentrate and is obtained during the zinc metallurgical flotation process. Recovered silver is sold primarily to international traders and local customers.

***Operating costs and expenses***

Our ability to manage our operating costs and expenses is a significant driver of our business performance. We focus on controlling and limiting our costs and expenses so that we are better prepared to overcome less favorable pricing conditions.

***Energy costs***

Our total cost of energy is composed of the operating costs of our own hydroelectric power plants, long-term electricity supply contracts, transmission and distribution charges and fees.

In Peru, the energy market is more stable in terms of generation (hydrology forecast) and prices. We obtain 1.4% of the electricity for our operations from our own hydroelectric power plants and 98.6% from third parties with contracts with terms ranging from one to two years.

In Brazil, the electricity for our operations comes from five hydroelectric plants in which our subsidiary Pollarix has directly or indirectly the following interests as of December 31, 2022: a 22.4% participation in the consortium Enercan (Campos Novos hydroelectric power plant), 100% ownership of a hydroelectric power plant (Picada) located in Minas Gerais, a 12.6% participation in the consortium Amador Aguiar I, a 12.6% participation in the consortium Amador Aguiar II and a 23.9% participation in the consortium Igarapava. We account for the consortiums as joint operations, as discussed in Note 4(b) to our consolidated financial statements. On a consolidated basis, our costs for electricity in Brazil reflect the operating costs of the hydroelectric facilities and are sensitive to a variety of factors, including hydrologic variables.

The only activity of Pollarix is to own our energy assets, and it sells energy to our Brazilian operating subsidiaries at market prices. We own all the common shares of Pollarix, which represents 33.3% of its total share capital and/or its affiliates. The remaining shares are preferred shares with limited voting rights, which are owned by our major shareholder VSA. Under the terms of the preferred shares, VSA is entitled to dividends per share equal to 1.25 times the dividends per share payable on the common shares. See "Information on the Company—Other operations—Power and energy supply—Brazil." As a result, a substantial part of the profits recognized by Pollarix from selling energy to our Brazilian operating subsidiaries will represent non-controlling interest in our income statement.

***Environmental expenses***

Our mines and smelters operate under licenses issued by governmental authorities that control, among other things, air emissions and water discharges and are subject to stringent laws and regulations relating to waste materials and various other environmental matters. Additionally, each operation, when it ultimately ceases operations permanently, will need to be rehabilitated.

We have made significant investments to reduce our environmental impact in the areas in which we operate and to ensure that we are able to comply with environmental standards. All our operational units have environmental improvement initiatives relating to reducing emissions and waste and improving the efficiency of use of natural resources and energy.

Where appropriate, we establish environmental provisions for restoration or remediation of existing contamination and disturbance, with all material issues being reviewed annually. Provisions associated with smelter and mining operations sites primarily relate to soil and groundwater contamination.

Since 2016, we have conducted an extensive study and update of our decommissioning plans, including potential environmental obligations. During this period, we also modified our internal policies for decommissioning and environmental issues, which require frequent updates of environmental studies to reflect the best international practices. As a result of these adjustments, we recorded additional environmental provisions of US$2.6 million and US$12.6 million in 2021 and 2022, respectively. Although not expected in the near future, changes in legislation and adjustments to our internal policies after the ongoing evaluations could require additional provisions.

***COVID-19***

The global economy has faced a number of challenges since the outbreak of the COVID-19 pandemic, including disruption to financial markets, rising inflation, and increased volatility due to market expectations for a global recession. Since the beginning of the pandemic in 2020, we implemented and continue to implement additional safety procedures in all our operations to ensure the health and safety of our employees, contractors and communities.

In 2022, COVID-19 direct costs amounted to US$6.0 million. COVID-19 costs are included in the cost of sales and operating expenses. A new period of disruption due to the emergence of new variants or other global health crises, or an extended global recession, could materially and adversely impact our results of operations, access to sources of liquidity and overall financial condition. See "Risk Factors—Global or regional health considerations, including the outbreak of a pandemic or contagious disease, such as the COVID-19 pandemic, have had and could continue to have adverse effects on our business, financial condition and results of operations."

***Macroeconomic conditions of the countries and regions where we operate***

***Peru***

The following table sets forth Peruvian inflation rates, interest rates and exchange rates for the dates and periods indicated.

| | For the Year Ended December 31, | |
|---|---|---|
| | **2022** | **2021** |
| Real GDP growth rate (1)(2) | 2.7% | 13.6% |
| Internal demand growth rate (2) | 2.3% | 14.7% |
| Private investment growth rate (2) | (0.5%) | 37.4% |
| Reference interest rate | 7.50% | 2.50% |
| CPI rate (2) | 7.9% | 4.0% |
| Appreciation (devaluation) of *sol* against the U.S. dollar | 4.9% | (10.6%) |
| Exchange rate of *sol* to US$1.00 (end of period) (3) | 3.8061 | 4.0015 |

*Sources*: Central Reserve Bank of Perú, Peruvian Ministry of Economy and Finance.

(1) Preview: Bloomberg consensus rate.

(2) Accumulated during each period.

(3) Official offer exchange rates.

***Brazil***

The following table sets forth Brazilian inflation rates, interest rates and exchange rates for the dates and periods indicated.

| | For the Year Ended December 31, | |
|---|---|---|
| | **2022** | **2021** |
| Real GDP growth rate (1)(2) | 2.9% | 5.0% |
| Inflation rate (IGP-M) (2) | 5.9% | 17.8% |
| Inflation rate (IPCA) (2) | 5.8% | 10.1% |
| CDI rate (end of period) | 13.7% | 9.2% |
| SELIC rate (end of period) | 13.8% | 9.3% |
| TJLP | 7.2% | 5.3% |
| Appreciation (devaluation) of *real* against the U.S. dollar | 6.5% | (7.4%) |
| Exchange rate of *real* to US$1.00 (end of period) (3) | 5.2174 | 5.5802 |

*Sources*: IBGE, the Central Bank, Cetip, and FGV.

(1) Preview published by the Central Bank official report (Focus) as of December 31, 2022.
(2) Accumulated during each period.
(3) Official offer exchange rates.

***Effects of exchange rate fluctuations***

Prices for our products are based on international indices, such as LME prices, and denominated in U.S. dollars. A portion of our production costs, however, is denominated in *reais*, so there is a mismatch of currencies between our revenue and costs. In 2022, 19.7% of our production costs and operational expenses were denominated in *reais*. A smaller portion of our costs is denominated in *soles* since most of our costs in Peru are in U.S. dollars. In 2022, 14.4% of our production costs and operational expenses were denominated in *soles*. As a result, our results of operations are affected by changes in exchange rates between *reais* and, to a lesser extent, *soles*, and the U.S. dollar.

In addition, our Brazilian subsidiary Nexa Brazil has substantial intercompany debt to Nexa Resources that is denominated in U.S. dollars. The functional currency of Nexa Brazil is the *real*, so Nexa Brazil recognizes exchange gains or losses when the value of the *real* rises or falls against the U.S. dollar. These gains and losses are not eliminated in consolidation because the functional currency of Nexa Resources is the U.S. dollar, so they do not recognize offsetting gains or losses. As of December 31, 2022, the aggregate amount outstanding under these intercompany loans was US$46.2 million.

The following table sets forth for the periods indicated (i) the high and low exchange rates, (ii) the average of the exchange rates on the last day of each month for each year and daily for each month and (iii) the exchange rate at the end of each period, expressed in *soles* per U.S. dollar (*sol*/US$) and *reais* per U.S. dollar (real/US$) as reported by the Peruvian Central Bank and the Brazilian Central Bank, respectively.

| | **Exchange Rates of S/ and R$ per US$1.00** | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Period-End** | | **Average (1)** | | **High** | | **Low** | |
| | **S/** | **R$** | **S/** | **R$** | **S/** | **R$** | **S/** | **R$** |
| **Year ended December 31,** | | | | | | | | |
| 2021 | 4.0015 | 5.5802 | 3.8826 | 5.3952 | 4.1375 | 5.8394 | 3.5978 | 4.9203 |
| 2022 | 3.8061 | 5.2174 | 3.8344 | 5.1652 | 4.0005 | 5.7039 | 3.6350 | 4.6172 |
| **Month** | | | | | | | | |
| January 2023 | 3.8460 | 5.0990 | 3.8337 | 5.2004 | 3.8953 | 5.4456 | 3.7860 | 5.0764 |
| February 2023 | 3.7936 | 5.2075 | 3.8388 | 5.1714 | 3.8699 | 5.2523 | 3.7936 | 4.9898 |
| March 2023 (through March 16) | 3.7865 | 5.2889 | 3.7890 | 5.2102 | 3.8055 | 5.2978 | 3.7785 | 5.1350 |

*Source*: Central Reserve Bank of Peru, Brazilian Central Bank, official offer exchange rates.

(1) Annually, represents the average of the daily exchange rates during the periods presented.

***Income taxes***

Income taxes in Luxembourg, Peru and Brazil have a significant impact on our results. Due to economic and political conditions, tax rates in various jurisdictions may be subject to significant changes. Our future effective tax rates could be affected by changes in the mix of earnings in countries with different statutory tax rates, changes in the valuation of deferred tax assets and liabilities and changes in tax laws or their interpretation.

***Luxembourg***

The combined applicable income tax rate (including an unemployment fund contribution) is 24.9 % from 2019 onwards.

***Brazil***

Our Brazilian subsidiaries are subject to corporate income tax on their Brazilian and non-Brazilian income. In addition to corporate income tax, a social contribution tax is imposed on their worldwide income, and the combined applicable rate is 34.0%.

***Peru***

Our Peruvian subsidiaries are subject to Peruvian income tax on their worldwide income and are eligible for a potential credit for foreign taxes paid on income derived from foreign sources. The general income tax rate is 29.5 % from 2017 onwards.

To promote investments in Peru, investors and Peruvian companies may enter into an agreement with the Peruvian government, a Legal Stability Agreement, to provide a stable legal and tax regime for a specified period. In March 2002, Nexa Peru entered a guarantee and investment protection contract, or the stability agreement. Pursuant to the stability agreement, Nexa Peru has applied a special income tax rate of 20.0% from 2007 through 2021. The 29.5% income tax rate is applicable to Nexa Peru from January 1, 2022 onwards. For more information, see "Risk Factors—Changes in tax laws may increase our tax burden and, as a result, could adversely affect our business, financial position and results of operations."

Our Peruvian subsidiaries Nexa Resources El Porvenir S.A.C. and Nexa Resources Atacocha S.A.A., do not have stability agreements with the Peruvian government and are therefore subject to a special mining tax (*Impuesto Especial a la Minería*, or "IEM"), with marginal rates from 2.00% and 8.40% of operating income, depending on the operating margin. In addition, these companies are subject to a mining levy (*regalia minera*). In 2022, Nexa Peru is subject to an IEM and mining royalties' tax once its tax stability agreement with the Peruvian government expired on December 31,2021.

Dividends distributed to us by our Peruvian subsidiaries are subject to withholding tax, at a rate of 5.0 % for profits earned beginning in 2017 and onwards.

## RESULTS OF OPERATIONS

The following discussion and analysis of our financial position and results of operations is based on our consolidated financial statements. The following table sets forth our summarized results of operations for the periods indicated.

| | For the Year Ended December 31, | | Variation | % of Net Revenue from Products Sold | |
|---|---|---|---|---|---|
| | 2022 | 2021 | 2022/2021 | 2022 | 2021 |
| | (in millions of US$) | | (percentage) | (percentage) | |
| **Consolidated income statement information:** | | | | | |
| Net revenues | 3,034.0 | 2,622.1 | 15.7 | 100.0 | 100.0 |
| Cost of sales | (2,395.2) | (1,989.0) | 20.4 | (78.9) | (75.9) |
| **Gross profit** | **638.8** | **633.1** | **0.9** | **21.1** | **24.1** |
| **Operating expenses**: | | | | | |
| Selling, general and administrative | (145.5) | (133.8) | 8.8 | (4.8) | (5.1) |
| Mineral exploration and project evaluation | (98.9) | (85.0) | 16.2 | (3.3) | (3.2) |
| Impairment loss of long-lived assets | (32.5) | - | 100 | (1.1) | 0.0 |
| Other income and expenses, net | (2.7) | 31.9 | (108.4) | (0.1) | 1.2 |
| **Operating income (loss)** | **359.2** | **446.2** | **(19.5)** | **(11.8)** | **(17.0)** |
| Share in the results of associates | 1.9 | - | 100.0 | 0.1 | - |
| **Results from equity investees** | **1.9** | **-** | **100.0** | **0.1** | **-** |
| Financial income | 25.0 | 11.5 | 118.1 | 0.8 | 0.4 |
| Financial expenses | (168.7) | (142.3) | 18.6 | (5.6) | (5.4) |
| Foreign exchange (loss) gain, net | 9.9 | (6.1) | (263.1) | 0.3 | (0.2) |
| **Net financial results** | **(133.7)** | **(136.9)** | **(2.3)** | **(4.4)** | **(5.2)** |
| **Income before income tax** | **227.4** | **309.3** | **(26.5)** | **7.5** | **11.8** |
| Income tax | (151.0) | (153.2) | (1.4) | (5.0) | (5.8) |
| **Net income for the year** | **76.4** | **156.1** | **(51.1)** | **2.5** | **6.0** |

### Net revenues

In 2022, net revenues increased by 15.7%, or US$411.9 million, primarily due to the higher zinc price during 2022, compared to the price of zinc in the same periods of 2021.

In 2022, zinc average LME prices (which is the key benchmark for our prices) increased by 15%, from US$3,007 per tonne in 2021 to US$3,485 per tonne in 2022. In 2022, this increase had a positive impact in our net revenue of approximately US$294.5 million, based on our sales volumes of 616.2kt in 2022 and the average LME price difference of US$478/t between 2022 and 2021. Additionally, we had a positive impact in our net revenues of approximately US$91 million, explained by higher sulfuric acid prices in our smelting segment, which increased from US$72 per tonne in 2021 to US$240 per tonne in 2022, as well as a positive impact of US$62 million related to higher copper and lead sales volumes of 12.2% and 26.1%, respectively. The above increase in our net revenues was partially offset by a negative impact of US$43.8 million, related to (i) a decrease in copper average LME price of 5.6% to US$8,797 per tonne and lead average LME price of 2.5% to US$2,150 per tonne compared to 2021, which totaled approximately US$36 million; and (ii) a 0.4% decrease in total metal (zinc metal + zinc oxide) sales volume, reducing our revenues by US$7.8 million in 2022. For a discussion of the underlying reasons driving the change in commodity prices, see “Operating and Financial Review and Prospects—Overview—Key factors affecting our business and results of operations—Metal Prices.”

The following table shows a breakdown of our net revenues by destination of our sales.

| | For the Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | (in millions of US$) | |
| Peru | 859.8 | 774.7 |
| Brazil | 827.2 | 753.3 |
| United States | 174.5 | 119.6 |
| Singapore | 166.4 | 56.9 |
| Switzerland | 124.7 | 78.8 |
| Chile | 120.1 | 54.0 |
| Luxembourg | 95.3 | 97.5 |
| Argentina | 94.4 | 93.1 |
| Japan | 71.4 | 58.3 |
| Taiwan | 65.0 | 53.8 |
| Colombia | 64.0 | 54.3 |
| South Africa | 55.9 | 34.5 |
| Turkey | 55.0 | 34.5 |
| Austria | 48.7 | 45.1 |
| South Korea | 32.4 | 118.6 |
| Malaysia | 26.0 | 25.7 |
| Belgium | 17.9 | 13.7 |
| Ecuador | 15.4 | 15.7 |
| Netherlands | 13.6 | 17.7 |
| Italy | 9.6 | 14.8 |
| Vietnam | 8.4 | 14.6 |
| Other | 88.4 | 102.5 |
| **Net revenues** | **3,034.0** | **2,622.1** |

The following table sets forth the components of our production and sales volumes for the metals and periods indicated.

| | For the Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| **Treatment Ore (in tonnes)** | 12,343,018 | 12,330,469 |
| **Mining Production—Metal Contained in Concentrate** | | |
| Zinc contained in concentrates (in tonnes) | 296,403 | 319,950 |
| Copper contained in concentrates (in tonnes) | 33,219 | 29,607 |
| Lead contained in concentrates (in tonnes) | 57,448 | 45,565 |
| Silver contained in concentrates (in oz) | 9,974,462 | 8,808,291 |
| Gold contained in concentrates (in oz) | 27,216 | 25,501 |
| **External Mining Sales—Metal Contained in Concentrate** (1) | | |
| Zinc contained in concentrates (in tonnes) | 179 | 0 |
| Copper contained in concentrates (in tonnes) | 32,931 | 29,677 |
| Lead contained in concentrates (in tonnes) | 59,406 | 43,232 |
| **Smelting Production—Zinc Contained in Product Volumes** | | |
| Cajamarquilla (metal available for sale in tonnes) | 332,824 | 328,145 |
| Três Marias (metal available for sale in tonnes) | 149,592 | 156,654 |
| Juiz de Fora (2) (metal available for sale in tonnes) | 84,160 | 81,119 |
| **Total zinc metal available for sale production (in tonnes)** | **566,577** | **565,918** |
| **Zinc Oxide Production—Zinc Contained in Product Volumes** | | |
| Três Marias (3) (Zinc oxide, contained zinc in tonnes) | 40,322 | 41,713 |
| **Smelting Sales—Product Volumes** | | |
| Metallic zinc (in tonnes) | 575,886 | 577,899 |
| Zinc oxide (in tonnes) | 40,315 | 40,938 |
| **Total smelting sales volumes (in tonnes)** | **616,200** | **618,837** |
| **Smelting Sales—Zinc Contained in Product Volumes** (3) | | |
| Metallic zinc (in tonnes) | 612,340 | 574,639 |
| Zinc oxide (in tonnes) | 32,252 | 32,751 |
| **Total zinc contained in product volumes (in tonnes)** | **644,592** | **607,390** |

(1) Based on typical zinc contents in metallic zinc products and zinc oxide. For more details, see "Information on the Company—Smelting operations—Zinc contained in smelting products sold."

(2) Including 3,710 tonnes of zinc ashes and drosses in 2022 and 2,649 in 2021.

(3) Including 25,216 tonnes of zinc ashes and drosses in 2022, as well as metallic zinc used in the production of zinc oxide in 2022 and 28,334 in 2021.

**Cost of sales**

In 2022, our cost of sales increased by 20.4%, or US$406.2 million, of which approximately US$163 million (~40%) was related to higher operational costs (excluding raw material), approximately US$52 million (~13%) was related to the provision of Aripuanã's inventory to its net realizable value, and approximately US$191 million (~47%) was related to higher volumes and third party zinc concentrate prices.

**Selling, general and administrative expenses**

In 2022, our selling, general and administrative ("SG&A") expenses increased by 8.8%, or US$11.7 million, to US$145.5 million due to the increase in commercial and logistics expenses following the increase in sales as well as marketing expenses. Nonetheless, for the next years, we expect savings resulting from our organizational redesign, which occurred in 3Q22.

**Mineral exploration and project evaluation**

In 2022, our mineral exploration and project evaluation expenses increased by 16.2%, or US$13.8 million, to US$98.9 million primarily in brownfield investments (mainly Vazante and Aripuanã) due to the price increase to carry out the drilling program, regarding mineral exploration. In 2022, our exploration drilling (excluding infill drilling) totaled 116.7 km, compared to 110.3 km in 2021, including Aripuanã infill drilling of 46.0 km.

**Impairment loss**

In 2022, Nexa performed its annual test and analyzed all impairment indicators and recorded a non-cash, pre-tax net impairment loss on long-lived assets of US$32.5 million (after-tax US$31.0 million), comprised of (i) an impairment reversal of US$79.5 million in the Cerro Pasco cash-generating unit ("CGU") associated with higher metal prices than assumed in the previous assessment and a change in operating assumptions in relation to the proposed Atacocha and El Porvenir further optimization being considered; (ii) an impairment loss of US$61.9 million in goodwill in the Mining Peru Group of CGUs; (iii) individual assets impairment in the amount of US$10.3 million, mainly within Assets and projects under construction; and (iv) US$39.9 million, within Mining projects and in relation to the greenfields (Shalipayco and Pukaqaqa), which are included in the Cerro Lindo CGU which is also part of the Mining Peru group of CGUs.

For further information about our impairment assessments, please refer to Note 31 to our consolidated financial statements.

**Other income and expenses, net**

In 2022, our other income and expenses, net negatively impacted our results by US$2.7 million, mainly due to (i) Aripuanã's pre-operating expenses, as well as the mine remaining in a non-commercial (ramp-up) phase until the end of 4Q22, (ii) increase in contribution to communities; and (iii) slow moving and obsolete inventory provisions; which were partially offset by (iv) government grants received from the government in Brazil and (v) changes in fair value of offtake agreement.

The following table sets forth our other income and expenses, net for the periods indicated. For further information, please refer to Note 9 to our consolidated financial statements.

| | For the Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | (in millions of US$) | |
| **Other income and expenses, net** | | |
| ICMS tax incentives | 56.7 | 71.9 |
| Changes in fair value of offtake agreement | 24.3 | - |
| Changes in fair value of derivative financial instruments | 1.4 | 7.5 |
| Loss on sale of property, plant and equipment | (0.7) | (4.9) |
| Remeasurement of asset retirement and environmental obligations | (1.5) | (6.7) |
| Pre-operating expenses related to Aripuanã | (45.8) | (8.8) |
| Slow moving and obsolete inventory | (11.5) | (1.0) |
| Provision of legal claims | (7.7) | (13.2) |
| Contribution to communities | (17.2) | (7.1) |
| Impairment of other assets | (9.3) | - |
| Others | 8.7 | (6.0) |
| **Total other income and expenses, net** | **(2.7)** | **31.9** |

**Net financial results**

We recognized a net financial expense of US$133.7 million in 2022 compared to a net financial expense of US$136.9 million in 2021. This decrease was mainly due to increase in financial income and a gain from exchange variation in 2022.

Net foreign exchange gains reflect the accounting effect of the appreciation of the *real* against the U.S. dollar on certain U.S. dollar-denominated loans made by Nexa Resources to Nexa Brazil (which uses the *real* as its functional currency). During 2022, the 6.5% average appreciation of the *real* against the U.S. Dollar[2] resulted in a foreign exchange gain.

Excluding the effect of foreign exchange variation and other financial items, the net financial expense in 2022 increased 9.8% to US$143.7 million compared to US$130.8 million in 2021, which was affected by the increase in interest on other liabilities of US$22.8 million, partially offset by an increase of interest income on financial investments and cash equivalents of US$10.8 million.

In 2022, our financial income increased by 118.1%, or US$13.5 million, to US$25.0 million. The increase in 2022 was mainly due to higher interest income on financial investments and cash equivalents.

In 2022, our financial expenses increased by 18.6%, or US$26.4 million, to US$168.7 million. The increase was mainly due to the increase in interest on other liabilities related to interest and monetary correction of the asset retirement obligations and monetary correction of contingencies.

**Income before income tax**

As a result of the factors described above, our income before income tax was US$227.4 million in 2022, as compared to income before income tax of US$309.3 million in 2021.

**Income tax**

In 2022, we recorded a net income tax expense of US$151.0 million.

In 2022, our current income tax expense increased by 20.3%, or US$24.3 million, to US$146.9 million, mainly due to a decrease in income before income tax of the year primarily affected by an unrecognized deferred tax on net operating losses and the impairment of goodwill.

The difference between the nominal and effective tax rates in 2022 and 2021 are primarily a result of effects of permanent items that affect the calculation of current income tax for the period, such as the tax loss without recognition of deferred tax in Dardanelos, the impairment of goodwill in Peru, a special mining levy and mining tax, partially offset by ICMS tax incentives in Brazil. In 2022, we recorded a deferred tax expense of US$4.1 million, mainly as a result of the foreign exchange variation in Brazil, partially offset by effects of exchange variation in Peru arising from the fluctuation of the historical exchange rate and the current exchange rate of property, plant and equipment and intangible assets.

[2] On December 31, 2022, the Brazilian real / U.S. dollar exchange rate at the end of period was R$5.217/US$1.00 compared to R$5.580/US$1.00 on December 31, 2021.

**Net income for the year**

As a result of the foregoing, we had a net income of US$76.4 million in 2022 as compared to net income of US$156.1 million in 2021.

**Results by segment**

The following table sets forth our summarized results of operations by segment for the periods indicated.

| | For the Year Ended December 31, | | Variation | Variation |
|---|---|---|---|---|
| | **2022** | **2021** | **2022/ 2021** | **2022/ 2021** |
| **Consolidated Income Statement Information:** | (in millions of US$) | | | (percentage) |
| **Net revenues:** | | | | |
| Mining | 1,248.0 | 1,165.6 | 82.4 | 7.1 |
| Smelting | 2,467.0 | 2,021.8 | 445.2 | 22.0 |
| Intersegments Sales | (683.6) | (636.2) | (47.4) | 7.4 |
| Adjustments (1) | 2.6 | 71.0 | (68.4) | (96.4) |
| **Total** | **3,034.0** | **2,622.1** | **411.9** | **15.7** |
| **Cost of sales:** | | | | |
| Mining | (905.2) | (726.7) | (178.6) | 24.6 |
| Smelting | (2,190.9) | (1,842.7) | (348.2) | 18.9 |
| Intersegments Sales | 683.6 | 636.2 | 47.4 | 7.4 |
| Adjustments (1) | 17.4 | (55.9) | 73.3 | (131.1) |
| **Total** | **(2,395.2)** | **(1,989.0)** | **(406.1)** | **20.4** |
| **Gross profit:** | | | | |
| Mining | 342.8 | 438.9 | (96.1) | (21.9) |
| Smelting | 276.1 | 179.1 | 97.0 | 54.2 |
| Adjustments (1) | 20.0 | 15.1 | 4.9 | (32.4) |
| **Total** | **638.8** | **633.1** | **5.7** | **0.9** |

(1) See Note 2 to our consolidated financial statements.

***Mining***

***Net revenues***

In 2022, our net revenues in the mining segment increased by 7.1%, or US$82.4 million. This increase was primarily due to the increase in the LME zinc prices, totaling US$115.5 million, and the increase in copper and lead volumes, totaling US$62 million. The above increase in our net revenues was partially offset by a negative aggregate impact of US$32.6 million, related to lower copper and lead LME metal prices.

Our production of zinc contained in concentrates decreased by 7.0% to 296.4 thousand tonnes in 2022, primarily due to lower zinc grades (down 20bps to 2.78%), partially compensated by higher treated ore volume.

In 2022, our volumes of copper in concentrates increased by 12.2% to 33.2 thousand tonnes of metal contained in concentrates, primarily due to higher copper grades (higher 3bps to 0.34%) and higher treated ore volume. Our volumes of lead contained in concentrates followed the same trend and increased by 26.1% to 57.4 thousand tonnes of metal contained in concentrates in 2022 compared to 2021.

In 2022, the only export volumes of zinc contained in concentrates were concentrates from Aripuanã to third parties that were not within market specifications.

***Cost of sales***

In 2022, our cost of sales in our mining segment increased by 24.6%, or US$178.6 million, mainly explained by the effect of Aripuanã and higher operational costs.

***Smelting***

***Net revenues***

In 2022, our net revenues in the smelting segment increased 22.0%, or US$445.2 million, mainly due to the increase in zinc metal prices of approximately US$300.9 million and higher by-products contribution of US$86.0 million mainly due to higher sulfuric acid prices.

Our total metal (zinc metal + zinc oxide) sales were 616.2 thousand tonnes in 2022, down 0.4% or 2.6 thousand tonnes compared to 2021, affected by the temporary decrease in supply from Vazante in 1Q22. In 2022, our sales volume of zinc metal of 575.9 thousand tonnes decreased 2.0 thousand tonnes versus 2021, following the same trend. In 2022, our sales volumes of zinc oxide decreased by 1.5%, or 0.6 thousand tonnes, to 40.3 thousand tonnes.

***Cost of sales***

In 2022, our cost of sales in our smelting segment increased by 18.9%, or US$348.2 million, primarily due to (i) the increase in metal prices impacting the zinc concentrate purchase price; (ii) the increase in energy and other variable costs; and (iii) the negative FX impact.

***Non-IFRS measures and reconciliation***

*Consolidated Adjusted EBITDA*

In this report, we present Consolidated Adjusted EBITDA, which we define as net income (loss) for the year, adjusted by (i) share in the results of associates, depreciation and amortization, net financial results and income tax; (ii) non-cash events and non-cash gains or losses that do not specifically reflect our operational performance for the specific period (including: (loss) gain on sale of investments; impairment and impairment reversals; (loss) gain on sale of long-lived assets; write-offs of long-lived assets; and remeasurement in estimates of asset retirement obligations); and (iii) pre-operating and ramp-up expenses incurred during the commissioning and ramp-up phases of greenfield projects (currently, Aripuanã).

Our management uses Consolidated Adjusted EBITDA as an additional performance measure on a consolidated basis, in addition to, and not as a substitute for, net income. We believe this measure provides useful information about the performance of our operations as it facilitates consistent comparisons between periods, planning and forecasting of future operating results reflecting the operational performance of our existing business without the impact of interest, taxes, amortization, depreciation, non-cash items that do not reflect our operational performance for the specific reporting period and the impact of pre-operating and ramp-up expenses during the commissioning and ramp-up phases of greenfield projects (currently, only Aripuanã has reached these stages). Pre-operating and ramp-up expenses incurred during the commissioning and ramp-up of phases of Aripuanã are not considered infrequent, unusual or non-recurring expenses, as they have recurred in prior years with respect to Aripuanã and may recur in the future with respect to Aripuanã or any other projects that may reach the commissioning or ramp-up phases. Our management believes this adjustment is helpful because it shows our performance without the impact of specific expenses relating to a greenfield project that has reached the commissioning or ramp-up phases, with no connection with the performance of our other existing operations.

When applicable, Adjusted EBITDA also excludes the impact of (i) events that are non-recurring, unusual or infrequent, and (ii) other specific events that, by their nature and scope, do not reflect our operational performance for the specific period in our management's view. These events did not impact our Adjusted EBITDA in 2022 and 2021, but may impact future periods.

Our calculation of Adjusted EBITDA may be different from the calculation used by other companies, including our competitors in the mining industry, so our measures may not be comparable to those of other companies.

A reconciliation of Adjusted EBITDA to our net income for the years indicated is presented below.

| | For the Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | (in millions of US$) | |
| **Reconciliation of Adjusted EBITDA:** | | |
| **Net income for the year** | 76.4 | 156.1 |
| Share in the results of associates | (1.9) | - |
| Depreciation and amortization | 290.9 | 258.7 |
| Net financial results | 133.7 | 136.9 |
| Income tax | 151.0 | 153.2 |
| Other Adjustments (1) | - | (0.7) |
| Change in fair value of offtake agreement (2) | (24.3) | - |
| Impairment loss of long-lived assets (3) | 32.5 | - |
| Impairment of other assets (4) | 9.3 | - |
| Loss (gain) on sale property, plant and equipment (5) | 0.7 | 4.9 |
| Remeasurement in estimates of asset retirement obligations (6) | (6.2) | 6.4 |
| Remeasurement adjustment of streaming agreement (7) | 10.6 | 19.6 |
| Pre-operating and ramp-up expenses during the commissioning and ramp-up of greenfield projects (Aripuanã) (8) | 87.5 | 8.8 |
| **Adjusted EBITDA** | **760.3** | **743.8** |

(1) Non-cash adjustment: Reversal of an impairment relating to immaterial PP&E assets.

(2) Non-cash adjustment: Derivative financial instrument related to an offtake sale contract.

(3) Non-cash adjustment: Cash generating unit and individual PP&E assets impairment loss.

(4) Non-cash adjustment: Value-added-taxes impairment loss.

(5) Non-cash adjustment: Results from sale and disposal of certain non-current assets.

(6) Non-cash adjustment: Asset retirement obligation remeasurement of discount rate and updated studies that are not subject to capitalization.

(7) Non-cash adjustment: Remeasurement of contractual obligation related to the forward sale contract of Cerro Lindo's Silver contained in the ore.

(8) Expenses related to pre-operating and ramp-up expenses incurred during the commissioning and ramp-up phases of greenfield projects which have not achieved their nameplate capacity.

This definition of Adjusted EBITDA reflects a revision we made in December 2022, to exclude certain items, aiming to provide a better understanding of the operational performance of the Company's business without the potential distortions from (i) pre-operating and ramp-up expenses incurred during the commissioning and ramp-up phases of greenfield projects (Aripuanã is currently the only greenfield project that has reached this phase) and (ii) certain non-cash events that do not specifically reflect our operational performance for the specific period (i.e., loss (gain) on sale property, plant and equipment; remeasurement in estimates of asset retirement obligations, and remeasurement adjustment of streaming agreement). Previous numbers have been reclassified according to the updated definition, and certain 2021 and 2020 figures have been adjusted in our consolidated financial statements.

For purposes of comparison, the following 2021 vs. 2020 comparisons for the following tables show (i) the updated figures in our consolidated financial statements and (ii) the previous figures disclosed in our Annual Report on Form 20-F for the year ended December 31, 2021. For additional information, see Note 2 to our consolidated financial statements.

| | For the Year Ended December 31, | | | |
|---|---|---|---|---|
| | 2021 | 2020 | 2021 | 2020 |
| | Updated (1) | Updated (1) | Previous (2) | Previous (2) |
| | (in millions of US$) | | | |
| **Reconciliation of Adjusted EBITDA:** | | | | |
| Net income (loss) for the year | 156.1 | (652.5) | 156.1 | (652.5) |
| Share in the results of associates | - | - | - | - |
| Depreciation and amortization | 258.7 | 243.9 | 258.7 | 243.9 |
| Net financial results | 136.9 | 278.2 | 136.9 | 278.2 |
| Income tax | 153.2 | (24.2) | 153.2 | (24.2) |
| Other Adjustments | (0.7) | - | (0.7) | - |
| Change in fair value of offtake agreement | - | - | - | - |
| Impairment loss of long-lived assets | - | 557.5 | - | 557.5 |
| Impairment of other assets | - | - | - | - |
| Loss (gain) on sale property, plant and equipment | 4.9 | 2.3 | - | - |
| Remeasurement in estimates of asset retirement obligations | 6.4 | 4.0 | - | - |
| Remeasurement adjustment of streaming agreement | 19.6 | 7.8 | - | - |
| Pre-operating and ramp-up expenses during the commissioning and ramp-up of greenfield projects (Aripuanã) | 8.8 | 1.9 | - | - |
| **Adjusted EBITDA** | **743.8** | **418.9** | **704.2** | **402.9** |

(1) Updated in Nexa's consolidated financial statements.

(2) Previously disclosed in Nexa's Annual Report on Form 20-F for the year-ended December 31, 2021.

*Adjusted EBITDA by Segment*

Adjusted EBITDA by segment is the main performance measure used by the chief operating decision maker to assess segment performance and to make decisions about resource allocation. Adjusted EBITDA information for Nexa's segments is disclosed and reconciled with IFRS numbers in note 2 to Nexa's financial statements. The use of Adjusted EBITDA as a segment performance measure is not considered a non-IFRS financial measure.

A breakdown of Adjusted EBITDA by segment is presented below.

| | For the Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | (in millions of US$) | |
| **Breakdown of Adjusted EBITDA by segment:** | | |
| Mining | 439.8 | 476.9 |
| Smelting | 326.4 | 270.9 |
| Other [(1)] | (5.9) | (4.0) |
| **Adjusted EBITDA** | **760.3** | **743.8** |

(1) Represents the residual component of Adjusted EBITDA either not pertaining to the mining or smelting segments, or, represents items that, because of their nature, are not being allocated to a specific segment.

| | For the Year Ended December 31, | | | |
|---|---|---|---|---|
| | 2021 | 2020 | 2021 | 2020 |
| | Updated [(1)] | Updated [(1)] | Previous [(2)] | Previous [(2)] |
| | (in millions of US$) | | | |
| **Breakdown of Adjusted EBITDA by segment:** | | | | |
| Mining | 476.9 | 155.3 | 440.6 | 140.5 |
| Smelting | 270.9 | 270.3 | 267.7 | 269.2 |
| Other [(3)] | (4.0) | (6.8) | (4.0) | (6.8) |
| **Adjusted EBITDA** | **743.8** | **418.9** | **704.2** | **402.9** |

(1) Updated in Nexa's consolidated financial statements.

(2) Previously disclosed in Nexa's Annual Report on Form 20-F for the year-ended December 31, 2021.

(3) Represents the residual component of Adjusted EBITDA either not pertaining to the mining or smelting segments, or, represents items that, because of their nature, are not being allocated to a specific segment.

*Net Debt*

We define net debt as (i) loans and financing and lease liabilities *less* (ii) cash and cash equivalents, *less* (iii) financial investments, *plus*/*less* (iv) the fair value of derivative financial liabilities or assets, respectively. Our management believes that net debt is an important figure because it indicates our ability to repay outstanding debts that become due simultaneously using available cash and highly liquid assets.

A reconciliation of net debt to loans and financing as of December 31, 2022 and 2021 is presented below.

| | As of December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | (in millions of US$) | |
| **Calculation of Net Debt:** | | |
| Loans and financing | 1,669.3 | 1,699.3 |
| Derivative financial instruments | 2.6 | 6.5 |
| Lease liabilities | 5.0 | 19.6 |
| Cash and cash equivalents | (497.8) | (743.8) |
| Financial investments | (18.1) | (19.2) |
| **Net Debt** | **1,161.0** | **962.5** |

*Net Debt to Adjusted EBITDA*

We define net debt to Adjusted EBITDA ratio as net debt divided by Adjusted EBITDA.

The calculation of our net debt to Adjusted EBITDA ratio for the periods indicated is presented below.

| | As of and For the Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | (in millions of US$) | |
| **Calculation of Net Debt to Adjusted EBITDA Ratio:** | | |
| Net debt (period end) | 1,161.0 | 962.5 |
| Adjusted EBITDA | 760.3 | 743.8 |
| **Net Debt to Adjusted EBITDA Ratio** | **1.53** | **1.29** |

| | As of and For the Year Ended December 31, | | | |
|---|---|---|---|---|
| | 2021 | 2020 | 2021 | 2020 |
| | Updated (1) | Updated (1) | Previous (2) | Previous (2) |
| | (in millions of US$) | | | |
| **Calculation of Net Debt to Adjusted EBITDA Ratio:** | | | | |
| Net debt (period end) | 962.5 | 923.7 | 962.5 | 962.5 |
| Adjusted EBITDA | 743.8 | 418.9 | 704.2 | 402.9 |
| **Net Debt to Adjusted EBITDA Ratio** | **1.29** | **2.20** | **1.37** | **2.29** |

(1) Updated in Nexa's consolidated financial statements.

(2) Previously disclosed in Nexa's Annual Report on Form 20-F for the year-ended December 31, 2021.

*Adjusted EBITDA Margin*

We define Adjusted EBITDA margin as Adjusted EBITDA divided by net revenues. The calculation of our Adjusted EBITDA margin for the periods indicated is presented below.

| | For the Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | (in millions of US$) | |
| **Calculation of Adjusted EBITDA Margin:** | | |
| Adjusted EBITDA | 760.3 | 743.8 |
| Net revenue | 3,034.0 | 2,622.1 |
| **Adjusted EBITDA Margin** | **25.1%** | **28.4%** |

| | For the Year Ended December 31, | | | |
|---|---|---|---|---|
| | 2021 | 2020 | 2021 | 2020 |
| | Updated (1) | Updated (1) | Previous (2) | Previous (2) |
| | (in millions of US$) | | | |
| **Calculation of Adjusted EBITDA Margin:** | | | | |
| Adjusted EBITDA | 743.8 | 418.9 | 704.2 | 402.9 |
| Net revenue | 2,622.1 | 1.950.9 | 2,622.1 | 1.950.9 |
| **Adjusted EBITDA Margin** | **28.4%** | **21.5%** | **26.9%** | **20.7%** |

(1) Updated in Nexa's consolidated financial statements.

(2) Previously disclosed in Nexa's Annual Report on Form 20-F for the year-ended December 31, 2021.

*Adjusted Working Capital*

We calculate adjusted working capital as (i) trade accounts receivable, *plus* (ii) inventory, *plus* (iii) other assets, *less* (iv) trade payables, *less* (v) confirming payable, *less* (vi) salaries and payroll charges, *less* (vii) other liabilities. Our management believes that adjusted working capital is an important figure because it provides a relevant metric for the efficiency and liquidity of our operating activities.

The calculation of our adjusted working capital derived from our consolidated financial statements as of December 31, 2022 and 2021 is presented below.

| | As of December 31, | |
|---|---|---|
| | **2022** | **2021** |
| | **(in millions of US$)** | |
| **Calculation of Adjusted Working Capital:** | | |
| Trade accounts receivable | 223.7 | 231.2 |
| Inventory | 395.2 | 372.5 |
| Other assets | 210.0 | 179.7 |
| Trade payables | (413.9) | (411.8) |
| Confirming payable | (216.4) | (232.9) |
| Other liabilities | (75.7) | (64.7) |
| **Adjusted working capital** | **123.0** | **74.0** |

***Cash cost, net of by-product credits and related measures***

In this report, we also present measures of costs that are widely used by peer companies operating in the mining and smelting industries. These performance measures are not IFRS measures, and they do not have a standard meaning and therefore may not be comparable to similar data presented by other mining and smelting companies. They should not be considered as a substitute for costs of sales, costs of selling and administrative expenses, or as an indicator of costs. Similar measures are also calculated by Wood Mackenzie for many market participants, but Wood Mackenzie's methodology differs from the methodology we use below.

Our management uses cash cost, net of by-product credits and related measures, among other measures, for internal planning and performance measurement purposes. We believe these measures provide useful information about the operational performance of our operations that facilitates period-to-period comparisons on a consistent basis.

In calculating cash cost, net of by-product credits, we account for transactions between our mining operations and our smelting operations using the same methodology we use to evaluate the performance of our mining and smelting segments. See Note 2 to our consolidated financial statements. We prepare an internal calculation based on transfer pricing adjustments made on an arm's length principal basis. All information disclosed for cash cost, net of by-product credits is consistent with this methodology.

***Mining operations***

*Cash cost, net of by-product credits:* For our mining operations, cash cost, net of by-product credits includes all direct costs associated with mining, concentrating, leaching, solvent extraction, on-site administration and general expenses, any off-site services essential to the operation, concentrate freight costs, marketing costs and property and severance taxes paid to state or federal agencies that are not profit-related. Treatment and refining charges on metal sales, which are typically recognized as a deduction component of sales revenues, are added to cash cost. Cash cost is calculated on a contained zinc sold basis, which indicates the percentage of zinc in metal sold, after the deduction of by-product credits attributable to mining operations, such as copper, silver, gold, and lead, which are deducted from total cash cost.

*Sustaining cash cost, net of by-product credits*: Sustaining cash cost, net of by-product credits is defined as the cash cost, net of by-product credits *plus* non-expansion capital expenditure, including sustaining health, safety and environment, modernization and other non-expansion-related capital expenditures.

*All in sustaining cost, net of byproduct credits*: All in sustaining cost ("AISC") is defined as sustaining cash cost, net of byproduct credits *plus* corporate general and administrative expenses, royalties and workers' participation.

Our cash cost and AISC net of by-products credits are measured with respect to zinc sold.

For mining operations, we present below cash cost, net of by-product credits, sustaining cash cost, net of by-product credits and all-in sustaining cost and a reconciliation to our consolidated financial statements.

**For the year ended December 31, 2022**

| | Vazante | Morro Agudo | Cerro Lindo | El Porvenir | Atacocha | Consolidation of Operations | Corporate and Others | Mining |
|---|---|---|---|---|---|---|---|---|
| | Operations (in millions of US$, unless otherwise indicated) | | | | | | | |
| Sales Volume (Zinc Contained in Concentrate) | | | | | | | | |
| Tonnes | 131,527 | 18,700 | 85,910 | 52,001 | 9,560 | 297,699 | 0.0 | 297,699 |
| Cost of goods sold | 116.0 | 63.8 | 396.5 | 167.9 | 75.4 | 819.6 | (1.8) | 817.8 |
| On-site G&A | 1.2 | 0.8 | 0.5 | 0.7 | 0.3 | 3.4 | 0.0 | 3.4 |
| By-product credits | (10.3) | (22.6) | (351.2) | (123.3) | (72.2) | (579.7) | 11.7 | (568.0) |
| Treatment and refining charges | 91.3 | 9.6 | 39.9 | 27.6 | 5.1 | 173.5 | 0.0 | 173.5 |
| Selling expenses | 0.4 | 1.4 | 1.8 | 0.6 | 0.5 | 4.7 | 0.0 | 4.7 |
| Depreciation and amortization | (24.0) | (9.1) | (117.0) | (27.2) | (14.9) | (192.1) | (0.0) | (192.2) |
| Royalties | (2.1) | (1.4) | (5.6) | (3.8) | (0.9) | (13.8) | 0.0 | (13.8) |
| Workers' participation & bonus | (1.6) | (0.9) | (13.3) | (5.2) | (0.8) | (21.8) | 0.0 | (21.8) |
| Others | (9.5) | (1.2) | 0.2 | 0.6 | (7.3) | (17.3) | 0.0 | (17.3) |
| **Cash cost net of by-product credits (sold)** | **161.4** | **40.4** | **(48.2)** | **37.8** | **(15.0)** | **176.5** | **9.9** | **186.4** |
| Cash cost net of by-product credits (sold) (US$/tonne) | 1,227.5 | 2,160.5 | (561.4) | 727.7 | (1,566.2) | 592.8 | 0.0 | 626.0 |
| Non-expansion capital expenditure | 41.9 | 6.8 | 42.5 | 36.7 | 4.5 | 132.4 | 69.4 | 201.8 |
| Sustaining cash cost net of by-product credits | 203.4 | 47.2 | (5.8) | 74.5 | (10.5) | 308.9 | 79.3 | 388.2 |
| **Sustaining cash cost net of by-product credits (sold) (per tonne)** | **1,546.2** | **2,523.8** | **(67.1)** | **1,433.6** | **(1,096.6)** | **1,037.5** | **0.0** | **1,304.0** |
| Workers' participation & bonus | 1.6 | 0.9 | 13.3 | 5.2 | 0.8 | 21.8 | 0.0 | 21.8 |
| Royalties | 2.1 | 1.4 | 5.6 | 3.8 | 0.9 | 13.8 | 0.0 | 13.8 |
| Corporate G&A | | | | | | | 52.0 | 52.0 |
| AISC net of by-product credits (sold) | | | | | | | 0.0 | 475.8 |
| **AISC net of by-product credits (sold) (per tonne)** | | | | | | | **0.0** | **1.598.1** |

**For the year ended December 31, 2021**

| | Vazante | Morro Agudo | Cerro Lindo | El Porvenir | Atacocha | Consolidation of Operations | Corporate and Others | Mining |
|---|---|---|---|---|---|---|---|---|
| | Operations (in millions of US$, unless otherwise indicated) | | | | | | | |
| Sales Volume (Zinc Contained in Concentrate) | | | | | | | | |
| Tonnes | 140,500 | 17,278 | 103,848 | 51,382 | 7,747 | 320,756 | 0.0 | 320,756 |
| Cost of goods sold | 95.5 | 49.7 | 376.9 | 147.7 | 50.0 | 719.8 | 6.8 | 726.7 |
| On-site G&A | 11.8 | 11.1 | 0.2 | 0.3 | 0.1 | 33.6 | 0.0 | 33.6 |
| By-product credits | (13.0) | (17.6) | (358.2) | (105.0) | (49.9) | (543.6) | (0.0) | (543.7) |
| Treatment and refining charges | 70.9 | 6.6 | 55.1 | 27.2 | 4.2 | 164.0 | 0.0 | 164.0 |
| Selling expenses | 0.5 | 1.9 | 1.9 | 0.7 | 0.0 | 55.3 | 0.0 | 55.3 |
| Depreciation and amortization | (20.1) | (5.5) | (112.6) | (25.9) | (11.2) | (175.4) | 0.5 | (174.9) |
| Royalties | (1.6) | (1.0) | 0.0 | (2.3) | (0.7) | (55.5) | 0.0 | (55.5) |
| Workers' participation & bonus | (1.6) | (0.9) | (18.4) | (3.8) | (0.2) | (25.0) | 0.0 | (25.0) |
| Others | (5.9) | (1.6) | 0.0 | 3.8 | 3.1 | (0.6) | 0.0 | (0.6) |
| **Cash cost net of by-product credits (sold)** | **126.5** | **32.6** | **(55.1)** | **42.8** | **(44.3)** | **142.4** | **7.4** | **149.8** |
| Cash cost net of by-product credits (sold) (US$/tonne) | 900.2 | 1,884.1 | (530.1) | 832.2 | (557.7) | 444.0 | 0.0 | 466.9 |
| Non-expansion capital expenditure | 42.0 | 7.6 | 40.5 | 36.5 | 11.6 | 138.2 | 23.8 | 162.0 |
| Sustaining cash cost net of by-product credits | 168.4 | 40.1 | (14.5) | 79.3 | 77.2 | 280.6 | 31.1 | 311.7 |
| **Sustaining cash cost net of by-product credits (sold) (per tonne)** | **1, 198.8** | **2,322.5** | **(139.6)** | **1,543.3** | **935.2** | **874.8** | **0.0** | **971.9** |
| Workers' participation & bonus | 1.6 | 0.9 | 18.4 | 3.8 | 0.2 | 25.0 | - | 25.0 |
| Royalties | 1.6 | 1.0 | 0.0 | 2.3 | 0.7 | 5.5 | - | 5.5 |
| Corporate G&A | - | - | - | - | - | - | 54.2 | 54.2 |
| AISC net of by-product credits (sold) | | | | | | | | 396.5 |
| **AISC net of by-product credits (sold) (per tonne)** | | | | | | | | **1,236.1** |

***Smelting operations***

*Cash cost, net of by-product credits*: For our smelting operations, cash cost, net of by-product credits includes all the costs of smelting, including costs associated with labor, net energy, maintenance, materials, consumables and other on-site costs, as well as raw material costs. Cash cost is calculated on a contained zinc sold basis after the deduction of by-product credits attributable to smelting operations.

*Sustaining cash cost, net of byproduct credits*: Sustaining cash cost, net of byproduct credits is defined as the cash cost, after byproduct credits *plus* non -expansion capital expenditure, including sustaining health, safety and environment, modernization and other non-expansion-related capital expenditures.

*All in sustaining cost, net of byproduct credits*: All in sustaining cost is defined as sustaining cash cost, net of byproduct credits *plus* general and administrative expenses and workers' participation.

Our cash cost and AISC net of by-products credits are measured with respect to contained zinc sold, not considering resale operations of zinc from third parties. For our smelting operations, we present below cash cost, net of byproduct credits, sustaining cash cost, net of byproduct credits and all in sustaining cost and a reconciliation to our consolidated financial statements.

**For the year ended December 31, 2022**

| | **Três Marias** | **Juiz de Fora** | **Cajamarquilla** | **Consolidation of Operations** | **Corporate and Others** | **Smelting** |
|---|---|---|---|---|---|---|
| | **Operations (in millions of US$, unless otherwise indicated)** | | | | | |
| Sales Volume (Zinc Contained in Products) | | | | | | |
| Tonnes | 180,029 | 83,084 | 334,076 | 597,189 | 0.0 | 597,189 |
| Cost of goods sold | 621.4 | 325.2 | 1,219.4 | 2,166.1 | (6.1) | 2,159.9 |
| Cost of services rendered | (19.5) | (9.9) | (57.0) | (86.4) | 0.0 | (86.4) |
| On-site G&A | 2.0 | 1.1 | 6.1 | 9.2 | 0.0 | 9.2 |
| Depreciation and amortization | (18.4) | (13.1) | (47.2) | (78.7) | 0.0 | (78.7) |
| By-product credits | (9.5) | (36.8) | (180.4) | (226.7) | 6.1 | (220.5) |
| Workers' participation & Bonus | (1.6) | (1.3) | (13.7) | (16.6) | 0.0 | (16.6) |
| Others | (13.5) | (6.0) | 14.7 | (4.8) | 0.0 | (4.8) |
| Cash cost, net of by-product credits (sold) | 561.0 | 259.1 | 941.9 | 1,761.9 | 0.0 | 1,761.9 |
| **Cash cost, net of by-product credits (sold) (per tonne)** | **3,116.0** | **3,118.1** | **2,819.5** | **2,950.4** | **-** | **2,950.4** |
| Non-expansion capital expenditure | 42.1 | 22.4 | 45.3 | 109.9 | (18.9) | 90.9 |
| Sustaining cash cost, net of by-product credits | 603.1 | 281.5 | 987.2 | 1,871.8 | (18.9) | 1,852.9 |
| **Sustaining cash cost net of by-product credits (sold) (per tonne)** | **3,350.1** | **3,387.9** | **2,955.1** | **3,134.4** | **-** | **3,102.7** |
| Workers' participation | 1.6 | 1.3 | 13.7 | 16.6 | 0.0 | 16.6 |
| Corporate G&A | 0.0 | 0.0 | 0.0 | 0.0 | 31.0 | 31.0 |
| AISC net of by-product credits (sold) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1,900.6 |
| **AISC net of by-product credits (sold) (per tonne)** | | | | | | **3,183.0** |

**For the year ended December 31, 2021**

| | Três Marias | Juiz de Fora | Cajamarquilla | Consolidation of Operations | Corporate and Others | Smelting |
|---|---|---|---|---|---|---|
| | Operations (in millions of US$, unless otherwise indicated) | | | | | |
| Sales Volume (Zinc Contained in Products) | | | | | | |
| Tonnes | 188,216 | 80,008 | 324,973 | 593,197 | 0.0 | 593,197 |
| Cost of goods sold | 526.6 | 229.7 | 1,038.6 | 1,794.9 | (2.7) | 1,792.2 |
| Cost of services rendered | (21.2) | (2.8) | (36.3) | (60.2) | 0.0 | (60.2) |
| On-site G&A | 11.7 | 11.3 | 8.2 | 11.2 | 0.0 | 11.2 |
| Depreciation and amortization | (13.1) | (11.7) | (54.1) | (78.9) | 0.0 | (78.9) |
| By-product credits | (11.9) | (23.0) | (91.1) | (126.0) | 3.9 | (122.1) |
| Workers' participation & Bonus | (1.3) | (1.2) | (10.3) | (12.8) | 0.0 | (12.8) |
| Others | (18.7) | (10.1) | (22.3) | (51.1) | 0.0 | (51.1) |
| Cash cost, net of by-product credits (sold) | 462.1 | 182.2 | 832.77 | 1,477.0 | 1.2 | 1, 478.2 |
| **Cash cost, net of by-product credits (sold) (per tonne)** | **2,455.4** | **2,277.4** | **2,562.3** | **2,490.0** | **-** | **2,492.0** |
| Non-expansion capital expenditure | 17.7 | 19.0 | 39.3 | 76.0 | (1.3) | 74.8 |
| Sustaining cash cost, net of by-product credits | 479.8 | 201.3 | 872.0 | 1,553.1 | (0.1) | 1,553.0 |
| **Sustaining cash cost net of by-product credits (sold) (per tonne)** | **2,549.2** | **2,515.4** | **2,683.4** | **2,618.2** | **-** | **2,618.1** |
| Workers' participation | 1.3 | 1.2 | 10.3 | 12.8 | 0.0 | 12.8 |
| Corporate G&A | 0.0 | 0.0 | 0.0 | 0.0 | 29.0 | 29.0 |
| AISC net of by-product credits (sold) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1,594.9 |
| **AISC net of by-product credits (sold) (per tonne)** | | | | | | **2,688.6** |

# LIQUIDITY AND CAPITAL RESOURCES

## Overview

In the ordinary course of business, our principal funding requirements are for working capital, capital expenditures relating to maintenance and expansion investments, servicing our indebtedness and distributions to our shareholders. We typically meet these requirements through operational cash flows, long-term borrowings from private banks, the Brazilian Economic and Social Development Bank (*Banco Nacional de Desenvolvimento Econômico e Social*, or "BNDES"), international export credit agencies, and the issuance of debt securities in the international capital markets.

In February 2022, following our liability management strategy and considering our strong cash position, Nexa Peru, a subsidiary of Nexa, announced and completed the early redemption and cancellation of all of its outstanding 4.625% Notes due 2023 in the principal amount of US$128 million.

Our financing strategy is to fund our necessary capital expenditures and to preserve our liquidity while meeting our debt payment obligations. We believe that our cash and cash equivalents on hand, cash from operations and available borrowings will be adequate to meet our capital expenditure requirements and liquidity needs for our current responsibilities. We may require additional capital to meet our longer-term liquidity and future growth requirements. Although we believe that our sources of liquidity are adequate, weaker economic conditions in Brazil, Peru or globally could materially adversely affect our business and liquidity.

## Sources of funds

Our principal sources of funds are cash flows from operations and borrowings. The availability of cash flows from operations is affected by our working capital requirements, share premium reimbursements, dividends and investment activities, as well as a need to service our indebtedness. In 2022, we generated net cash from operating activities of US$266.6 million, a 45.9% decrease as compared to US$493.0 million in 2021, which was largely due to: (i) a decrease in working capital related to increased inventory levels, including the ore stockpile built at Aripuanã to secure the ramp-up period and the reduction in trade and confirming payables; and (ii) an increase in the income tax paid during 2022, mainly explained by the increase in LME prices, resulting in an increase in taxable profits of our subsidiaries. Additionally, the tax rate in Peru increased due to the expiration of Cerro Lindo's tax stability agreement in 2022.

## Uses of funds

In the ordinary course of business, our principal funding requirements are related to capital expenditures, dividend payments and debt service. In 2022, we also used funds to conclude the construction of Aripuanã and working capital needs.

### *Capital expenditures*

Our capital expenditures in 2022 amounted to US$381.2 million. Of this amount, 23.2% was allocated to expansion projects, mainly driven by Aripuanã's construction (US$66.5 million), slightly higher than our annual guidance due to the negative FX impact and additional contract expenses.

Non-expansion projects, which includes sustaining and HSE, among others, accounted for 76.4% of the total capital expenditures (or US$292.8 million) in 2022, including US$46.1 million of Aripuanã.

For 2023, we have budgeted US$310.0 million to invest in our operations and projects that are currently underway.

### *Expenses related to exploration and project evaluation*

In 2022, exploration expenses were US$64.2 million, mainly driven by a focus on increasing our mineral resources and reserves in mines we operate, as well as on projects in the exploration phase, contributing to our long-term growth strategy. We reinforced our efforts to replenish and increase available mineral resources, focusing mainly on identifying new ore bodies through drilling campaigns and preserving our investments in greenfield and brownfield projects.

Project evaluation investment amounted to US$23.2 million in 2022, including approximately US$1.9 million directed towards greenfield projects in FEL1 and FEL2 stages and US$13.9 million to brownfield projects in the same stages.

We expect to continue to advance with our exploration and drilling campaigns and develop our pipeline of projects. In 2023, we estimate to spend US$110.0 million on expenses relating primarily to mineral exploration (US$55.0 million), mineral rights and sustaining (mine development), prioritizing potential belts for exploratory drilling and resource additions to consolidate our zinc and copper pipeline.

***Distributions and repurchases***

On February 15, 2022, Nexa's Board approved a distribution to Nexa's shareholders of US$50 million, US$44 million (US$0.33 per share) as dividend and US$6 million (US$0.05 per share) as share premium which was paid on March 25, 2022.

On February 15, 2023, Nexa's Board approved a distribution to Nexa's shareholders of US$25.0 million (US$0.19 per share) as share premium (or special dividend) to be paid on March 24, 2023.

**Debt**

As of December 31, 2022, our total outstanding consolidated indebtedness (current and non-current loans and financings, including accrued interest as of December 31, 2022) is US$1,669.3 million, consisting of US$50.8 million of short-term indebtedness, including the current portion of long-term indebtedness (or 3.0% of the total indebtedness), and US$1,618,4 million of long-term indebtedness (or 97.0% of the total indebtedness).

Our U.S. dollar denominated indebtedness as of December 31, 2022 was US$1,392.6 million (or 83.4% of our total indebtedness), our Brazilian real denominated indebtedness was US$276.2 million (or 16.5% of our total indebtedness) and other denominated indebtedness was US$0.4 million (or 0.1% of our total indebtedness).

As of December 31, 2022, US$458.3 million, or 27.5% of our total consolidated indebtedness, bears interest at floating rates, including US$276.2 million of *real*-denominated indebtedness that bear interest at rates based on the CDI rate, SELIC rate or *Taxa de Juros de Longo Prazo* ("TJLP") and *Taxa de Longo Prazo* ("TLP") rates (the long-term interest rates set by the Brazilian National Monetary Council and the basic costs of financing of the BNDES), and US$182.1 million of foreign currency-denominated indebtedness that bear interest at rates based on LIBOR and SOFR.

We continue to discuss with financial entities which fallback rate will replace the interest rate for our relevant LIBOR-based debt. Given the extension of most U.S. Dollar LIBOR tenors until June 30, 2023, we do not expect any relevant impacts on our business, financial position and results of operations in the current year.

Only 3.0% (US$50.8 million) of the total debt matures in 2023, 12.2% (US$203.0 million) matures between 2024 and 2026, while 84.8% (US$1,415.5 million) of total debt matures in and after 2027.

The following table sets forth selected information with respect to our total outstanding consolidated indebtedness as of December 31, 2022.

| Indebtedness | Average Annual Interest Rate | As of December 31, 2022 Current Portion (1) | Long-term Portion | Total |
|---|---|---|---|---|
| | | | (in millions of US$) | |
| Eurobonds | Fixed + 5.84% | 18.7 | 1,191.8 | 1,210.5 |
| BNDES | TJLP + 2.82%<br>SELIC + 3.10%<br>TLP – IPCA + 5.46% | 26.1 | 190.2 | 216.3 |
| Export Credit Note | LIBOR + 1.54%<br>134.20% CDI<br>SOFR + 2.5% | 5.5 | 227.3 | 232.8 |
| Other | | 0.6 | 9.1 | 9.7 |
| **Total** | | **50.8** | **1,618.4** | **1,669.3** |

(1) Includes principal and interest.

As of December 31, 2022, US$216.3 million remains outstanding under our loan agreements with BNDES, US$142.6 million regarding to the Nexa Dardanelos' facility agreement which are guaranteed by Nexa Brazil and Nexa Resources, and US$73.7 million regarding to Nexa Brazil's facility agreement which are guaranteed only by Nexa Resources.

Some of our debt instruments also contain other covenants that restrict, among other things, our ability and the ability of certain of our subsidiaries to incur liens and merge or consolidate with any other person or sell or otherwise dispose of all or substantially all its assets. These instruments also contained covenants requiring that we comply with certain financial ratios, including:

- a debt service coverage ratio of 1.0:1.0;
- a net debt to EBITDA ratio of 4.0:1.0; and
- a total debt to total capitalization ratio of 0.7:1.0.

As of December 31, 2022 we were in compliance with the above stated ratios.

***Short-term indebtedness and revolving credit lines***

Our consolidated short-term indebtedness, including the current portion of our long-term debt, was US$50.8 million, including principal and interest, as of December 31, 2022.

We maintain a US$300.0 million revolving credit facility with a syndicate of lenders that will mature on October 25, 2024. This facility is guaranteed by Nexa Brazil and Nexa CJM. If drawn, this facility will bear interest at three-month LIBOR plus 1.00% per annum. As of December 31, 2022, no amounts were drawn under this facility.

We believe that we will continue to be able to obtain sufficient credit to finance our working capital needs based on current market conditions and our liquidity position. See "Risk factors—Financial risk— Our business requires substantial capital expenditures and is subject to financing risks."

***Long-term indebtedness***

The following discussion briefly describes our principal financing agreements as of December 31, 2022. For additional information, see Note 24 to our consolidated financial statements.

*Term Loan.* On March 12, 2020, in order to reduce our cost of debt, enhance our short-term liquidity and manage our debt profile, we entered into a term loan with a global financial institution, in the principal amount of R$477.0 million (approximately US$100.0 million) at a cost of 8.5%, with a five-year maturity. Simultaneously, we contracted a swap to exchange the interest rate to 2.45% as well as the currency of debt service prepayments from Brazilian *real* to US dollar. The term loan is guaranteed by Nexa Resources.

*Export Credit Notes.* In March and April 2020, we entered into five Export Credit Note agreements in the total principal amount of R$1,477 million (approximately US$300 million) with maturity dates between one and five years and costs between 134.2% of CDI and CDI +1.8% up to CDI + 4.2%. In 2020, we prepaid the principal and accrued interest of two Export Credit Notes. As of December 31, 2022, our outstanding principal amount under the two remaining Export Credit Notes was US$141.1 million.

*Export Credit Notes.* On March 18, 2022, we entered into an Export Credit Note agreements in the total principal amount of US$90 million with maturity dates between six months and five years and costs between 2.5% TERM SOFR. As of December 31, 2022, our outstanding principal amount under these Export Credit Notes was US$91.7 million.

*Nexa Resources Bonds due 2028.* On June 18, 2020, we issued an aggregate principal amount of US$500.0 million in bonds maturing in 2028 and bearing interest at 6.500% per year. The bonds are guaranteed by our subsidiaries Nexa Brazil, Nexa Peru and Nexa CJM. As of December 31, 2022, the outstanding amount under these bonds was US$509.8 million, which is related to a principal amount of US$500.0 million plus an accrual of US$14.7 million related to interest, net of borrowing costs of US$9.8 million.

*Nexa Resources Bonds due 2027.* On May 4, 2017, we issued an aggregate principal amount of US$700.0 million in bonds maturing in 2027 and bearing interest at 5.375% per year. These securities are guaranteed by our subsidiaries Nexa Brazil, Nexa Peru and Nexa CJM. As of December 31, 2022, the outstanding amount under these bonds was US$700.7 million, which is related to a principal amount of US$700.0 million plus an accrual of US$6.0 million related to interest, net of borrowing costs of US$0.7 million.

*BNDES and FINEP.* BNDES has been an important source of debt financing for our capital expenditures in Brazil. We, through our Brazilian subsidiaries, have entered into several loan agreements with BNDES for the expansion and modernization of certain fixed assets, studies and engineering projects, environmental investments and the acquisition of machinery and equipment. As of December 31, 2022, our aggregate outstanding principal amount under BNDES loan agreements was US$216.4 million. For further details on our long-term financings with BNDES, please see the table below.

In October 2020, we disbursed the first tranche of the Credit Facility Agreement related to the Aripuanã Project signed with BNDES in the amount of approximately R$225.0 million or US$39.9 million. In December 2020, we disbursed the second tranche of this facility in the amount of approximately R$250.0 million or US$47.7 million. In May 2021, we disbursed the third tranche of this facility in the amount of approximately R$160.0 million or US$30.6 million. In June 2021, we disbursed the fourth tranche of this facility in the amount of approximately R$101.3 million or US$20.1 million. This loan was contracted at a cost of TLP plus 3.39%, with maturity in 2040.

In December 2014, Nexa Brazil entered into a loan agreement with the Brazilian Financing Agency for Studies and Projects (*Financiadora de Estudos e Projetos* or “FINEP”), to finance the research and development of various projects. As of December 31, 2022, our outstanding principal amount under this loan agreement was US$9.1 million.

The following table sets forth selected information with respect to Nexa Brazil’s principal long term financings with BNDES and our outstanding amount under these financings as of December 31, 2022.

| Indebtedness | Borrower | Guarantor | Interest Rate | Principal Payment Dates | Maturity Date | Principal Amount Outstanding As of December 31, 2022 |
|---|---|---|---|---|---|---|
| | | | | | | (in millions of US$) |
| R$1,000.0 million BNDES Revolving Credit Agreement | Nexa Brazil | Nexa Resources | TLP plus 2.09% per annum | 120 monthly installments commencing on January 15, 2019 | December 15, 2028 | 18.9 |
| **Total** | | | | | | **18.9** |
| R$1,200.0 million BNDES Revolving Credit Agreement [(1)] | Nexa Brazil | Nexa Resources | SELIC plus 3.10% per annum | 60 monthly installments commencing on October 15, 2021 | September 15, 2026 | 27.8 |
| | Nexa Brazil | Nexa Resources | TJLP plus 2.82% per annum | 60 monthly installments commencing on September 15, 2017 | September 15, 2026 | 13.2 |
| | Nexa Brazil | Nexa Resources | TLP plus 2.22% per annum | 120 monthly installments commencing on January 15, 2019 | December 15, 2028 | 13.8 |
| **Total** | | | | | | **54.8** |
| Credit Facility Agreement | Nexa Dardanelos | Nexa Brazil and Nexa Resources | TLP plus 3.39% per annum | 210 monthly installments commencing on March 15, 2023 | August 15, 2040 | 142.6 |
| **Total** | | | | | | **142.6** |
| **Total BNDES Long-Term Indebtedness** | | | | | | **216.4** |

[(1)] Consists of three tranches.

### Cash flows

The table below sets forth our cash flows from operating activities, investing activities and financing activities for the years ended December 31, 2022 and 2021.

| | For the Year Ended December 31, 2022 | 2021 |
|---|---|---|
| | (in millions of US$) | |
| **Consolidated Statement of Cash Flows Information** | | |
| **Net cash flows provided by (used in):** | | |
| Operating activities | 266.6 | 493.0 |
| Investing activities | (378.9) | (469.3) |
| Financing activities | (149.2) | (344.1) |
| Effects of exchange rates on cash and cash equivalents | 15.5 | (21.9) |
| **Decrease in cash and cash equivalents** | **(246.0)** | **(342.3)** |
| Cash and cash equivalents at the beginning of the year | 743.8 | 1,086.2 |
| Cash and cash equivalents at the end of the year | 497.8 | 743.8 |

In 2022, our net cash flow provided by operating activities was US$266.6 million, primarily due to higher working capital needs and a higher payment of income tax in the period, mainly in the Peruvian units compared to 2021.

In 2022, we used US$378.9 million to maintain the sustainability of our business and invest in our growth, including the investment in Aripuanã and the acquisition of the common shares of Tinka.

In 2022, our net cash flow used in financing activities was US$149.2 million due to (i) the payments of loans and financings; (ii) the early redemption of our Notes 2023, partially offset by a new export credit agreement; and (iii) dividends payment of US$71 million, including the payment to non-controlling interests (Pollarix).

As a result, at December 31, 2022, our cash and cash equivalents were US$497.8 million, US$246.0 million lower compared to our cash and cash equivalents at December 31, 2021.

## CRITICAL ACCOUNTING ESTIMATES

The following discussion and analysis of our financial position and results of operations is based on our consolidated financial statements. The preparation of the Company's consolidated financial statements requires the use of estimates, assumptions, and judgments that affect the reported amounts of revenues, expenses, assets and liabilities, the accompanying disclosures, and the disclosure of contingent liabilities at the date of the consolidated financial statements. By definition, critical estimates, assumptions, and judgments will seldom equal the actual results and are continually evaluated to reflect changing expectations about future events. Management also needs to exercise judgment in applying the Company's accounting policies.

This note provides an overview of the areas that involve a higher degree of judgment or complexity, and of items which are more likely to be materially adjusted due to estimates and assumptions turning out to be wrong due to their uncertainty. Detailed information about each of these estimates, assumptions and judgments is included in other notes together with information about the basis of calculation for each affected item in the financial statements. Below is a description of our critical accounting policies that require significant estimates and judgments.

**Impairment of goodwill**

We annually test whether goodwill has suffered any impairment, in accordance with the accounting policy stated in Note 31 to our consolidated financial statements. We assess the recovery of the carrying amount of goodwill of each cash generating unit or group of cash generating units based on value in use or fair value less costs to sell, using a discounted cash flow model.

We also assess at each reporting date, whether there is an indication that goodwill may be impaired. If any indication exists, such as volume and price reductions or unusual events that can affect the business, we estimate the recoverable amount of the cash generating unit or group of cash generating units.

The process of estimating the value in use and the fair value less costs to sell involves assumptions, judgment and projections of future cash flows. Our assumptions and estimates of future cash flow used for impairment testing of goodwill are subject to risk and uncertainties, particularly for markets—such as metals— subject to higher volatilities, which are outside our control. The calculations used for the impairment testing are based on discounted cash flow models as of December 31, 2022 (due to impairment indicators identified during the fourth quarter), market assumptions, such as LME prices, market interest rates and other available data regarding global demand. The discount factor applied to the discounted cash flow model is our pre-tax (for value in use calculation method) or post-tax (for fair value less cost of disposal calculation method) weighted average cost of capital for the applicable region, adjusted for country-specific risk factors. These calculations use cash flow projections before taxes on income, based on financial and operational budgets for a five-year period. After the five-year period, the projections are extended to the end of the mine life for our mines and indefinitely for our smelters. We do not use growth rates in cash flow projections of the terminal value for our smelters.

**Impairment analysis**

When performing its annual impairment assessments and after analyzing all impairment indicators the Company identified impairment indicators mainly related to: (i) a CAPEX and costs increase in the Cerro Pasco CGU given the review process started by management in October; and (ii) the Company's decision not to maintain in its portfolio two of its greenfield projects (Shalipayco and Pukaqaqa) which are included in the Cerro Lindo CGU which is also part of the Mining Peru group of CGUs. Additionally, Nexa identified impairment reversal indicators related to the performance of metal prices during the fourth quarter of 2022 which led the Company' sensitivities over the estimated metal price to increase.

The impairment assessment as of December 31, 2022 resulted in the recognition of an impairment reversal of US$79.5 million in the Cerro Pasco CGU, associated with higher metal prices than assumed in the previous assessment and a change in operating assumptions to reflect the further optimization of Atacocha and El Porvenir being considered, and of the impairment loss of US$61.9 million in goodwill in the Mining Peru Group of CGUs. In addition to these economic impairments, the Company recognized individual assets impairments in the amount of US$10.3 million, mainly within Assets and projects under construction, and in the amount of US$39.9 million, within Mining projects and in relation to the greenfield projects (Shalipayco and Pukaqaqa) which are included in the Cerro Lindo CGU which is also part of the Mining Peru group of CGUs. In 2022, we recorded a non-cash, pre-tax net impairment loss on long-lived assets of US$32.5 million (US$31.1 million, after tax). For further information, please refer to Note 31 to our consolidated financial statements.

**Fair value of derivatives and other financial instruments**

We determine the fair value of financial instruments not traded in an active market by using valuation techniques. We use judgment to select among a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period.

The main financial instruments and the assumptions we make for their valuation are described below.

- We consider the nature, terms and maturity of cash and cash equivalents, financial investments, trade accounts receivable and other current assets. The carrying amount of these items are similar to their respective fair value.

- Financial liabilities are subject to typical market interest rates. The market value is based on the present value of expected future cash disbursement, at interest rates currently available for debt with similar maturities and terms. We also consider Nexa's credit risk when assessing the fair value of financial liabilities.

- The fair value of derivative financial instruments that we use for hedging transactions is evaluated by calculating their present value through yield curves at the closing dates. The curves and prices used in the calculation for each group of instruments are developed based on data from the Brazilian Securities, Commodities and Futures Exchange, Central Bank of Brazil, LME and Bloomberg, interpolated between the available maturities.

- Swap contracts: The present value of both the assets and liabilities is calculated through the discount of forecasted cash flows by the interest rate of the currency in which the swap is denominated. The difference between the present value of the assets and the liabilities generates its fair value.

- Forward contracts: The present value is estimated by discounting the notional amount multiplied by the difference between the future price in the reference date and contracted price. The future price is calculated using the convenience yield of the underlying asset. It is common to use Asian non-deliverable forwards for hedging non-ferrous metals positions. Asian contracts are derivatives in which the underlying asset price is the average price of certain assets over a range of days.

- Option contracts: The present value is estimated based on pricing methodologies such as the Black Scholes model, with assumptions that include the underlying asset price, strike price, volatility, time to maturity and interest rate. The underlying asset price is the average price of the foreign exchange rate in the fixing month.

**Asset retirement obligations**

In 2022, as part of its annual asset retirement and environmental obligations review, the Company increased its expected disbursements on decommissioning obligations in certain operations, in accordance with updates in their asset retirement or environmental obligations studies and update in the discount rates. As a result, Nexa recognized a non-cash net expense of US$13.1 million in "Other income and expenses" in 4Q22, totaling US$1.5 million in 2022, and decreased its "Operational assets, property, plant and equipment" by US$6.8 million.

For further information, please refer to Note 27 to our consolidated financial statements included herein.

**Tax, civil, labor and environmental provision**

We are party to ongoing labor, civil, tax and environmental lawsuits, which are pending at different court levels. We establish provisions for potentially unfavorable outcomes of litigation in progress and update them based on management evaluation, with support from the positions of external legal counsel. For additional information, see Note 28 to our consolidated financial statements.

**Income tax and other taxes**

We are subject to income tax in all countries in which we operate. Significant judgment is required in determining the income tax provision. The ultimate tax determination is uncertain for many transactions and calculations. We also recognize liabilities for anticipated tax audit issues based on estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will impact the current and deferred tax assets and liabilities in the period in which such determination is made. For additional information, see Note 11 to our consolidated financial statements.

**Determination of Mineral Reserves and Mineral Resources as basis to determine life of mine**

Mineral reserves are deposits estimated to be economically feasible for extraction under economic conditions as of the applicable measurement date. The amortization method and rates applied to the rights to use natural resources reflect the pattern in which the benefits are expected to be used by us and based on the estimated life of mine. Any changes to the life of mine, including as a result of changes in estimates of mineral deposits and mining plans, may affect prospective amortization rates and carrying values of these assets. The process of estimation of mineral deposits is based on a technical evaluation, which includes accepted geological, geophysics, engineering, environmental, legal and economic estimates. These estimates, when evaluated in the aggregate, can have a relevant impact on the economic viability of the mineral deposits. We use various assumptions with respect to conditions, such as metal prices, inflation rates, exchange rates, technology improvements and production costs, among others. Estimates of mineral reserves and resources are reviewed periodically, and any changes are adjusted to reflect life of mine and, consequently, adjustments to amortization periods. Costs for the acquisition of rights to explore and costs to develop mineral properties incurred as of the start of the feasibility study phase known as front end loading (“FEL 3”), are capitalized. Since April 1, 2018, these costs are amortized using the units of production method over the estimated useful lives of the mines. The impacts of the change in the accounting estimation were not considered to be material, and the change was accounted for prospectively. Once the mine is operational, these costs are amortized and considered a production cost.

**Recently issued accounting standards and interpretations not yet adopted**

For a discussion of new standards, interpretations and amendments to IFRS, see Note 5 to our consolidated financial statements.

## RISK MANAGEMENT

Risk management is considered one of the key points in our business strategy and contributes to value creation and increasing the level of confidence in Nexa by its main stakeholders, including shareholders, employees, customers, suppliers and the local communities.

As a result, we have adopted an Enterprise Risk Management (“ERM”) Policy, that describes Nexa’s Risk Management Model, and its activities are an integral part of the processes in our operational units, corporate departments and projects, and provides support for decision-making by our executive officers and board of directors.

The risk assessment cycle is performed annually focusing on our strategy, operational aspects and key projects. We seek to identify material risks, which are then assessed with consideration of the potential health, safety, environmental, social, reputational, legal and financial impacts. By embedding risk management into our work processes and critical business systems, we work to ensure we make decisions based on our risk appetite, defined in 2022, on relevant inputs and valid data. The material risks identified during the risk management process are monitored and reported to the executive team, audit committee and board of directors. We use a governance, risk and compliance management platform, BWise, to manage and assess our risks, to monitor our action plans and to create related reports.

We consider market risk to be the potential loss arising from adverse changes in market rates and prices. We are exposed to several market risks arising from our normal business activities. These market risks, which are beyond our control, principally involve the possibility that changes in commodity prices, interest rates or exchange rates will adversely affect the value of our inventory, financial assets and liabilities or future cash flows and earnings. For information on our risk management policies, see Note 12 to our consolidated financial statements.

**Financial risk**

Our financial risk management policy seeks to preserve our liquidity and protect our cash flow and its operating components (revenues and costs), as well as financial components (financial assets and liabilities) against adverse credit and market events such as fluctuations in currency and interest rates.

A significant portion of the products we sell are commodities, with prices based on international indices and denominated in U.S. dollars. A portion of our costs, however, are denominated in *reais* and *soles*, and therefore leads to a mismatch of currencies between our revenues and costs. Additionally, our indebtedness is based on different indices and currencies, which may impact our cash flows.

Our current financial risk management policy includes:

- Foreign Exchange Exposure Management. Foreign exchange exposure is our exposure to fluctuations in the currencies that make up our commercial, operational and financial relations (the *real* and *sol*), and that may impact our U.S. dollar cash flow. All actions in the financial risk management process are intended to hedge our cash flow in U.S. dollars, to maintain our ability to pay our financial obligations and to comply with liquidity and indebtedness levels defined by our management team. Our foreign exchange hedge mechanisms are based on the foreign exchange exposure that is projected at least for 12 months after a reference date.

- Interest Rate Exposure Management. Exposure to the interest rate is our exposure to fluctuations in each of the indices of interest rates (mainly CDI, LIBOR and TJLP) from loans and financing transactions and financial investment that may impact our cash flow. Interest rate fluctuations would also result in gains or losses in the market value of our fixed rate debt portfolio due to differences in market interest rates and the rates at the execution of the debt agreements.

- Commodity Exposure Management. Exposure to commodity prices is our exposure to income and operating costs fluctuations due to changes in the reference prices for commodities (*e.g.*, zinc, copper, silver) based on demand, production capacity, producers’ inventory levels and commercial strategies and the availability of substitutes in the global market. We calculate our exposure at least for 12 months after a reference date, considering any derivative financial instrument that has a certain commodity as the underlying asset.

- Counterparties' and Issuers' Risk Management. This policy establishes exposure limits for financial and non-financial institutions that are counterparties of financial transactions and/or issuers of debt securities. The purpose of our counterparties' and issuers' risk management is to mitigate the occurrence of negative impacts on our cash flows from the non-fulfillment of financial obligations by these issuers and counterparties. In the case of financial investments (cash allocation), we measure exposure to credit risk of issuers by the sum of gross balances of financial investments. In the case of derivative transactions, the credit risk exposure of a certain counterparty and transaction is measured by the pre-settlement risk using statistical models. Exposure limits are determined based on ratings assigned by rating agencies and the equity of the relevant financial institution.

- Liquidity and Financial Indebtedness Management. This policy establishes guidelines for managing our liquidity and financial indebtedness. The main instrument for measuring and monitoring liquidity is a cash flow projection, considering a minimum projection period of 12 months from the reference date. Liquidity and debt management considers as an objective the comparable metrics provided by global credit rating agencies for investment grade entities. With respect to indebtedness, metrics considered compatible with the relevant objective are considered.

All proposals must comply with the guidelines and rules set forth in our Financial Risk Management Policy and subsequently submitted for review by our finance committee and then for our board of directors' approval, under the governance structure set forth in our Financial Risk Management Policy.

***Foreign exchange risk***

We are subject to foreign exchange risks resulting from the fluctuation of the *real* and the *sol* against the U.S. dollar, our functional currency. All actions in the financial risk management process related to our foreign exchange exposure are intended to hedge our cash flow in U.S. dollars, to maintain our ability to pay our financial obligations and to comply with liquidity and indebtedness levels defined by our management. We are also exposed to financial risk associated with changes in foreign currency exchange rates as certain costs incurred are in currencies other than our functional currency.

Assuming an exchange rate appreciation/(devaluation) of 10% of the U.S. dollar against the real as of December 31, 2022, we estimate that our Adjusted EBITDA for the year would have increased/(decreased) by US$51.4 million for 2022. This calculation assumes that each exchange rate would change in the same direction relative to the U.S. dollar. In addition to the direct effects of changes in exchange rates, changes in exchange rates may also affect the volume of sales as other market participants become more or less competitive. This sensitivity analysis does not factor in a potential change in sales levels or actions that management could take to manage the potential impact. Accordingly, the actual effect of exchange rate fluctuations will vary from period to period. However, assuming all other factors are held constant, we would expect future fluctuations like those analyzed above to have a similar potential impact on our results for future periods. See "Forward-looking statements."

***Interest rate risk***

A portion of our outstanding debt bears interest at variable rates and, accordingly, is sensitive to changes in interest rates. Based upon our indebtedness as of December 31, 2022, an increase/(decrease) in LIBOR of 25% would impact our net income (loss) before income tax for the year and cash flows by US$2.2/(2.2) million. We calculate our exposure to fluctuations in interest rates at least for 12 months after a reference date, considering any derivative financial instrument that has certain index as the underlying asset. Based on these exposures, we prepare financial protection proposals, which are submitted for our finance committee's approval. The hedges of interest rates, in general, seek to exchange fixed interest rate to floating interest rate or vice versa.

***Metal price sensitivity***

We are subject to financial risks arising from the volatility of prices of zinc, copper, lead and silver, and to a lesser extent gold. Assuming that expected metal production and sales are achieved, that tax rates are unchanged, and giving no effect to potential hedging programs, metal price sensitivity factors would indicate the following change in our 2022 Adjusted EBITDA (as previously defined) attributable to us resulting from metal price changes.

| | Zinc | Copper | Silver |
|---|---|---|---|
| Change in metal price (in percentage) | 10.0% | 10.0% | 10.0% |
| Change in Adjusted EBITDA (in millions of US$) | 125.6 | 30.6 | 21.2 |

**Derivative instruments**

To hedge against financial risk, we enter derivative transactions under our Financial Risk Management Policy. Those transactions are carried out in the over-the-counter market under master agreements such as International Swaps and Derivative Association and Brazilian *Contrato Geral de Derivativos* (“CGD”) Agreements.

None of the derivative transactions we are party to as of December 31, 2022 have corporate guarantees or require margin calls or any kind of collateral. None of the derivatives we were party to as of December 31, 2022 was entered into for speculative or arbitrage purposes.

We have the following recurring hedge programs in place:

- Fixed price commercial transactions (customer hedge): Hedging transactions that convert sales at fixed prices to floating prices in commercial transactions with customers interested in purchasing products at fixed prices. The purpose of this strategy is to maintain the revenue flow of the business unit with prices linked to the LME prices. These operations usually relate to purchases of zinc for future settlement on the over-the-counter market.

- Hedges for mismatches of “quotation periods” (book hedge): Hedges that set prices for the different “quotation periods” between the purchases of certain inputs (metal concentrate) and the sale of products arising from the processing of these inputs, or different “quotation periods” between the purchase and the sale of the same product. These operations usually relate to purchases and sales of zinc and silver for future trading on the over-the-counter market.

To execute our hedge programs, as well as any sporadic hedging demands, we and our subsidiaries mainly enter into average rate (Asian) forwards, collars and swaps and standard interest rate swaps. These are the types of derivatives applicable for the hedge of our exposures, according to our Financial Risk Management Policy.

We initially recognize derivative instruments at fair value on the date a derivative contract is entered into and subsequently re-measure at their fair value. The method of recognizing the resulting gain or loss depends on whether we designate the derivative as a hedging instrument, in the case of adoption of hedge accounting, and if so, the nature of the item being hedged. We adopt the hedge accounting procedure and designate certain derivatives as either:

- hedges of the fair value of recognized assets or liabilities or a firm commitment (fair value hedge); or

- hedges of a particular risk associated with a recognized asset or liability or a highly probable forecast transaction (cash flow hedge).

We document the relationship between hedging instruments and hedged items at the inception of the hedging transaction, as well as the risk management objective and strategy for the undertaking of the various hedge transactions. We also document our assessment, both at the inception of the hedge and on an ongoing basis, of whether the derivatives that are used in hedging transactions have been and will continue to be highly effective in offsetting changes in fair values or cash flows or fair values of hedged items.

## III. SHARE OWNERSHIP AND TRADING

### MAJOR SHAREHOLDERS

As of March 20, 2023, Nexa Resources has 132,438,611 common shares outstanding, with par value of US$1.00 per share. The table below sets forth the list of our shareholders and their participation in our capital stock.

Votorantim S.A. is Nexa Resources' controlling shareholder. VSA does not have any different voting rights, but as long as it holds a majority of our voting stock, it can influence or control matters requiring approval by our shareholders, including the appointment of directors. VSA acquired all its shares in Nexa Resources on February 26, 2014.

| Shareholder | Number | Share Capital (%) |
|---|---|---|
| VSA | 85,655,128 | 64.68% |
| Public | 46,783,483 | 35.32% |
| **Total** | **132,438,611** | **100.00%** |

**VSA**

As of March 20, 2023, Hejoassu Administração S.A., or Hejoassu, is the sole shareholder of VSA's capital stock, which consists of 18,278,788,894 common shares. Hejoassu is indirectly wholly owned by a number of individuals, some of whom are related to our board member Luís Ermíro de Moraes, through controlled companies.

## RELATED PARTY TRANSACTIONS

We enter into transactions with related parties, including VSA and companies that are owned or controlled, directly or indirectly, by VSA, in our ordinary course of business. These transactions are conducted on an arms' length basis and in accordance with applicable laws and our corporate governance policies. See "Risk factors—Risks relating to our corporate structure—VSA has substantial control over us, which could limit our shareholders' ability to influence the outcome of important corporate decisions." In accordance with article 441-7 of the Luxembourg law of August 10, 1915 concerning commercial companies, as amended ("1915 Law"), any member of our board of directors having a direct or indirect financial interest conflicting with that of Nexa Resources in a transaction put before the board for consideration must advise the board thereof and cause a record of such member's statement to be included in the minutes of the meeting. The director may not take part in these deliberations and at the next following general meeting of shareholders of Nexa Resources, before any other resolution is put to vote, a special report shall be made on any such conflicted transactions. This shall not apply where the decision of the board relates to ordinary business entered into under normal market conditions. A similar rule is stated in the article 441-12 of the Law 1915 and applies to the members of the management committee.

Nexa has controls in place in order to identify related parties on a quarterly basis and approve related party transactions in advance. Such controls include an analysis by the related party internal committee, and in certain circumstances, the audit committee, which is required for the execution of related party transactions.

The table below sets forth the balances of our principal related party transactions as of the dates and periods indicated. The entities disclosed are entities part of the Votorantim Group. The transactions relate to shared project costs such as environmental protection; administrative services provided by the Center of Excellence (*Centro de Excelência*); sales of limestones and cement purchases, mainly for the Aripuanã project; purchases of energy to be used in Nexa Brazil operation units and construction services for the Aripuanã project, among others.

| | **As of December 31, 2022** |
|---|---|
| | **(in millions of US$)** |
| **Related Party Transaction Balances** | |
| **Related Party Assets** | |
| **Current assets** | |
| **Trade Accounts Receivable** | |
| Companhia Brasileira de Alumínio | 0.2 |
| Auren Comercializadora de Energía Ltda. | - |
| Votorantim Cimentos S.A. | 0.6 |
| Other | - |
| **Total** | **0.8** |
| **Trade payables** | |
| Votorantim S.A. | 0.8 |
| Andrade Gutierrez Engenharia S.A. | 3.4 |
| Companhia Brasileira de Alumínio | 0.3 |
| Votorantim Cimentos S.A. | 0.2 |
| Auren Comercializadora de Energía Ltda. | 1.0 |
| Campos Novos Energia S.A. | 9.7 |
| Votorantim International CSC S.A.C | - |
| Other | 0.2 |
| **Total** | **15.3** |
| **Dividends payable** | |
| Other. | 7.9 |
| **Total** | **7.9** |
| **Related parties liabilities** | |
| Votorantim International CSC S.A.C | 0.5 |
| Other | 0.5 |
| **Total** | **1.0** |

We summarize below some of our principal related party transactions.

| | For the Year Ended December 31, 2022 |
|---|---|
| | (in millions of US$) |
| **Related Party Transactions** | |
| **Sales** | |
| Companhia Brasileira de Alumínio | 9.7 |
| Auren Comercializadora de Energía Ltda. | 0.7 |
| **Total** | **10.4** |
| **Purchases** | |
| Votorantim S.A. | 4.7 |
| Andrade Gutierrez Engenharia S.A. | 38.9 |
| Companhia Brasileira de Alumínio | 8.9 |
| Auren Comercializadora de Energía Ltda. | 5.0 |
| Campos Novos Energia S.A. | 5.0 |
| Votorantim Cimentos S.A. | 3.1 |
| Votorantim International CSC S.A.C | 12.5 |
| Other | 1.2 |
| **Total** | **79.1** |

**Andrade Gutierrez Engenharia S.A**

As part of the execution of the Aripuanã project, in June 2019 we entered into a mining development services agreement with Andrade Gutierrez Engenharia S.A., in which one of our director's close family members may have significant influence at its holding level. As of December 2022, the updated amount of this contract is US$15.5 million.

**Shared arrangements**

We have entered into a number of shared services contracts with other entities in the Votorantim Group in an effort to achieve operational efficiencies. These include joint contracts for insurance coverage and information technology. Entities in the Votorantim Group with whom we maintain such contracts have access to a substantial level of information about us. In addition, VSA negotiates our insurance coverage at the level of the Votorantim group and we thus depend on choices made by VSA for selecting the service providers to be used for all insurances contracted by us, including coverage related to property, transport, liability, credit and engineering risk insurances. We retain the right of approval of contract renewal terms negotiated by VSA.

In addition, all executive officers participate in the *Fundação Senador José Ermírio de Moraes* ("FUNSEJEM") pension fund, a private, closed and not-for-profit pension fund responsible for the management of the pension plans for the employees of companies linked to the Votorantim Group.

See "Risk Factors—Risks relating to our corporate structure—VSA has substantial control over us, which could limit our shareholders' ability to influence the outcome of important corporate decisions."

## DISTRIBUTIONS

Distributions to our shareholders are subject to the requirements of Luxembourg law and the approval of our board of directors or our shareholders, as applicable, and will depend on a number of factors, including, but not limited to, our cash balance, cash flow, earnings, capital investment plans, expected future cash flows from operations, our strategic plans and cash dividend distributions from our subsidiaries, as well as legal requirements and other factors we may deem relevant at the time. As of December 31, 2022, there are no contractual restrictions on our ability to make distributions to our shareholders. Subject to these considerations, we estimate to distribute each year amounts equal to at least 2.0% of our average market capitalization.

Each common share entitles the holder to participate equally in distributions, unless the right to distributions has been suspended in accordance with our articles of association or applicable law.

Distributions in our common shares may be made in the form of either dividends or reimbursements of share premium. Under Luxembourg law, dividends are determined by a simple majority vote at a general shareholders' meeting based on the recommendation of our board of directors. Furthermore, pursuant to our articles of association, the board of directors has the power to declare interim dividends and/or proceed with reimbursements of share premium in accordance with the 1915 Law.

We and our subsidiaries are subject to certain legal requirements that may affect our ability to pay dividends or other distributions. Distributions to shareholders (including in the form of dividends or reimbursement of share premium) may only be made from amounts available for distribution in accordance with Luxembourg law, determined based on our standalone statutory accounts prepared under Luxembourg GAAP. Under Luxembourg law, the amount of a distribution paid to shareholders (including in the form of dividends or reimbursement of share premium) may not exceed the amount of the profits at the end of the last financial year plus any profits carried forward and any amounts drawn from reserves that are available for that purpose, less any losses carried forward and sums to be placed in reserve in accordance with Luxembourg law or our articles of association. Furthermore, no distributions (including in the form of dividends or reimbursement of share premium) may be made if at the end of the last financial year the net assets as set out in the standalone statutory accounts prepared under Luxembourg GAAP are, or following such a distribution would become, less than the amount of the subscribed share capital plus the non-distributable reserves. Distributions in the form of dividends may only be made from net profits and profits carried forward, whereas distributions in the form of share premium reimbursements may only be made from available share premium.

Luxembourg law also requires at least 5.0% of our net profits per year to be allocated to the creation of a legal reserve until such reserve has reached an amount equal to 10.0% of our issued share capital. If the legal reserve subsequently falls below the 10.0% threshold, at least 5.0% of net profits again must be allocated toward the reserve. The legal reserve is not available for distribution. As of December 31, 2022, the legal reserve is US$13,332,051.30.

The table below describes the distributions paid to our shareholders. Distributions for 2020 and 2021 were made in the form of a cash dividend. Distributions for 2022 were made in the form of cash dividend and share premium.

| | For the Year Ended December 31, | | |
|---|---|---|---|
| | 2022 | 2021 | 2020 |
| | | (in millions of US$) | |
| **Distributions paid to shareholders** | 50.0 | 35.0 | 50.0 |

On March 25, 2022, we paid approximately US$44 million (US$0.33 per common share) of dividends and approximately US$6 million (US$0.05 per common share) of share premium to our shareholders. This dividend and share premium will be ratified, in accordance with Luxembourg laws, by our shareholders at the annual shareholders' meeting for the fiscal year ended December 31, 2022, which will occur on June 9, 2023.

On February 15, 2023, our board of directors approved a distribution to Nexa's shareholders of approximately US$25 million as share premium. This represents approximately a special cash dividend of US$0.188766 per common share, which will be paid on March 24, 2023. This dividend is subject to ratification, in accordance with Luxembourg laws, by our shareholders at the annual shareholders' meeting for the fiscal year ended December 31, 2023, which will occur in June 2024.

Nexa Resources is a holding company and has no material assets other than its ownership of shares in its subsidiaries. When Nexa Resources pays a dividend or other distribution on its common shares in the future, it generally causes its operating subsidiaries to make distributions to it in an amount sufficient to cover any such dividends or distributions. The ability of subsidiaries of Nexa Resources to make distributions to Nexa Resources is subject to their capacity to generate sufficient earnings and cash flow and may also be affected by statutory accounting and tax rules in Brazil and Peru, as well as any conditions under the corporate law applicable to each subsidiary.

A Luxembourg withholding tax of 15.0% is generally due on dividends and similar distributions made by Nexa Resources to its shareholders. However, distributions on Nexa Resources' common shares that are sourced from a reduction of share capital or share premium are not subject to Luxembourg withholding tax if Nexa Resources does not have distributable reserves or profits in its standalone statutory accounts prepared under Luxembourg GAAP. See "Additional information—Taxation—Luxembourg tax considerations—Shareholders."

There is no law, governmental decree or regulation in Luxembourg that would affect the remittance of dividends or other distributions by Nexa Resources to nonresident holders of its common shares, other than withholding tax requirements. In certain limited circumstances, the implementation and administration of international financial sanctions may affect the remittance of dividends or other distributions. There are no specified procedures for nonresident holders to claim dividends or other distributions.

Computershare Trust Company, N.A. is the paying agent for shareholders who hold common shares listed on the NYSE. Dividends and other distributions on our common shares will be declared and paid in U.S. dollars.

**TRADING MARKETS**

Our publicly traded share capital consists of common shares with a par value of US$1.00 per share. Our common shares are publicly traded in the United States on the NYSE, under the ticker symbol NEXA. On March 20, 2023, there were 132,438,611 common shares issued and outstanding.

**PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS**

Nexa did not repurchase any shares during 2022. As of December 31, 2022, there were no authorized share buyback programs.

## IV. CORPORATE GOVERNANCE, MANAGEMENT AND EMPLOYEES

### CORPORATE GOVERNANCE

Our corporate governance model is aimed at facilitating the flow of information between our executives and other key decision-makers on our management team, specifically, our board of directors, advisory committees and management committee. Our corporate governance model also provides a framework for the duties of our management team, including oversight of Nexa's performance and decision-making. Our main corporate governance activities include support for board of directors, board advisory committees and executive board meetings (management committee); contribution to the process of preparing the annual report on governance practices; and elaboration of governance documents and updating of best practices.

Our corporate governance model is designed to ensure that the proper corporate governance principles are consistently applied within our organization. We have adopted certain corporate governance policies and practices that include internal rules for the board of directors and key committees that have independent representation and leadership, including an audit committee and a compensation, nominating and governance committee. The charter for the compensation, nominating and governance committee includes responsibility for reviewing and assessing the size, composition and operation of the board of directors to ensure effective and independent decision making, advising on potential conflicts of interest situations and developing corporate governance guidelines and principles, in line with ESG standards. The disclosure set out below describes in further detail our approach to corporate governance.

**Code of conduct**

We work with all of our employees, as well as third parties who we work with, to ensure they behave in a manner consistent with our values, code of conduct and the key principles of our compliance program, particularly as these relate to the environment, human rights and labor related issues, health and safety, and anti-bribery and corruption. The code of conduct was revised, disseminated and implemented throughout Nexa. This revised version of the Code of Conduct reflects our commitment to the principles of corruption, anti-money laundering, anti-terrorist financing and antitrust policies based on laws in effect in the countries where we operate integrity, ethics, human rights, and social and environmental responsibilities. Our directors and executives have certified that they have read and that they will comply with our code of conduct. Furthermore, our board of directors periodically monitors compliance related topics. We also launched our code of conduct for suppliers in 2021. A conduct committee is in charge of promoting the implementation of the code and supervising the application of disciplinary measures. In 2022, we to disseminate our Code of Conduct among all employees at a global level and started to disseminate the Code of Conduct for any suppliers considered to be strategic vendors.

Several anti-corruption, anti-money laundering and antitrust initiatives have been implemented, including, among other things, ethics and compliance training and an ethics hotline which enables employees and third parties to report misconduct. Information reported through our ethics hotline is investigated and following the investigation, disciplinary action may be taken, if necessary. We have not granted any implicit or explicit waivers from any provision of our code of conduct since its adoption.

Our code of conduct, code of conduct for suppliers and compliance-related policies are publicly available on our website at https://www.nexaresources.com. We will disclose future amendments to, or waivers of, our code of conduct on the same page of our corporate website. Information contained on our website is not incorporated by reference into this report, and you should not consider it to be part of this report.

**Foreign private issuer and controlled company exemptions**

Because we are a foreign private issuer, the NYSE rules applicable to us are considerably different from those applied to U.S. companies. Accordingly, we have been, and expect to continue, taking advantage of certain exemptions from NYSE governance requirements provided in the NYSE rules for foreign private issuers. Subject to the items listed below, as a foreign private issuer we are permitted to follow home country practice in lieu of the NYSE's corporate governance standards. Luxembourg law does not require that a majority of our board consist of independent directors or the implementation of a compensation committee or nominating and corporate governance committee. As a foreign private issuer, we must comply with four principal NYSE corporate governance rules: (i) we must satisfy the requirements of Exchange Act Rule 10A-3 relating to audit committees; (ii) our chief executive officer must promptly notify the NYSE in writing after any executive officer becomes aware of any non-compliance with the applicable NYSE corporate governance rules; (iii) we must provide the NYSE with annual and interim written affirmations as required under the NYSE corporate governance rules; and (iv) we must provide a brief description of any significant differences between our corporate governance practices and those followed by U.S. companies under NYSE listing standards.

In addition, for purposes of the NYSE rules, as VSA beneficially owns a majority of our outstanding common shares, we are a "controlled company." "Controlled companies" under those rules are companies of which more than 50.0% of the voting power is held by an individual, a group or another company. Accordingly, we are eligible to take advantage of certain exemptions from NYSE governance requirements provided in the NYSE rules. Specifically, as a controlled company under NYSE rules, we are not required to have a majority of independent directors or a compensation, nominating and corporate governance committee composed entirely of independent directors.

As described further above, we recognize that good corporate governance plays an important role in our overall success and in enhancing shareholder value and, accordingly, we have adopted certain corporate governance policies and practices that reflect these considerations, as well as our consideration of the recommended Canadian Corporate Governance Guidelines. The following table briefly describes the significant differences between our practices and the practices of U.S. domestic issuers under NYSE corporate governance rules.

| Section | NYSE corporate governance rule for U.S. domestic issuers | Our approach |
|---|---|---|
| 303A.01 | A listed company must have a majority of independent directors. "Controlled companies" and "foreign private issuers" are not required to comply with this requirement. | We are a controlled company because more than a majority of our voting power for the appointment of directors is controlled by VSA. We are a foreign private issuer because we are incorporated in Luxembourg. As a controlled company and foreign private issuer, we are not required to comply with the majority of independent director requirements.<br><br>Four of our nine directors are independent. Our board of directors has adopted internal rules equivalent to a charter. See "Corporate Governance, management and employees—Board of directors" for a description of our board and processes our board has implemented to promote the exercise of independent judgment. |
| 303A.03 | The non-management directors of a listed company must meet at regularly scheduled executive sessions without management. | We have no management directors. |

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| 303A.04 | A listed company must have a nominating/corporate governance committee composed entirely of independent directors, with a written charter that covers certain minimum specified duties.<br><br>“Controlled companies” and “foreign private issuers” are not required to comply with this requirement. | As a controlled company and foreign private issuer, we are not required to comply with the nominating/corporate governance committee requirements. However, we do have a compensation, nominating and governance committee composed of two independent directors and two non-independent directors, which has adopted a committee charter.<br><br>As set for in the committee’s charter, this committee is responsible for, among other matters:<br><br>• identifying individuals qualified to be nominated as members of the board of directors;<br><br>• suggesting names to fill any vacancies on the board of directors;<br><br>• developing corporate governance guidelines and principles; and<br><br>• evaluating the performance and effectiveness of the board of directors, the CEO and each of committees.<br><br>See “Corporate Governance, management and employees—Board of directors—Committees of our board of directors.” |
| 303A.05 | A listed company must have a compensation committee composed entirely of independent directors, with a written charter that covers certain minimum specified duties.<br><br>“Controlled companies” and “foreign private issuers” are not required to comply with this requirement. | As a controlled company and foreign private issuer, we are not required to comply with the compensation committee requirements. However, we do have a compensation, nominating and governance committee composed of two independent directors and two non-independent directors, which has adopted a committee charter.<br><br>As set forth in the committee’s charter, this committee is responsible for, among other matters:<br><br>• reviewing and proposing new compensation models and changes to current compensation models; and<br><br>• determining compensation of executive officers, directors and committee members.<br><br>See “Corporate governance, management and employees—Board of directors—Committees of our board of directors.” |

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| 303A.06<br>303A.07 | A listed company must have an audit committee with a minimum of three independent directors who satisfy the independence requirements of Rule 10A-3 under the Exchange Act, with a written charter that covers certain minimum specified duties. | We have an audit committee composed of three members, all of whom qualify as independent under Rule 10A-3 and applicable NYSE standards. Each member of the audit committee also satisfies the financial literacy requirement under applicable standards. The audit committee has adopted a committee charter, which was duly approved by our board of directors.<br><br>As set forth in the committee's charter, the committee shall assist the board of directors in fulfilling its oversight responsibilities with respect to:<br><br>• quality and integrity of our financial reporting and related financial disclosures;<br><br>• the effectiveness of our internal control over financial reporting and disclosure controls and procedures;<br><br>• our compliance with legal and statutory requirements as they relate to financial statements and related financial disclosures;<br><br>• our risk management controls and monitoring processes, according to the ERM policy; and<br><br>• the qualifications, performance and independence of our independent auditors and performance of the internal audit function.<br><br>See "Corporate governance, management and employees—Board of directors—Committees of our board of directors." |
| 303A.08 | Shareholders must be given the opportunity to vote on all equity-compensation plans and material revisions thereto, with limited exemptions set forth in the NYSE rules. | Our articles of association require shareholder approval of overall remuneration, including any equity-compensation plans of members of the board of directors and members of board committees. |

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| 303A.09 | A listed company must adopt and disclose corporate governance guidelines that cover certain minimum specified subjects. | We have corporate governance policies in place as described in “Corporate governance, management and employees” in this annual report. |
| 303A.10 | A listed company must adopt and disclose a code of business conduct and ethics for directors, officers and employees, and promptly disclose any waivers of the code for directors or executive officers. | We have adopted a formal code of conduct, which applies to our directors, officers, employees and third parties who interact with the Company. Our code of conduct has a scope that is similar, but not identical, to that required for a U.S. domestic company under the NYSE rules. |
| 303A.12 | (a) Each listed company CEO must certify to the NYSE each year that he or she is not aware of any violation by the Company of NYSE corporate governance listing standards.<br><br>(b) Each listed company CEO must promptly notify the NYSE in writing after any executive officer of the listed company becomes aware of any non-compliance with any applicable provisions of this Section 303A.<br><br>(c) Each listed company must submit an executed Written Affirmation annually to the NYSE. In addition, each listed company must submit an interim Written Affirmation as and when required by the interim Written Affirmation form specified by the NYSE. | As a foreign private issuer, we are subject to and comply with (b) and (c) of these requirements, but are not subject to (a). |

## BOARD OF DIRECTORS

Our board of directors is responsible for the general guidance of our business and affairs, including providing general guidance, governance and strategic oversight to our executives and other members of our management team. It is also responsible for ensuring that we meet our objectives, as well as for monitoring our performance and ensuring business continuity. The board of directors is vested with broad powers to act on behalf of Nexa and to perform or authorize all acts of administrative or ancillary nature necessary or useful to accomplish our corporate purpose. All powers not expressly reserved by law to the shareholders fall within the competence of our board of directors.

### Appointment and term of members of our board of directors

In accordance with our articles of association and the 1915 Law, the members of our board of directors are elected by a resolution of a general meeting of shareholders adopted with a simple majority of the votes validly cast, regardless of the portion of capital represented at such general meeting. Votes are cast for or against each nominee proposed for election to the board and cast votes shall not include votes attaching to shares for which the shareholder has not participated in the vote, has abstained or has returned a blank or invalid vote.

Our directors are appointed for two-year terms and may be reelected. Members of our board of directors may be removed at any time, with or without cause, by a resolution adopted at a general meeting of our shareholders. Under Luxembourg law, in the case of a vacancy of the office of a director appointed by the general meeting of shareholders, the remaining directors may, by a simple majority vote of the directors present or represented, fill the vacancy. In these circumstances, the following general meeting of shareholders shall make the final appointment of the director.

### Composition of the board of directors

Our board of directors is comprised of a minimum of five and a maximum of eleven members and currently has nine members, of which four are independent directors and five are non-independent, as set out below.

The term of each and all of our directors expires at the 2024 annual general meeting of shareholders. The following table sets forth our current directors as of the date of this filing, their respective board positions and their respective date of election to the board.

| Name | Age | Principal Residence | Position | Elected Since |
|---|---|---|---|---|
| Jaime Ardila (2)(3) | 67 | Aventura, USA | Chair of the Board | June 18, 2019 |
| Daniella Dimitrov (1)(2)* | 53 | Toronto, Canada | Director | December 14, 2017 |
| Diego Hernandez (2) | 74 | Vitacura, Chile | Director | August 25, 2016 |
| Eduardo Borges de Andrade Filho (3)* | 56 | São Paulo, Brazil | Director | August 25, 2016 |
| Edward Ruiz (1)(4)* | 72 | New Jersey, USA | Director | December 14, 2017 |
| Gianfranco Castagnola (4) | 62 | Lima, Peru | Director | June 4, 2020 |
| Jane Sadowsky (1)(3)* | 61 | New York, USA | Director | December 14, 2017 |
| João Henrique Batista de Souza Schmidt (4) | 44 | São Paulo, Brazil | Director | October 18, 2016 |
| Luís Ermírio de Moraes (3) | 62 | São Paulo, Brazil | Director | August 25, 2016 |

(1) Member of the audit committee.
(2) Member of the sustainability and capital projects committee.
(3) Member of the compensation, nominating and governance committee.
(4) Member of the finance committee.

* Independent pursuant to Rule 10A-3 under the Exchange Act (Rule 10A-3) and applicable NYSE standards, as well as National Instrument 52-110 *Audit Committees*.

The business address of each member of our board of directors is our corporate office, which is 37A, Avenue J.F. Kennedy, L-1855, Luxembourg, Grand Duchy of Luxembourg.

We present below a brief biographical description of each member of our board of directors:

*Jaime Ardila.* Mr. Ardila has been a member of our board of directors since June 2019 and has been Chairman of the board since July 30, 2020. Mr. Ardila founded The Hawksbill Group in 2016, which provides business advisory services, including strategy, operations, public relations, communications and investment advice. Prior to that, he held several positions at General Motors Company in the U.S., Europe and South America in a career spanning 30 years. He also worked at the Planning Department and the Ministry of Industry and Trade for the government of Colombia from 1981 to 1984 and the investment bank Rothschild from 1996 to 1998. At General Motors, Mr. Ardila served CFO of General Motors Chile; President and Managing Director of General Motors Ecuador; President of General Motors Colombia; President of General Motors Argentina; CFO for Latin America, Africa and the Middle East; President for Brazil and Mercosur; and President of General Motors South America from 2010-2016. He is currently a member of the Board of Directors of Accenture and Chairman of Goldman Sachs, BDC. Mr. Ardila earned his master's degree in Economics at the London School of Economics in 1981 and his bachelor's degree in Economics at the University of Bogota in 1977.

*Daniella Dimitrov.* Ms. Dimitrov has been a member of our board of directors since January 2018. Ms. Dimitrov has over 25 years of leadership experience in building, leading and operating businesses in mining and financial services, including as CEO, COO and CFO. Ms. Dimitrov's previous roles include President and CEO, Interim CEO, CFO of multi mine gold/copper producers, partner at a merchant bank with a focus on natural resources, Executive Vice Chair of an iron ore developer through its acquisition following a hostile takeover bid, COO of a Canadian national wealth management and capital markets firm, and various corporate development roles in mining and financial services. Ms. Dimitrov has also been a director of various mining companies and an oil and gas company and has served as a member and chair of various board committees, including audit, technical, health and safety, compensation and governance. Ms. Dimitrov is currently also a director of Chemtrade Logistics Income Fund. Ms. Dimitrov has received the NACD Directorship Certification. She has a Global EMBA from Kellogg School of Management and Schulich School of Business and a law degree. She was chosen as one of the top 100 Global Inspirational Women in Mining in 2016.

*Diego Hernandez.* Mr. Hernández has been a member of our board of directors since 2016. He was a member of the board of directors of Nexa Brazil until 2018. Mr. Hernández has 50 years of experience in the mining industry. He is currently Corporate Director of BAL Group in Mexico. He served as President of the Sociedad Nacional de Minería in Chile (2016 to 2022) and CEO of Antofagasta Minerals from August 2012, and CEO of Antofagasta plc from September 2014 to April 2016. He was CEO of CODELCO in 2010/2012 and President of Base Metals in BHP Billiton and Chairman of Minera Escondida during 2004/2010. He served as Executive Director, Non-Ferrous Metals in Vale in 2001/2004, CEO of Compañía Minera Doña Inés de Collahuasi in 1996/2001 and has held other senior positions in Anglo American and Rio Tinto. Mr. Hernandez received a civil mining engineer degree from the University of Chile and from the École Nationale Supérieure des Mines de Paris. In 2010, he received the Ankh award granted by the Copper Club of New York, and in 2013 the Chilean Institute of Engineers awarded him the "Gold Medal" for his distinguished career and important contribution to the development of engineering in Chile.

*Eduardo Borges de Andrade Filho.* Mr. Andrade has been a member of our board of directors since 2016. He was a member of the board of directors of Nexa Brazil until 2018 and has been member of the board of directors of CBA since 2017. Mr. Andrade has over 20 years of experience working with large industrial conglomerates and international consulting firms on relevant issues related to strategy, corporate development, corporate finance, governance and organization. He is founder and managing director of Otinga Investimentos, a private equity firm focusing on mid-size companies in Brazil. Between 2011 and 2014, he was corporate planning officer at VSA and served as board member of four other companies of the Votorantim Group. From 2010 to 2011, he was vice president for corporate development at Usiminas, a steel company, where he was responsible for mining and capital goods businesses, as well as strategy, business development and M&A. Prior to that, between 1997 to 2010, he was a Partner at McKinsey & Company, a consulting firm, where he took various leadership roles such as the Basic Materials Practice and the Knowledge Committee in Latin America. He started his professional career as an entrepreneur and engineer in his home state of Minas Gerais. Mr. Andrade received a bachelor's degree in civil engineering from Fundação Mineira de Educação e Cultura in 1991 and holds an MBA from the University of Chicago in 1995.

*Edward Ruiz.* Mr. Ruiz has been a member of our board of directors since January 2018. Mr. Ruiz brings over 51 years of experience in public and private accounting. Mr. Ruiz currently serves on the audit committee of several publicly traded companies in Brazil, including Iochpe-Maxion SA and Arezzo & Co. He is a Certified Public Accountant since 1972 and has been responsible for audits of companies in the mining and energy sectors in Brazil and the United States. Mr. Ruiz retired from Deloitte in 2012, where he was employed since 1997 and most recently served as an audit partner and member of Deloitte's IFRS specialist group. As head of the Capital Markets group for Deloitte, Mr. Ruiz advised companies on financial and regulatory reporting matters related to initial public offerings and secondary offerings in the Brazilian, United States and European capital markets. Prior to Deloitte, he held executive positions in internal audit at JP Morgan and PepsiCo in the United States. He started his career in public accounting with Arthur Young in 1971. Mr. Ruiz obtained his bachelor's degree from Pace University, New York City in 1971.

*Gianfranco Castagnola*. Mr. Castagnola has been a member of our board of directors since June 2020. Mr. Castagnola is partner and CEO of Apoyo Consultoría, a leading firm specialized in economic, business and financial advisory services in Peru. He also serves as chairman of the board of directors of its subsidiary, AC Capitales SAFI, one of the largest Peruvian investment fund managers. He has been a member of the board of directors of the Peruvian Central Bank from 1996 to 2001 and was president of the Universidad del Pacífico board of trustees. He is chairman of the board of directors of Scotiabank Peru S.A., and member of the board of directors of Saga Falabella, the Austral Group and IKSA. Mr. Castagnola's previous roles include serving as member of the board of directors of Nexa Peru, Nexa Resources Atacocha S.A.A., Lima Airport Partners, Quimica Suiza, Cementos Pacasmayo, Camposol Holding and Redesur. Mr. Castagnola earned his master's degree in public policy from Harvard University and his bachelor's degree in Economics from the Universidad del Pacífico.

*Jane Sadowsky.* Ms. Sadowsky has been a member of our board of directors since January 2018. Ms. Sadowsky has a broad and diverse range of finance and deal-related expertise and also has sector expertise in power and utilities and the related fields of commodities, renewables, power technology, infrastructure, and energy. She has a depth of knowledge and experience in mergers and acquisitions, public and private debt and equity, corporate restructurings and cross border transactions. Ms. Sadowsky retired from Evercore Partners, after more than 22 years as an investment banker. Prior to Evercore Partners, she worked in Citigroup's Investment Bank and began her investment-banking career at Donaldson, Lufkin & Jenrette. Currently, Ms. Sadowsky serves on the board and the audit committee of Yamana Gold, a publicly traded gold mining company based in Toronto, Canada, and chairs Yamana's governance committee. She also serves as a senior advisor with responsibility for diversity and inclusion at Moelis &. Company, a U.S. publicly traded company. Ms. Sadowsky also serves on the board and Remuneration Committee of Scientific Games, a PE-backed company based in the US and the NY Chapter of NACD. Ms. Sadowsky earned her MBA from the Wharton School in 1989 and her bachelor's degree in Political Science and International Relations from the University of Pennsylvania in 1983. Ms. Sadowsky has received the NACD Directorship Certification. She is a National Association of Corporate Directors Governance fellow and a frequent speaker at board governance conferences throughout the United States.

*João Henrique Batista de Souza Schmidt.* Mr. Schmidt has been a member of our board of directors since 2016. He has held the position of executive officer for Corporate Development at VSA, and in 2020 he assumed the position of CEO. He is a board member of Auren Energia S.A., a position he has held since 2017. He served as Chairman of the Board of Directors of CESP – Companhia Energética de São Paulo in part of 2019. He also served as member of the Board of Directors of Citrosuco S.A. from 2014 to 2019 and Nexa Brazil from 2016 to 2018. Mr. Schmidt was previously a member of the board of directors of Fibria Celulose S.A. from 2014 to 2019. Prior to joining VSA, Mr. Schmidt had 15 years of experience in the financial sector. Mr. Schmidt was a Managing Director of Goldman Sachs do Brasil Banco Múltiplo S.A., where he worked from April 2010 to August 2014, and prior to that worked at Citigroup and Goldman Sachs in different capacities. Mr. Schmidt received a bachelor's degree in Business Administration from Fundação Getulio Vargas in 2001.

*Luís Ermírio de Moraes*. Mr. Moraes has been a member of our board of directors since 2016, and was the Chairman of the board until July 30, 2020. He was a member and the Chairman of the board of directors of Nexa Brazil until 2018. Mr. Moraes has over 35 years of experience working in mining and metallurgical operations. He is a member of the board of directors of VSA, which is the Portfolio Manager Board of the Votorantim Group. Mr. Moraes is Chairman of the board of directors of CBA, the largest integrated aluminum producer in Brazil. He is a board member of Hejoassu, which is the ownership board of Votorantim. Mr. Moraes previous roles include director of VSA since 2000. Mr. Moraes also worked as an engineer in various processes in the areas of alumina refinery, smelter and aluminum smelting, pyrometallurgical and hydrometallurgical mineral processing of nickel laterites, developing novel projects for the separation and refining of cobalt. In the early 2000s, Mr. Moraes was the shareholder responsible for the creation and development of a new Votorantim business area with investments in IT and biotechnology. Mr. Moraes received a bachelor's degree in mineral and chemistry engineering from the Colorado School of Mines, in the state of Colorado, United States, in 1982.

**Internal rules of the board of directors**

Our board of directors adopted board internal rules, which includes the following, among other things:

- approve the general guidance of our business, its mission, strategic goals and guidelines;
- ensure that the executive officers comply with such mission, strategic goals and guidelines;
- approve the budget and a strategic plan which takes into account, among other things, the opportunities and risks of the business;
- approve the annual commercial agreements strategy;
- recommend the shareholders to approve mergers, spin-offs, incorporations, acquisitions, divestitures and joint venture operations related to Nexa and its subsidiaries according to our articles of association;
- promote and ensure compliance with our corporate purpose;
- ensure Nexa’s long-term continuity with respect to, among other items, its ESG strategies, including to support the Board committees which oversee these strategies and our implementation of ESG initiatives, such as adherence to applicable laws and revisions to the strategy as applicable;
- develop our approach to corporate governance, including the creation and review, from time to time, of corporate governance principles and guidelines that are specifically applicable to us;
- evaluate the performance of our CEO and executive officers;
- exemplify and, together with the management committee, create a culture of integrity throughout the organization;
- approve and monitor compliance with the following policies: (a) code of conduct; (b) disclosure policy; (c) insider trading policy; (d) dividend policy; (e) compliance policy; (f) antitrust/competition policy; (g) anti-corruption policy; (h) money laundering and terrorist financing prevention policy; (i) financial risk management policy (and complementary policies proposed by the management committee, such as the hedge, derivatives, leverage, liquidity and foreign exchange exposure policy); (j) ERM policy; and (k) authorization policy;
- approve board members and executive officers’ compensation, the amount of which shall not exceed the amount determined by the general meeting;
- ensure appropriate succession planning for our board of directors, CEO and executive officers;
- deliberate and approve the terms and conditions of any compensation arrangements or proposed material amendments to any terms and conditions of existing compensation arrangements entered between Nexa and any of our executive officers; and
- all further tasks as required by applicable laws.

The board internal rules are available on our website.

The board has at its disposal a set of provisions and practices that promotes independence in the decision-making process of the board. In accordance with the board's internal rules, the independent members of the board may hold separate meetings and each director has a duty to declare, prior to any board meeting, the existence of a particular reason or conflict of interest with Nexa with respect to a subject matter being discussed or considered by the board. Accordingly, such board member would be refrained from discussing and voting on a matter that could present a conflict of interest. Additionally, our board members are prohibited from holding executive positions with Nexa and/or serving on more than four boards of directors of companies that do not belong to the same conglomerate. As discussed above, our audit committee is comprised entirely of independent directors and we also have independent representation on all other committees.

**Description of the position of Chair**

Our board of directors has developed a written position description for the chair of the board of directors. The chairman of the board has the following responsibilities, subject to any other matters that may be set forth in our articles of association or provided for under applicable law:

- ensure the efficiency and proper performance of the board of directors;
- preside over the board meetings;
- prepare, organize, elaborate and distribute the agenda and minutes of the meetings aided by the board secretary, including all information necessary to discuss the matters on the agenda;
- coordinate the activities of other board members;
- ensure that all board members receive comprehensive information about the items on the board agenda in a timely manner;
- propose the annual corporate calendar to the board in coordination with Nexa's CEO, which shall necessarily set forth the dates of corporate events;
- organize the onboarding and education sessions for incoming members of the board in coordination with Nexa's CEO; and
- periodically arrange for continuing education opportunities for all board members, so that individuals may maintain or enhance their skills and abilities as members and ensure that their knowledge and understanding of Nexa's business remains current.

The chairman of our board of directors is not an independent director of Nexa Resources. The board of directors has carefully considered governance issues relating to chairman independence and believes that the chairman carries out separate responsibilities diligently and that, with the compensating practices in place, the board of directors operates effectively and in Nexa's best interest.

**Meetings of the board of directors and attendance**

The board of directors ordinarily meets in person or by other means of communication as may be required. The frequency of and agenda items for board meetings will vary depending on the state of affairs, requirements for approvals and opportunities available to Nexa and the risks and issues which Nexa faces. The agenda for meetings places priority and focuses on key issues for Nexa, which are identified by the chairman of our board. Routine business is dealt with after substantive discussions on the key issues.

Under the board of directors' internal rules and our articles of association, the board can validly consider any matters and make decisions provided at least a majority of the members are in attendance in person or by representation. The board of directors' internal rules further provides that each member is entitled to one vote either in person or where duly represented as required by the board's internal rules. In fiscal year 2022, our board of directors held eight meetings, in which the rate of attendance in person or by representation was 100% of the directors. In addition, we had (i) six audit committee meetings, (ii) five finance committee meetings, (iii) seven compensation, nominating and governance committee meetings, and (iv) fourteen sustainability and capital projects committee meetings.

| Director | Board Meetings | Meetings Attended | Overall % Attendance |
|---|---|---|---|
| Jaime Ardila | 8 | 8 | 100 |
| Daniella Dimitrov | 8 | 8 | 100 |
| Diego Hernandez | 8 | 8 | 100 |
| Eduardo Borges de Andrade Filho | 8 | 8 | 100 |
| Edward Ruiz | 8 | 8 | 100 |
| Gianfranco Castagnola | 8 | 8 | 100 |
| Jane Sadowsky | 8 | 8 | 100 |
| João Henrique Batista de Souza Schmidt | 8 | 8 | 100 |
| Luís Ermírio de Moraes | 8 | 8 | 100 |

As set forth in the board of directors' internal rules, the independent directors may hold meetings in which members of the management team and the non-independent directors are not present. In 2022, our directors held *in camera* sessions without members of the management team prior and/or at the conclusion of each board meeting.

**Committees of our board of directors**

Our board of directors has an audit committee, a finance committee, a compensation, nominating and governance committee and a sustainability and capital projects committee. Our board of directors may have other committees as it may determine from time to time. Each of the standing committees of our board of directors has the composition and responsibilities assigned to them by the meeting of the board of directors that created such committee and as set forth in their respective committee charters. These charters set out, among other things, the roles and responsibilities of the chair of each committee. As set forth in the respective charters of the committees, each of the committees may meet with or without the management, as the case may be, at the discretion of the committee. The charter for each of the committees of our board of directors is available on our website.

***Audit committee***

Our audit committee is a standing committee established by our board of directors on March 28, 2017 to assist the board of directors in fulfilling certain of its oversight responsibilities. The audit committee may be composed of three to five members, each appointed by our board of directors for a term of one year. Daniella Dimitrov, Edward Ruiz and Jane Sadowsky currently serve as its members. These individuals are independent under Rule 10A-3 and applicable NYSE standards, as well as Canadian securities regulators' National Instrument 52-110 *Audit Committees*. In addition, each of them satisfies the financial literacy requirement under applicable rules. Our board of directors has determined that Mr. Edward Ruiz qualifies as an "audit committee financial expert."

Our audit committee's primary responsibilities are to assist the board of directors' oversight of: (i) quality and integrity of our financial reporting and related financial disclosure; (ii) the effectiveness of our internal control over financial reporting and disclosure controls and procedures; (iii) our compliance with legal and statutory requirements as they relate to financial statements and related financial disclosures; (iv) the monitoring of risk management controls and processes, according to the ERM policy, and the oversight of financial reporting and related compliance, internal control over financial reporting and fraud risks; (v) the compliance and ethics program; (vi) review of all related party transactions; (vii) the qualifications, performance and independence of our independent auditors and performance of the internal audit function; and (viii) the adherence to internal controls related to our ESG disclosures, targets and public commitments, pursuant to applicable laws. The audit committee also supports the Board in its monitoring of the ERM in matters related to the responsibility of this Committee.

Nexa has established policies and procedures that require any engagement of our independent auditor for audit or non-audit services to be submitted to and pre-approved by the audit committee. In addition, our audit committee may delegate the authority to pre-approve non-audit services to one or more of its members. All non-audit services that are pre-approved pursuant to such delegated authority must be presented to the full audit committee at its first scheduled meeting following such pre-approval. Our audit committee shall pre-approve all audit and non-audit services to be provided to us by our independent auditor and also has the authority to recommend pre-approval policies and procedures to our board of directors and for the engagement of our independent auditor's services.

***Finance committee***

Our finance committee is a standing committee established by our board of directors on March 28, 2017 to assist the board of directors in fulfilling certain of its oversight responsibilities. The finance committee may be composed of three to five members, each appointed by our board of directors for a term of one year. Gianfranco Castagnola, Edward Ruiz and João Henrique Batista de Souza Schmidt currently serve as its members. It is also the finance committee attribution to support the Board in its monitoring of the enterprise risk management in matters related to the responsibility of this committee.

Our finance committee's primary responsibilities are to assist the board of directors in fulfilling its oversight responsibilities with respect to monitoring Nexa's balance sheet and by providing recommendations on our capital management strategy and capital structure, including indebtedness, investments and returns, support the board in its monitoring of the enterprise risk management in matters related to the responsibilities of the committee, among others.

***Compensation, nominating and governance committee***

Our compensation, nominating and governance committee is a standing committee established by our board of directors on March 28, 2017, to assist the board of directors in fulfilling certain of its oversight responsibilities. The compensation, nominating and governance committee may be composed of two to five members, each appointed by our board of directors for a term of one year. Luís Ermírio de Moraes, Eduardo Borges de Andrade Filho, Jaime Ardila and Jane Sadowsky currently serve as its members. Two of the four members of the compensation, nominating and governance committee are independent directors.

Our compensation, nominating and governance committee is responsible for: (1) new compensation models and changes to compensation models currently used by us, in order to guide and influence our actions; (2) the compensation of the executive officers, of the members of the board of directors and of the members of the committees of the board of directors; (3) the proposal of candidates to the chair of chief executive officer, when applicable, or any serious restrictions on the candidates proposed by the chief executive officer to the other chairs of the executive officers; (4) development of corporate governance guidelines and principles; (5) the governance structure related to the Company's ESG strategy; (6) identification of individuals qualified to be nominated as members of the board of directors and suggesting nominees to fill any vacancies on the board of directors; (7) the structure and composition of board committees; (8) evaluation of the performance and effectiveness of the board of directors, the chief executive officer and each of the board's standing committees; (9) the supervision and approval of our social responsibility plans and policies (other than community-related aspects which are overseen by the sustainability and capital projects committee), including with respect to our ESG strategy; (10) support the board in its monitoring of the enterprise risk management in matters related to the responsibilities of the committee; and (11) any related matters required by applicable laws. For more information regarding our corporate governance policies, see "Information on the Company—Environmental, Social and Governance (ESG)—Nexa Materiality Matrix—Governance."

***Sustainability and capital projects committee***

Our sustainability and capital projects committee is a standing committee established by our board of directors on April 29, 2019 to assist the board of directors in fulfilling certain of its oversight responsibilities. The sustainability and capital projects committee may be composed of at least three and no more than five members, each appointed by our board of directors for a term of one year. Diego Hernandez, Daniella Dimitrov and Jaime Ardila currently serve as its members.

Our sustainability and capital projects committee's primary responsibilities are to assist the board of directors by supporting safe and sustainable business practices in the conduct of our activities in respect of environmental, health, safety and social matters, including relationships with local communities, tailings management, water, waste, biodiversity, and GHG emissions (climate change), as well as with respect to the estimation and disclosure of mineral resources and reserves at all operations and projects (collectively "Sustainability Matters"). The committee also assists the board with the oversight of our ESG strategy, including its revision and implementation, in connection with the Sustainability Matters and all related applicable laws.

The sustainability and capital projects committee is also responsible for assisting the board with the review of technical, economic and social matters with respect to our projects, including exploration, development, permitting, construction and operation of our mining and smelting assets, which are core to our strategy and growth. For more information regarding our sustainability policies, see "Information on the Company—Environmental, Social and Governance (ESG)—Nexa Materiality Matrix—Environmental" and "Information on the Company—Environmental, Social and Governance (ESG)—Nexa Materiality Matrix—Social."

**Orientation and continuing education**

We implemented an orientation program for new directors under which each new director meets with the chair of our board of directors and our executives. New directors are provided with comprehensive orientation and education as to our business, operations and corporate governance (including the role and responsibilities of the board of directors and each committee).

The chair of our board of directors is responsible for overseeing directors' continuing education and ensure that it is designed to maintain or enhance the skills and abilities of our directors and to ensure that their knowledge and understanding of our business remains current. The chair of each committee is responsible for coordinating orientation and continuing director development programs relating to the committee's mandate.

Our ongoing director education programs entails site visits, presentations from outside experts and consultants, discussions on ongoing governance trends and guidelines for public companies, briefings from staff and management, and reports on issues relating to our projects and operations, sustainability and social matters, competitive factors, reserves, legal issues, economic, accounting and financial disclosure, mineral and hydrocarbon education and other initiatives intended to keep the board abreast of new developments and challenges that we may face. As part of the education session, certain directors obtained international certifications related to the competencies necessary for their activities, such as National Association of Corporate Directors ("NACD") Directorship Certification.

**Evaluation of directors**

Our compensation, nominating and governance committee established a framework for the implementation and administration of processes to assess the effectiveness of the board and each of its members. This includes peer reviews of each director's performance and self-assessments, as well as full board and committee review of the board and the respective committees, by way of questionnaires, interviews and sessions with the chairman. In addition to hiring external advisors to develop and undertake this assessment, the compensation, nominating and governance committee is also responsible for overseeing the process and evaluating the results, with the objective of improving the performance of each director and the board of directors as a whole.

**Considerations in evaluating director nominees**

Our board of directors is responsible for nominating members for election to the board and for filling vacancies on the board that may occur between annual meetings of shareholders. The process for nominating a new director initiates with our compensation, nominating and governance committee which evaluates Nexa's current circumstances and establishes a profile for a director candidate. Such profile is then shared with a specialized external executive search firm, who assists the compensation, nominating and governance committee in selecting candidates for interviews. Prior to the interview, the specialized external firm is responsible for a background check with former employers and colleagues of the respective candidates.

Following the interview(s), our compensation, nominating and governance committee recommends the nomination of the director candidate to our board of directors based upon an assessment of the independence, skills, qualifications and experience of such candidate. Specifically, the board seeks members from diverse professional and personal backgrounds who combine a broad spectrum of experience and expertise with a reputation for integrity.

**Diversity**

We value diversity of abilities, experience, perspective, education, gender, background, race and national origin. We believe that having a diverse board of directors can offer a breadth and depth of perspectives that enhance our performance. Recommendations concerning director nominees are based on merit and past performance as well as expected contribution to the board's performance and, accordingly, diversity is taken into consideration. We believe that having a diverse and inclusive organization overall is beneficial to our success, and we are committed to diversity and inclusion at all levels of our organization to ensure that we attract, retain and promote the brightest and most talented individuals. We have recruited and selected executives that represent a diversity of business understanding, personal attributes, abilities and experience.

The compensation, nominating and governance committee and our board of directors have the responsibility to review and assess the composition of the board and each of its committees, and to identify, evaluate and recommend potential new directors. With respect to our executive officers, the compensation, nominating and governance committee reviews candidates recommended by the chief executive officer and makes the final recommendation to the board of directors. In new director and executive officer appointments and ongoing evaluations of the effectives of our board and management team, each of the board's committees and each director, the board will take into consideration diversity as one of the factors in order to maintain an appropriate mix and balance of diversity, attributes, skills, experience and background on our board of directors and each of its committees and the management team. Ultimately, appointments to our board of directors and management team are based on merit against objective criteria and with due regard to the benefits of diversity in board and management team composition and the desire to maximize the effectiveness of corporate decision making, having regard to our best interests and strategies and objectives, including the interests of our shareholders and other stakeholders. During our selection process for board appointments, we seek to ensure that women candidates are always considered on the shortlist for nominations. Currently, two (or 22%) of our nine members of the board are women, and on a general basis, 16.7% of our overall employees are women.

Further, we developed a diversity program in 2019 as part of the Nexa Way program. This program is composed of affinity groups, which are formed by employees on a volunteer basis and divided into five themes: (i) women, (ii) race and ethnicity, (iii) LGBTQIA+, (iv) people with disabilities and (v) multigenerational. The affinity groups are assisted by a technical committee composed of executive officers and employees in key areas such as human resources, compliance, legal and institutional relations.

The program promotes knowledge, improvements and awareness of diversity in the workplace for our employees. In 2021, we held a meeting with an LGBT forum in Brazil and Peru, received the Women on Board certificate, updated specific accommodations for women in Peru, provided an antiracist guide to all employees, launched a talent program focused on the admission and training of professionals with disabilities and/or special needs, and provided support and care for employees aged 60 and over during the pandemic, among other measures. In Brazil, 5.2% of our employees are identified as people with disabilities, and by 2030 our diversity target is to have a workforce composed by 30% of women employees and 30% of women in leadership positions. These targets are frequently monitored, global and locally, and action plans are currently being implemented to achieve the proposed goals.

For more information on our practices related to diversity, see "Information on the Company—Environmental, Social and Governance (ESG)—Nexa Materiality Matrix—Social" and "Information on the Company—Environmental, Social and Governance (ESG)—Nexa Materiality Matrix—Governance."

**Compensation-setting process**

Our compensation, nominating and governance committee is responsible for assisting our board of directors in fulfilling its governance and supervisory responsibilities and advising our board of directors with respect to evaluation and monitoring of compensation models and policies performed every two years, which takes into account peer companies and the challenges and opportunities we face. The committee's responsibilities also include administering and determining our compensation objectives and programs, reviewing and making recommendations to our board of directors concerning the level and type of the compensation payable, evaluating performance, implementing evaluation and improvement processes, and ensuring that policies and processes are consistent with our philosophy and the objectives of our compensation program.

**Share ownership**

Luís Ermírio de Moraes, a member of our board of directors, indirectly owns approximately 2,379,242, or 1.79%, of our common shares. As of December 31, 2022, none of our executive officers own, beneficially or of record, any of our common shares.

## EXECUTIVE OFFICERS AND MANAGEMENT COMMITTEE

### Executive officers

We have global executives and management teams for our main subsidiaries. Each subsidiary team has a management structure that adheres to our corporate governance rules.

On January 1, 2022, Ignacio Rosado began his role as President and Chief Executive Officer ("CEO"). On October 3, 2022, José Carlos del Valle was appointed Senior Vice Precedent of Finance and Group Chief Financial Officer ("CFO"), replacing Rodrigo Menck who stepped down from his role of CFO as of July 6, 2022. In the period between Mr. Menck's resignation and Mr. del Valle's appointment, Claudia Torres, head of Corporate Controller, served as interim CFO. On June 30, 2022, Felipe Baldassari Guardiano left his role as Vice President Sustainability, Strategic Planning & Corporate Affairs. On June 30, 2022, Ricardo Moraes Galvão Porto resigned from his role as Senior Vice President Commercial and Supply Chain. In 2022, we implemented a review and simplification of our corporate structure to strengthen our competitiveness and continuously improve our operational efficiency, and accordingly we do not intend to replace these roles. Our executives currently are as follows:

| Name | Age | Principal Residence | Position |
|---|---|---|---|
| Ignacio Rosado | 53 | São Paulo, Brazil | President and Chief Executive Officer |
| José Carlos del Valle | 53 | Lima, Peru | Senior Vice President of Finance and Group Chief Financial Officer; Chief Executive Officer of Nexa Peru |
| Mauro Davi Boletta | 62 | São Paulo, Brazil | Senior Vice President of Smelting Operations and Commercial |
| Leonardo Nunes Coelho | 45 | Lima, Peru | Senior Vice President of Mining Operations |
| Marcio Luis Silva Godoy | 57 | São Paulo, Brazil | Senior Vice President of Technical Services and Projects |
| Jones Aparecido Belther | 55 | São Paulo, Brazil | Senior Vice President of Mineral Exploration & Business Development |
| Gustavo Cicilini | 47 | São Paulo, Brazil | Vice President of Human Resources and Corporate Affairs |

The business address of our executives is Avenida Engenheiro Luís Carlos Berrini, n° 105, 6th floor, São Paulo, State of São Paulo, Brazil.

A brief biographical description of each of our executives is presented below:

*Ignacio Rosado.* Mr. Rosado has been our Chief Executive Officer since January 2022. He has more than 16 years of experience in the metals and mining industry, and extensive board experience in different countries. Mr. Rosado led the initial public offering of Hochschild Mining Plc, and its acquisition strategy on Canadian Mining Assets. He also led the reorganization and transformation of Volcan Compañia Minera S.A.A. ("Volcan") which included the construction of two new polymetallic mines and the issuance of bonds for more than US$1 billion. Prior to joining Nexa Resources, Mr. Rosado was the CEO of Volcan since 2014 and its Deputy CEO since 2010. Prior to Volcan, he served as Director and Chief Financial Officer at Hochschild Mining Plc. since 2005 and as a Senior Project Manager at McKinsey & Company since 2000. During his career, he also served on the Board of Directors of Lake Shore Gold Corp., Zincore Metals, Cordoba Minerals, and Kaizen Discovery. Mr. Rosado graduated with a degree in Economics in 1992 from Universidad del Pacifico and an MBA from the Ross School of Business, University of Michigan in 2000.

*José Carlos del Valle.* Mr. del Valle has been our Senior Vice President of Finance and Group Chief Financial Officer since October 3, 2022, and he also serves as Chief Executive Officer of Nexa Peru since November 2022. He has extensive knowledge of the metals and mining industry and more than 25 years of experience in finance and planning. Mr. del Valle joined Nexa after spending nine years as CFO at Compañía Minera Antamina, where he led a successful company-wide transformation program and a US$1 billion syndicated loan financing initiative, among other key efforts. Before Antamina, he was the CFO of Volcan Compañía Minera and he held various leadership positions at well-known companies, including McKinsey & Company, Standard Chartered Bank, and Wells Fargo Bank, among others. Mr. del Valle holds a Business Administration degree from California State University, as well as an MBA from The Wharton School. He also graduated from the Advanced Management Program at Harvard Business School.

*Mauro Davi Boletta.* Mr. Boletta has been our Senior Vice President of Smelting Operations and Commercial since 2016. Mr. Boletta has over 30 years of experience with operations. He joined Votorantim Metais S.A. in 1986, having served in several production areas. Between 2010 and 2011, he was responsible for the design review of an aluminum smelter in Trinidad and Tobago. Mr. Boletta graduated with a degree in electrical engineering from the Federal University of Itajubá, UNIFEI in 1985 and holds an MBA from FGV.

*Leonardo Nunes Coelho.* Mr. Coelho has been our Senior Vice President of Mining Operations since 2017. Mr. Coelho has over 20 years of experience managing mining operations with focus at gold and zinc. Prior to joining us, Mr. Coelho worked for Anglo Gold Ashanti Ltd. for 15 years, where he initiated his career as a Trainee. In Anglo Gold Ashanti Ltd., Mr. Coelho has led mining operations and the expansion of mining projects and served as General Manager of the Cuiabá and Lamego complexes as his last position at this company. Mr. Coelho graduated with a degree in Mine Engineering in 2001 from the Federal University of the State of Minas Gerais ("UFMG") and has obtained graduate degrees from the Kellogg Graduate School of Management in 2015 in the United States, the Dom Cabral Foundation in 2009 in Brazil and the University of Cape Town in 2005 in South Africa as well as a qualification at INSEAD in digital transformation in 2018 and MIT in 2019.

*Marcio Luis Silva Godoy*. Mr. Godoy has been our Senior Vice President of Technical Services and Projects since June 2020 and has also been responsible for engineering and IT. Mr. Godoy has over 27 years of experience in the mining industry. He has worked in different roles related to mineral exploration, mineral technology, project development and implementation and mining operations in several countries including Brazil, Mozambique, Chile, Zambia, Australia and Suriname. Mr. Godoy previously worked in well-known companies including Vale, Phelps Dodge, Golden Star Resources and Novo Astro Mining. He was also the chairman of the Agency for the technological development of the Brazilian Mining Industry ("ADIMB"). Mr. Godoy is a graduated Geologist and has a Masters in Geology from the São Paulo State University ("UNESP").

*Jones Aparecido Belther.* Mr. Belther has been our Senior Vice President of Mineral Exploration & Business Development since 2014. He has over 28 years of experience in the area. He held the same position at Votorantim Metais S.A. between 2004 and 2014. Prior to joining us, he was country manager at Vale in Peru between 2002 and 2004. He has worked in Brazil and abroad in companies such as Rio Tinto Brasil, Golden Star Resources, in Suriname, Phelps Dodge in Brazil and Chile, Vale in Brazil and Peru, and other companies. Mr. Belther graduated with a degree in Geology in 1991 from the São Paulo State University, UNESP, in Brazil, where he also obtained a Master's degree in 2000 in Mineral Exploration.

*Gustavo Cicilini.* Mr. Cicilini became Vice President Human Resources and Corporate Affairs in 2019. Mr. Cicilini joined Nexa Resources in 2018 as senior Human Resources manager for attraction, development and culture and has been responsible for leading a culture transformation program. He has over 20 years of professional experience in various business sectors, including telecommunication, food and beverage, mobility solutions, industrial technology, consumer goods, energy and building technology. He has previously worked in companies including Algar Telecom, AmBev and Robert Bosch and been located throughout Latin America, including in Peru, Colombia, Ecuador, Venezuela, Panama and Costa Rica. Mr. Cicilini previously worked as Regional Corporate Human Resources Project Manager and has been responsible for change management and innovation, business intelligence and cross-selling functions. He holds a degree in Psychology and an MBA in Business Administration.

**Evaluation of executive officers**

On an annual basis, the performance of our executive officers is evaluated by the chief executive officer, the compensation, nominating and governance committee and ultimately, the board of directors. We strive to create a strong ethical and high-performance culture, as well work to ensure an appropriate succession plan that ensures the continuity of our business. In addition to future business needs, we consider the core skills, experience and diversity necessary to carry out our strategy.

Each year, our chief executive officer presents to the board of directors a report on potential successors to his position, which considers the ability of succession candidates to succeed the chief executive officer in an emergency, on an interim or permanent basis, as well as critical experiences and other attributes required in order for each candidate to enhance his or her readiness for succession. Our board of directors discusses potential successors with the chief executive officers, as well as potential successors to each member of the management team.

**Position descriptions**

Our board of directors has developed position descriptions for each of the chief executive officer and chief financial officer, which are discussed below.

***Chief executive officer***

Our board of directors believes that our chief executive officer must have experience in, among other things: leading businesses of a similar complexity and scale; carrying out growth and value creation mandates; participating in mergers and acquisitions; articulating and executing long-term corporate strategies; and facilitating development within high achieving organizations. In addition, our board of directors expects our chief executive officer to have knowledge of the mining and metals industry, international experience and an extensive global network. According to our board of directors, our chief executive officer should possess the following attributes, among others: a hands-on approach to the business; an alignment with our values; resiliency and credibility; a good reputation within the market; and the ability to communicate with and influence stakeholders.

***Chief financial officer***

Our board of directors believes that our chief financial officer must have experience in, among other things: leading accounting, controllership, financial planning and analysis, investor relations, treasury matters, mergers and acquisitions and risk management activities; formulating a company's plan and direction for the future; developing financial, operational and tax-related strategies; managing transactions; overseeing internal controls in compliance with applicable laws and regulations; and implementing all financial-related activities within a company. In addition, our board of directors expects our chief financial officer to have public company experience, strong analytical and business valuation skills and knowledge of national securities exchanges, such as the NYSE, international experience and an extensive global network. According to our board of directors, our chief financial officer should possess the following attributes, among others: a hands-on approach to the business; an alignment with our values; resiliency and credibility; a good reputation in the market; and the ability to communicate with and influence stakeholders.

**Management committee**

In accordance with our articles of association, the board of directors may delegate its powers to conduct our management and affairs, as well as its representation of us with respect to such matters, to a management committee. The management committee consists of at least three, and a maximum of seven, members. The members are not required to be shareholders or directors of Nexa. The board of directors may not delegate its powers related to general guidance of our business or acts reserved to the board of directors pursuant to the 1915 Law.

The following table sets forth the current members of our management committee, and their respective positions. The term of the members of our management committee expires on the day of the first board meeting held after the 2023 general shareholders' meeting.

| Name | Age | Principal Residence | Position |
|---|---|---|---|
| Ignacio Rosado | 53 | São Paulo, Brazil | President and Chief Executive Officer |
| José Carlos del Valle | 53 | Lima, Peru | Senior Vice President of Finance and Group Chief Financial Officer |
| Mauro Davi Boletta | 62 | São Paulo, Brazil | Senior Vice President of Smelting Operations and Commercial |
| Leonardo Nunes Coelho | 45 | Lima, Peru | Senior Vice President of Mining Operations |
| Marcio Luis Silva Godoy | 57 | São Paulo, Brazil | Senior Vice President Technical Services and Projects |
| Jones Aparecido Belther | 55 | São Paulo, Brazil | Senior Vice President Mineral Exploration & Business Development |

***Conduct Committee***

Our conduct committee reports to the Chief Executive Officer and was created on January 1, 2014. Its internal rules were revised and updated on December 2, 2019.

The conduct committee may be composed of at least seven members, such members being necessarily the Chief Executive Officer, the Senior Vice President of Finance and Group Chief Financial Officer, the Vice President of Human Resources, the Head of Internal Audit and Compliance, the Group General Counsel, the Compliance Manager and two representatives of the Ethics Line program, a confidential reporting system available to internal and external parties designed to allow anonymous reporting of violations of our code of conduct, policies and internal procedures or applicable laws.

Our conduct committee's primary responsibilities are to assist the management committee in enforcing the code of conduct, reviewing any claims raised through the Ethics Line program, and identifying claims that should be rated as critical. The conduct committee also assists our audit committee by ensuring that any claim filed through the Ethics Line program and rated as critical is properly elevated to the audit committee for further review.

**Family relationships among executives**

Our executives do not have any family relationships among themselves or with any other of our employees.

# EXECUTIVE AND DIRECTOR COMPENSATION

The following discussion describes the significant elements of the compensation of our executive officers and directors for the year ending December 31, 2022.

In 2022 our executive compensation program includes cash compensation in the form of base salary, short-term incentives and long-term incentives. We provide base salary to compensate executives for their day-to-day responsibilities, which is aligned to a market reference based on industry analysis. We evaluate our total compensation practices on an annual basis to ensure that our compensation remains competitive in light of market and industry trends.

Our compensation, nominating and governance committee is responsible for assisting our board of directors in fulfilling its governance and supervisory responsibilities and advising our board of directors with respect to evaluation and monitoring of compensation models and policies and other related matters. The committee's responsibilities also include administering and determining our compensation objectives and programs, reviewing and making recommendations to our board of directors concerning the level and type of the compensation payable, evaluating performance, implementing evaluation and improvement processes, and ensuring that policies and processes are consistent with our philosophy and the objectives of our compensation program.

## Compensation framework

Our compensation is comprised of three principal components: (i) base salary, (ii) short-term incentive and (iii) long-term incentive.

## Principal elements of compensation

### *Base salary*

Base salaries for executive officers are established based on the scope of their responsibilities and competencies and taking into consideration the median market reference. Adjustments to base salaries are expected to be determined annually and may be increased based on performance, as well as to maintain market competitiveness. Additionally, base salaries may be adjusted as warranted throughout the year to reflect promotions or other changes in the scope or breadth of roles or responsibilities.

### *Short-term incentive program / bonuses*

The annual bonus or short-term incentive program aims to align short-term priorities with our strategic planning by rewarding achievement of our goals and targeted annual results, resulting in an alignment with our interests. Each named executive officer has a panel of individual goals, with scales of minimum performance, target and surpass results. Measurement in these panels is based on financial and non-financial indicators. These indicators represent the specific goals and challenges attributable to the position in alignment with our performance and strategic planning.

Financial indicators are based on internal metrics and represent up to 50% of the employee panel for corporate positions and up to 40% for operations positions. In 2022, the metrics used were Free Cash Flow (FCF) and Management Gains ("MGs"). The target of FCF is structured around the combined total of all our revenue versus costs and considers metal prices, and floating exchange rates. For MGs, the target is to capture opportunities for working capital gains, fixed costs, production costs, and synergies, among other metrics, measured in millions of dollars, and it considers fixed metal prices and exchange rates.

Strategic goals represent up to 50% of the individual panel and are comprised of qualitative and quantitative factors. In 2022, the metrics used in this assessment included the Aripuanã project's performance indicators, ESG and safety. We also recognize individual performance through targets that support different strategies in line with Nexa's broader plan. The financial indicators applicable to our CEO represented 50% of the individual panel, and the metrics used were FCF and MGs.

In 2022, up to 20% of the compensation of our executive committee was related to the achievement of ESG goals and additional ESG goals have been set for our executive officers in 2023.

***Long-term incentive program***

Our long-term incentive ("LTI") program is designed to provide strong incentives for making decisions with a view to creating value for shareholders by linking cash compensation to our long-term performance, and by guiding executive actions towards the achievement of our strategic goals and growth plans.

The LTI program aligns interests among our executives and shareholders to ensure continued value creation. This incentive system is also intended to engage management in developing and delivering a consistent strategic plan, as well to attract and retain executive officers.

The LTI program is based on a five-year vesting period and comprised of three parts: (i) restricted grant, (ii) absolute performance grant and (iii) relative performance grant. All grants are defined amounts approved by the board of directors to be paid out at the end of the five-year vesting period. The restricted grant amount appreciates according to the total shareholder return ("TSR") over the vesting period. The payment of the absolute performance grant is based on a targeted Company TSR combined with a performance curve, both approved by our board of directors at each granting period. The performance curve determines the amount to be paid in case of a performance equal or lower than expected in the targeted TSR. If the targeted TSR is achieved, the payment is fully due. If the performance of the TSR is greater than expected, the supplementary grant to be paid will be adjusted by up to 100%. The payment of relative performance grant depends on Nexa's TSR performance when compared to a selected peer group approved by the board of directors.

The methodology is referenced to the market value of Nexa Resources' shares at the end of the vesting period, calculated based on the weighted average price of the common shares during the months of October, November and December in the year immediately prior to the year in which the respective settlement date for the award occurs, together with dividends paid during the respective grant cycle.

***Change of control***

Upon the occurrence of a change of control event, all of the phantom shares will continue under the same terms, conditions and due dates, with the following exceptions:

- If Nexa terminates an executive's employment without cause or if the executive resigns for good reason within 24 months of the change of control event, any unvested phantom shares will immediately fully vest as of the date of such termination or resignation for good reason. The exercise price will be calculated based on the weighted average price of the common shares during the three months immediately preceding the month of termination. In case termination occurs on the same date of the change of control event, the exercise price will be the share price (in US$/share) used as reference for the transaction that resulted in the change of control event.

- If the executive resigns within twelve months of the change of control event, he or she will be entitled to a portion of the granted shares, proportionate to the length of time served (1/60 for each 30-day period served), which will become immediately vested as of the date of resignation. The exercise price will be calculated based on the weighted average price of the common shares during the three months immediately preceding the month of resignation. The Board may approve special cases and adjust the aforementioned rules provided that the basic rights of the new shareholders as well as the executives are preserved.

**Short selling**

According to our insider trading policy, directors and officers must refrain from active or speculative trading involving Nexa's securities based on short-term fluctuations in the price of Nexa's securities or other market conditions. This includes, but is not limited to, short sales, trading in puts, calls or options or similar rights or obligations to buy or sell Nexa's securities or derivative securities relating to Nexa's securities, and the purchase of the Nexa's securities with the intention of quickly reselling them. In addition, directors and officers may not purchase financial instruments, such as prepaid variable forward contracts, equity swaps or collars, designed to hedge or offset a decrease in the market value of Nexa's securities.

**2022 executive compensation**

During fiscal year 2022, our executive officers received cash compensation in an aggregate amount of approximately US$5.4 million, which includes compensation paid to any officers whose terms ended on the first business day of 2022. The following table summarizes compensation we paid to our executive officers during the fiscal year 2022, including base salary, short-term incentive programs or bonuses, long-term incentive programs and pension value.

| | Non-equity Incentive Plan Compensation | | | | |
|---|---|---|---|---|---|
| **Name and Title** | **Base Salary (US$)** | **Short-term incentive programs / bonuses (US$)** | **Long-term incentive programs (US$)** | **Pension Value (US$)** | **Total Compensation (US$)** |
| Ignacio Rosado (1)<br>*President and Chief Executive Officer* | 837,818 | - | - | 16,047 | 853,865 |
| José Carlos del Valle<br>*Senior Vice President of Finance and Group Chief Financial Officer* | 95,920 | 176,719 | - | - | 272,638 |
| Rodrigo Menck<br>*Senior Vice President Finance and Group Chief Financial Officer* (2) | 206,970 | 199,752 | 6,566 | 4,814 | 418,103 |
| Mauro Davi Boletta<br>*Senior Vice President of Smelting Operations and Commercial* | 185,346 | 193,352 | 29,184 | 9,979 | 417,861 |
| Leonardo Nunes Coelho<br>*Senior Vice President of Mining Operations* | 363,627 | 494,352 | 31,890 | 10,284 | 900,153 |
| Marcio Luiz Silva Godoy<br>*Senior Vice President of Technical Services and Projects* | 316,663 | 348,731 | - | 17,316 | 682,710 |
| Jones Aparecido Belther<br>*Senior Vice President of Mineral Exploration & Business Development* | 172,366 | 172,024 | 29,184 | 9,979 | 383,553 |
| Gustavo Cicilini<br>*Vice President of Human Resources and Corporate Affairs* | 155,146 | 136,689 | - | 8,314 | 300,149 |
| Ricardo Moraes Galvão Porto (3)<br>*Senior Vice President Commercial & Supply Chain* | 163,298 | 474,561 | 31,890 | 4,482 | 674,230 |
| Felipe Baldassari Guardiano (4)<br>*Vice President Sustainability, Strategic Planning & Corporate Affairs* | 272,593 | 204,459 | 29,184 | 9,230 | 515,466 |

Note: In 2022, a severance payment of US$536,425 was made to Tito Botelho Martins Junior, as the former CEO and employee of the Company, due to the termination of his Executive's Employment Agreement with the Company on December 31, 2021.
(1) Ignacio Rosado joined the Company on November 1, 2021; therefore, ineligible to any short- or long-term incentives paid in 2022 in respect of 2021.
(2) Rodrigo Menck stepped down from his role of CFO as of July 6, 2022. The amount paid to Mr. Menck includes termination costs.
(3) Ricardo Moraes Galvão Porto resigned from his role as Senior Vice President Commercial & Supply Chain on June 30, 2022. The amount paid to Mr. Porto includes termination costs.
(4) Felipe Baldassari Guardiano left his role as Vice President Sustainability, Strategic Planning & Corporate Affairs on June 30, 2022. The amount paid to Mr. Guardiano includes termination costs.

**2022 director compensation**

During fiscal year 2022, our directors received total compensation in an aggregate amount of US$2,110,000 for their services as members of our board of directors. The chair of our board of directors received US$280,000 in annual fees, while each board member received an average of US$57,187.50 per quarter. In addition, each director is entitled to reimbursement for reasonable travel and other expenses incurred in connection with attending board meetings and meetings for any committee on which he or she serves.

We have no service contracts with members of our board of directors providing for benefits upon termination of employment.

Annual compensation levels for the directors are as set out below:

| Name | Base | Additional | Total Compensation |
|---|---|---|---|
| Jaime Ardila (1) | 220,000 | 60,000 | 280,000 |
| Daniella Dimitrov (2) | 220,000 | 10,000 | 230,000 |
| Diego Hernandez (3) | 220,000 | 10,000 | 230,000 |
| Eduardo Borges de Andrade Filho (3) | 220,000 | 10,000 | 230,000 |
| Edward Ruiz (2) | 220,000 | 20,000 | 240,000 |
| Gianfranco Castagnola (3) | 220,000 | 10,000 | 230,000 |
| Jane Sadowsky (2) | 220,000 | 10,000 | 230,000 |
| João Henrique Batista de Souza Schmidt | 220,000 | - | 220,000 |
| Luís Ermírio de Moraes | 220,000 | - | 220,000 |

1. The chairman of the board is entitled to additional compensation of US$60,000.00 per year.
2. The audit committee members are entitled to additional compensation of US$10,000.00 per year. The chair of the audit committee is entitled to additional compensation of US$20,000.00 per year.
3. Chairs of the other committees receive compensation of US$10,000.00. There are no additional payments per meeting for members who attend two committees concurrently.

***Compensation consultants***

We retained Korn Ferry in 2022 to provide competitive market analysis to assist in determining the appropriate level of compensation for executives, providing comprehensive competitive market clearing information on incentives, policies and benefits for each executive position. Korn Ferry has over 40 years of experience and deep knowledge in the Brazilian market. We paid Korn Ferry US$23,446.68 in consulting services fees in 2022.

We also retained Russell Reynolds Associates to assist with the board compensation and individual assessment. Russell Reynolds Associates has been working with the executive search and leadership consulting industry for over 50 years. We paid Russell Reynolds Associates US$74,912.74 in consulting services fees in 2022.

Regarding the selection of our new Senior Vice President of Finance and Group Chief Financial Officer, we retained Spencer Stuart, a company with over five decades of executive research and leadership consulting experience. We paid Spencer Stuart US$35,256.60 in consulting services fee in 2022.

***Retirement benefit plans***

All executive officers participate in the FUNSEJEM pension fund, a private, closed and not-for-profit pension fund responsible for the management of the pension plans for the employees of the companies that are linked with the Votorantim group.

The pension plan is a defined contribution plan. Participation is voluntary and thus supplemental to the Brazilian government's mandatory social security system. The plan is offered to employees through a specific fund that is maintained separately from the funds of each of the sponsoring organizations.

The plan's assets correspond to 100% of the value of the liabilities. Annually, an actuarial assessment is made in compliance with the current legislation. However, there is no risk of deficit, since it is a defined contribution plan, whose formation of the reserve results from the capitalization of the respective contributions to the plan.

An employee may choose to contribute between 0.5% and 6.0% of his or her base wage. Nexa also matches the contribution made by the participant depending on such participant's salary.

## EMPLOYEES

As of December 31, 2022, we had 5,625 employees and 8,596 independent contractors. The following tables show the number of employees and contractors as of December 31, 2022, 2021 and 2020.

**Number of Employees**

| | As of December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| Brazil | 3,509 | 3,631 | 3,193 |
| Peru | 2,096 | 2,185 | 2,131 |
| United States and Luxembourg | 20 | 24 | 25 |
| **Total** | **5,625** | **5,840** | **5,349** |

**Number of Independent Contractors***

| | As of December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| Brazil | 2,788 | 1,773 | 1,498 |
| Peru | 5,808 | 5,889 | 5,638 |
| **Total** | **8,596** | **7,662** | **7,136** |

*Refers to fixed-term contracts only.

Most of our employees are represented by labor unions. We negotiate collective bargaining agreements, relating to salaries, working conditions and welfare, with the various unions that represent our employees. Although we believe our present labor relations are good, there can be no assurance that a work slowdown, stoppage or strike will not occur prior to or upon the expiration of the current collective bargaining agreements, and we are unable to estimate the effect of any such work slowdown, stoppage or strike on our production levels, in spite of an established contingency plan.

We regularly invest in programs that ensure employee development and meet our specific business needs while continuously enhancing the qualifications of our staff so as to maintain and reinforce our competitiveness and our know-how as we continue to grow. The training programs include Technical/Operative Trainings, Mentoring Program, Leadership Development Program, Young Professional Training and an Individual Development Plan that, among other things, indicates the training that a given employee requires in order to continue to grow within Nexa Resources. In addition, we have a Trainee Program and the Academy of Excellence, a program created by Votorantim for leaders within Votorantim.

## V. ADDITIONAL INFORMATION

### LEGAL PROCEEDINGS

As of December 31, 2022, we were party to various legal and administrative proceedings relating to labor, civil, environmental and tax matters in which the disputed amount for probable and possible claims was an aggregate of US$305.6 million. It is our policy to make provisions for legal contingencies when, based upon our judgment and the advice of our legal counsel, the risk of loss is probable. As of December 31, 2022, we had established a net provision in the amount of US$43.9 million to cover contingencies for proceedings for which the risk of loss was deemed probable.

The following tables summarize judicial and administrative proceedings to which we are a party, the amounts in dispute in these proceedings in which a loss is considered probable or possible and the aggregate amount of the net provision established for losses that may arise from these proceedings.

| | As of December 31, 2022 | |
|---|---|---|
| | **Total Proceedings (1)** | **Total Net Provisions (2)** |
| | **(in millions of US$)** | |
| Civil and environmental (3) | 129.5 | 15.2 |
| Tax | 134.6 | 8.2 |
| Labor | 41.5 | 20.5 |
| **Total** | **305.6** | **43.9** |

1. Does not include claims with expectation of loss classified as remote.
2. Only includes claims with expectation of loss classified as probable, net of judicial deposits.
3. Includes environmental legal and administrative proceedings.

**Civil and environmental liabilities and contingencies**

As of December 31, 2022, we were party to civil and environmental judicial proceedings, with a probable or possible chance of loss in the aggregate amount of US$129.5 million, for which we have recorded a net provision in the amount of US$15.2 million for proceedings with probable losses. The civil and environmental judicial claims filed against us primarily relate to pollution and collection lawsuits, repossession actions and indemnity actions related to contract disputes.

**Tax liabilities and contingencies**

As of December 31, 2022, we were party to tax related judicial proceedings, with a probable or possible chance of loss in the aggregate amount of US$134.6 million, for which we have recorded a net provision in the amount of US$8.2 million for proceedings with probable losses.

The tax-related judicial and administrative claims filed against us primarily relate to (i) value added tax on Sales and Services ("ICMS"), (ii) corporate income tax and social contribution on net profit ("IRPJ/CSLL"), (iii) Brazilian mining royalty ("CFEM"), (iv) Contribution to the Social Integration Program ("PIS") and (v) Social Contribution on Billing ("COFINS").

**Labor liabilities and contingencies**

As of December 31, 2022, we were party to labor judicial proceedings related to employment benefits, with a probable or possible chance of loss of a total amount of US$41.5 million, for which we have recorded a net provision in the amount of US$20.5 million for proceedings with probable losses. The judicial and administrative claims related to labor benefits that were filed against us are mainly related to (i) overtime payments, (ii) compensation for illness-related damages and (iii) payment of social benefits.

## ARTICLES OF ASSOCIATION

### Company objectives and purposes

We were incorporated in Luxembourg as a public limited liability company (*société anonyme*) on February 26, 2014. Our articles of association provide that our corporate purpose is to, among others, (i) carry out any trade, business or commercial activities whatsoever, including but not limited to the purchase, exchange and sale of goods and/or services to third parties; (ii) take participations and interests, in any form whatsoever, in any commercial, industrial, financial or other, Luxembourg or foreign companies or enterprises; (iii) acquire through participations, contributions, underwriting, purchases or options, negotiation or in any other way any securities, rights, patents and licenses and other property, rights and interest in property as we shall deem fit; (iv) generally to hold, manage, develop, sell or dispose of the same, in whole or in part, for such consideration as Nexa Resources may deem fit, and in particular for shares or securities of any company purchasing the same; (v) enter into, assist or participate in financial, commercial and other transactions; (vi) grant to any holding company, subsidiary or sister company, or any other company that belongs to the same group as Nexa Resources, any assistance, loans, advances or guarantees (in the latter case, even in favor of a third-party lender of any affiliates); (vii) borrow and raise money in any manner and to secure the repayment of any money borrowed; and (viii) generally to do all such other things as may appear to Nexa Resources to be incidental or conducive to the attainment of the above objects or any of them. We can perform all commercial, technical and financial operations, connected directly or indirectly in all areas as described above, in order to facilitate the accomplishment of its purpose, provided always that Nexa Resources will not enter into any transaction that would constitute a regulated activity of the financial sector without due authorization under Luxembourg law.

Our common shares are governed by Luxembourg law and our articles of association. Our articles of association were amended in June and August 2021. The following is a summary of the material terms of our common shares based on our articles of association and Luxembourg law. These rights may differ from those typically provided to shareholders of U.S. companies under the corporation laws of some states of the United States. We encourage you to read the complete form of our articles of association, filed as Exhibit 2.4 of this annual report on Form 20-F.

### Common shares

On April 11, 2016, our shareholders approved the reduction of our share capital through the cancellation of 350,000,000 common shares, decreasing our share capital from US$1,280,505,254 to US$930,505,254.

On April 19, 2016, our shareholders approved the issuance of 110,910,811 new common shares fully paid via cash contributions by certain shareholders, increasing our capital from US$930,505,254 to US$1,041,416,065.

On June 28, 2017, our shareholders approved the reduction of our share capital through the cancellation of 200,000,000 common shares, decreasing our share capital from US$1,041,416,065 to US$841,416,065.

On September 18, 2017, our shareholders approved the reduction of our share capital through the cancellation of 300,000,000 common shares, decreasing our share capital from US$841,416,065 to US$541,416,065.

On October 6, 2017, our shareholders approved the reduction of our share capital through the cancellation of 428,595,552 common shares, decreasing our share capital from US$541,416,065 to US$112,820,513.

On October 31, 2017, our shareholders approved the issuance of 20,500,000 new common shares fully paid via cash contributions by certain shareholders, increasing our share capital from US$112,820,513 to US$133,320,513.

On September 13, 2018, our shareholders approved a general authorization to the board of directors to establish share buyback programs for a period of three years. On September 20, 2018, our board of directors approved a share buyback program under which we, directly or indirectly through our subsidiaries, may repurchase, from time to time, up to US$30.0 million of our outstanding common shares listed on the NYSE over a 12-month period beginning on November 6, 2018 and ending on November 6, 2019. As of March 25, 2019, we have repurchased 466,231 common shares, at an average price of US$10.63 per share, for an aggregate purchase price of US$4.96 million. All of the repurchased common shares were cancelled on June 4, 2020.

On June 4, 2020, our shareholders approved the reduction of our share capital through the cancellation of 881,902 treasury shares, decreasing our share capital from US$133,320,513 to US$132,438,611.

As of December 31, 2022, our issued share capital was US$132,438,611 represented by 132,438,611 common shares fully paid, with par value of US$1.00 per share. In addition to our issued share capital, we have an authorized share capital of US$231,924,819, represented by 231,924,819 common shares.

**Distributions**

Pursuant to our articles of association, the general meeting of shareholders may approve dividends and the board of directors may declare interim dividends, in each case to the extent permitted by Luxembourg law. Pursuant to our articles of association, the board of directors may also declare distributions to our shareholders in the form of reimbursement of share premium or interim dividends to the extent permitted by Luxembourg law. Each common share entitles the holder to participate equally in any distributions, if and when declared by the general meeting of shareholders or, in the case of interim dividends or reimbursements of share premium, the board of directors, out of funds legally available for such purposes.

Declared and unpaid distributions held by us for the account of the shareholders shall not bear interest. Under Luxembourg law, claims for unpaid distributions will lapse in our favor five years after the date such distribution has been declared.

For additional information regarding our policy on distributions, including procedures provided by Luxembourg law, see "Share ownership and trading—Distributions."

**Voting rights**

There are no restrictions on the rights of Luxembourg or non-Luxembourg residents to vote our shares. All of our shareholders, including our public shareholders, hold common shares with identical voting rights, preferences and privileges. Each common share entitles the shareholder to attend a general meeting of shareholders in person or by proxy, to address the general meeting of shareholders and to vote. Each common share entitles the holder to one vote at the general meeting of shareholders.

The board of directors may also decide to allow shareholders to vote by correspondence by means of a proxy form providing for a positive or negative vote or an abstention on each agenda item. The conditions for voting by correspondence are set out in the articles of association and in the convening notice.

The board of directors may decide to arrange for shareholders to be able to participate in the general meeting by conference call, video conference or similar means of communication, whereby (i) the shareholders attending the meeting can be identified, (ii) all persons participating in the meeting can hear and speak to each other, (iii) the transmission of the meeting is performed on an ongoing basis and (iv) the shareholders can properly deliberate without the need for them to appoint a proxyholder who would be physically present at the meeting.

**General meeting of shareholders**

In accordance with Luxembourg law and our articles of association, any regularly constituted general meeting of our shareholders has the power to order, carry out or ratify acts relating to our operations to the extent that such decisions are the domain of the shareholders and not the board of directors.

Our annual general meeting of shareholders shall be held at our registered office, or at such other place in Luxembourg as may be specified in the notice of the meeting, within six months after the end of the relevant financial year. Except as otherwise specified in our articles of association, resolutions at a general meeting of shareholders are adopted by a simple majority of shares present or represented and voting at such meeting.

A shareholder entitled to vote may act at any general meeting of shareholders by appointing another person (who need not be a shareholder) as his proxy, which proxy shall be in writing and comply with such requirements as determined by our board with respect to the attendance to the general meeting, and proxy forms in order to enable shareholders to exercise their right to vote. All proxies must be received by us (or our agents) no later than the day determined by our board of directors.

**Issuance of shares and preferential subscription rights**

Our shares may be issued pursuant to a resolution of the general meeting of shareholders. The general meeting of shareholders may also delegate the authority to issue shares to the board of directors for a renewable period of five years. The board of directors has been authorized to issue up to 231,924,819 common shares. Such authorization will expire five years after the date publication in the Luxembourg legal gazette (*Recueil Electronique des Sociétés et Associations*) of the minutes of the of the general meeting of shareholders held on June 4, 2020 (unless amended or extended by the general meeting of shareholders).

Each holder of shares has preferential subscription rights to subscribe for any issue of shares pro rata to the aggregate amount of such holder's existing holding of the shares. Each shareholder shall, however, have no preferential subscription right on shares issued for a contribution in kind.

Preferential subscription rights may be restricted or excluded by a resolution of the general meeting of shareholders, or by the board of directors if the shareholders so delegate. The general meeting of shareholders has delegated to the board of directors the power to cancel or limit the preferential subscription rights of the shareholders when issuing new shares, so long as the issuance of new shares is carried out through a public offering.

If we decide to issue new shares in the future and do not exclude the preferential subscription rights of existing shareholders, we will publish the decision by placing an announcement in the Luxembourg official journal *Recueil Electronique des Sociétés et Associations* and in a newspaper published in Luxembourg. The announcement will specify the period in which the preferential subscription rights may be exercised. Such period may not be shorter than 14 days from the publication of the offer. The announcement will also specify details regarding the procedure for exercise of the preferential subscription rights. Under Luxembourg law preferential subscription rights are transferable and tradable property rights.

**Repurchase of shares**

Nexa Resources is prohibited by the 1915 Law from subscribing for its own shares. Nexa Resources may, however, repurchase its own shares or have another person repurchase shares on its behalf, subject to certain conditions, including:

- prior authorization of the general meeting of shareholders setting out the terms and conditions of the proposed repurchase, including the maximum number of shares to be repurchased, the duration of the period for which the authorization is given (which may not exceed five years) and the minimum and maximum consideration per share;
- the repurchase may not reduce the net assets of Nexa Resources on a non-consolidated basis to a level below the aggregate of the issued share capital and the reserves that Nexa Resources must maintain pursuant to the 1915 Law or our articles of association;
- only fully paid-up shares may be repurchased; and
- the acquisition offer is made on the same terms and conditions to all the shareholders who are in the same position; however, listed companies may repurchase their own shares on the stock exchange without making an acquisition offer to the shareholders.

On September 13, 2018, our shareholders authorized us to purchase, acquire, receive or hold and sell shares of Nexa Resources in accordance with the 1915 Law and any other applicable laws and regulations. The authorization was effective immediately after the general meeting and valid for a period of three years. For more information, see "Share ownership and trading—Purchases of equity securities by the issuer and affiliated purchasers."

**Form and transfer of shares**

Our shares are issued in registered form only and are freely transferable. Luxembourg law does not impose any limitations on the rights of Luxembourg or non-Luxembourg residents to hold or vote our shares.

Under Luxembourg law, the ownership of registered shares is generally evidenced by the inscription of the name of the shareholder, the number of shares held by him or her in the shareholders' register, which is maintained at our registered office. Each transfer of shares is made by a written declaration of transfer recorded in our shareholders' register, dated and signed by the transferor and the transferee or by their duly appointed agent. We may accept and enter into its shareholders' register any transfer based on an agreement between the transferor and the transferee provided a true and complete copy of the agreement is provided to us.

Our articles of association provide that, in case our shares are recorded in the register of shareholders on behalf of one or more persons in the name of a securities settlement system or the operator of such a system, or in the name of a professional depositary of securities or any other depositary or of a sub-depositary designated by one or more depositaries, Nexa—subject to a confirmation in proper form received from the depositary—will permit those persons to exercise the rights attaching to those shares, including admission to and voting at general meetings of shareholders. The board of directors may determine the requirements with which such confirmations must comply. Shares held in such manner generally have the same rights and obligations as any other shares recorded in our shareholder register(s).

# TAXATION

## Luxembourg tax considerations

### *Scope of Discussion*

This summary is based on the laws of Luxembourg, including the Income Tax Law of December 4, 1967, as amended, the Municipal Business Tax Act of December 1, 1936, as amended and the Net Wealth Tax Act of October 16, 1934, as amended, to which we jointly refer as the "Luxembourg tax law", existing and proposed regulations promulgated thereunder, and published judicial decisions and administrative pronouncements, each as in effect on the date of this report or with a known future effective date. This discussion does not generally address any aspects of Luxembourg taxation other than income tax, corporate income tax, municipal business tax, withholding tax and net wealth tax. This discussion, while not being a complete analysis or listing of all of the possible tax consequences of holding and disposing of shares, addresses the material tax issues. Also, there can be no assurance that the Luxembourg tax authorities will not challenge any of the Luxembourg tax consequences described below; in particular, changes in law and/or administrative practice, as well as changes in relevant facts and circumstances, may alter the tax considerations described below.

For purposes of this discussion, a "Luxembourg shareholder" is any beneficial owner of shares that for Luxembourg income tax purposes is:

- an individual resident of Luxembourg under article 2 of the Luxembourg Income Tax Law ("LITL"), as amended; or
- a corporation or other entity taxable as a corporation that is organized under the laws of Luxembourg or effectively managed from Luxembourg under article 159 of the Income Tax Law, as amended.

This discussion does not constitute tax advice and is intended only as a general guide. Shareholders should also consult their own tax advisors as to the Luxembourg tax consequences of the ownership and disposition of our common shares. The summary applies only to shareholders who will own our common shares as capital assets and does not apply to other categories of shareholders, such as dealers in securities, trustees, insurance companies, collective investment schemes and shareholders who have, or who are deemed to have, acquired their shares in the capital of Nexa Resources by virtue of an office or employment.

### *Shareholders*

*Luxembourg income tax on dividends and similar distributions*

A non-Luxembourg shareholder will not be subject to Luxembourg income taxes on dividend income and similar distributions in respect of our common shares, other than a potential Luxembourg withholding tax as described below, unless the shares are attributable to a permanent establishment or a fixed place of business maintained in Luxembourg by such non-Luxembourg shareholder.

An individual Luxembourg shareholder will be subject to Luxembourg income tax on dividend income and similar distributions in respect of its shares in Nexa Resources at the applicable progressive rates. Such payments may benefit from a 50.0% exemption set forth in Article 115 15a of the LITL, subject to the conditions set out therein (or 50.0% exemption). If the 50.0% exemption applies, the applicable income tax will be levied on 50% of the gross amount of the dividends at the applicable progressive rates. Taxable dividends are also subject to dependence insurance contribution levied at a rate of 1.4% on the net income where certain Luxembourg shareholders are affiliated to the Luxembourg social security administration.

A corporate Luxembourg shareholder was subject to Luxembourg corporate income tax ("CIT") and municipal business tax ("MBT") at the aggregate rate of 24.94% in 2022 (i.e. Luxembourg CIT is 18.19% including the surcharge for the unemployment and MBT is 6.75% for having its statutory seat in Luxembourg City). The taxable basis of a corporate Luxembourg shareholder will, in principle, correspond to its accounting results, unless a specific treatment is provided for by the LITL. A corporate Luxembourg shareholder may benefit from the Luxembourg participation exemption (the "participation exemption") with respect to dividends received if the following two conditions are met: (a) the shareholder holds or commits itself to hold at least 10.0% of the share capital of Nexa Resources or a participation with an acquisition price of at least €1.2 million for an uninterrupted period of at least twelve months and (b) the shareholder is a Luxembourg fully taxable corporation. If these cumulative conditions are met, dividends received by the corporate Luxembourg shareholder would be fully exempt from CIT and MBT at the level of the corporate Luxembourg shareholder.

If the conditions with respect to the Luxembourg participation exemption are not met, the corporate Luxembourg shareholders can still benefit from the aforementioned 50.0% exemption, subject to the conditions set out therein.

*Luxembourg withholding tax—Share capital reductions or share premium reimbursements*

Share capital reductions or share premium reimbursements made by Nexa Resources to the Luxembourg and non-Luxembourg shareholders are in principle subject to a 15% Luxembourg withholding tax, unless they have been motivated by genuine economic reasons. Although genuine economic reasons are not defined by law, Luxembourg tax authorities may examine the given reasons. We do not intend to make capital reductions in the near future. Nexa Resources discloses distributable reserves, retained earnings and profits in its chart of accounts according to Decree dated June 10, 2009. As of December 31, 2022, we have the ability to pay dividends and share premiums. The share premium, if any, may be distributed to the shareholders in accordance with Luxembourg Commercial Companies Act by a resolution of the board of directors. See “Share ownership and trading—Distributions”.

*Luxembourg withholding tax—Distributions to shareholders*

A Luxembourg withholding tax of 15.0% is due on dividends and similar distributions made by Nexa Resources to its Luxembourg and non-Luxembourg shareholders unless a Luxembourg domestic dividend withholding tax exemption or a double tax treaty reduction is applicable, as described below. The tax will be withheld by Nexa Resources and remitted to the Luxembourg tax authorities within 8 days as of the date the income is made available to the Luxembourg and non-Luxembourg shareholders.

*Exemption from Luxembourg withholding tax—Distributions to shareholders*

Dividends paid by Nexa Resources will be exempt from Luxembourg withholding tax provided that the following cumulative conditions are met (or domestic exemption):

- at the date of the distribution, the shareholder holds at least 10% of the share capital of Nexa Resources or a participation with an acquisition price of at least €1.2 million for an uninterrupted period of at least twelve months; and
- the dividend is paid to a (i) fully taxable company resident in Luxembourg, (ii) a company resident in a EU Member State fulfilling the conditions of Article 2 of the Parent Subsidiary Directive and listed in the appendix to this directive, (iii) a company resident in a country with which Luxembourg has concluded a double tax treaty and which is fully subject to income tax comparable to the Luxembourg corporate income tax as well as a Luxembourg permanent establishment of such a company, (iv) a company resident of Switzerland and subject to tax without being exempt, (v) a company or a cooperative company resident in a Member State of the European Economic Area, other than a Member State of the EU, and that is fully subject to tax equivalent to the Luxembourg corporate income tax, or (vi) a Luxembourg permanent establishment of a company under (ii) or (v).

Shareholders that are companies’ resident in countries that have entered a double tax treaty with Luxembourg may qualify for the domestic exemption described above.

For a shareholder to benefit from such exemption upon a distribution date, Nexa Resources must file a properly competed form 900 with the Luxembourg tax authorities within 8 days following the earlier of (a) the distribution decision date in case no payment date is fixed, and (b) the effective date of payment of the dividend. Luxembourg tax authorities may request all relevant documentation showing fulfillment of the above-mentioned conditions (*e.g.*, including a tax residency certificate). Nexa makes no representation that this exemption procedure will be practicable with respect to shares held through a clearing system such as DTC (in the United States).

Alternatively, a shareholder may file a refund request (form 901bis, stamped and validated by the tax authorities of the State of residency of the shareholder) with the Luxembourg tax authorities before December 31 of the year following the taxable event (*i.e.*, the distribution). Nexa makes no representation that this refund procedure will be practicable for a shareholder residing in the United States or any other specific jurisdiction.

A shareholder that does not meet the twelve-month holding period described in the first bullet above can request a refund when the twelve-month period has elapsed. The refund request (form 901bis, stamped and validated by the tax authorities of the State of residency of the shareholder) has to be filed with the Luxembourg tax authorities before December 31 of the year following the taxable event.

Forms 900 and 901bis are generally made available on the website of the Luxembourg tax authorities (*Administration des contributions directes*).

The application of the dividend withholding tax exemption to taxable companies' residents in other EU member states or to their EU permanent establishments is not granted if the income allocated is part of a tax avoidance scheme.

*Reduction of Luxembourg withholding tax—Distributions to shareholders*

As mentioned above, pursuant to the provisions of certain bilateral treaties for the avoidance of double taxation concluded between Luxembourg and other countries, and if certain conditions are met, the aforementioned Luxembourg dividend withholding tax may be reduced. Many such treaties, including the double tax treaty with the United States, provide for a tax rate lower than 15 percent only for a shareholder that holds a substantial (generally, 10 percent or 25 percent) portion of a Luxembourg company's shares. Shareholders that hold such shares should consult their tax advisors to determine how to benefit from the reduction in withholding tax rates.

A shareholder that is a company resident in a country that has entered a double tax treaty with Luxembourg may qualify for the domestic exemption even if the treaty would not reduce the withholding tax rate applicable to dividends paid to that shareholder.

*Luxembourg NWT*

A non-Luxembourg shareholder will not be subject to Luxembourg net wealth tax ("NWT") unless the shares are attributable to a permanent establishment or a fixed place of business maintained in Luxembourg by such non-Luxembourg shareholder.

Luxembourg individual shareholders are not subject to Luxembourg NWT. A Luxembourg corporate shareholder will be subject to Luxembourg NWT in respect of the shares held in the capital of Nexa Resources unless it holds more than 10% or €1.2 million of our common shares.

*Luxembourg capital gains tax upon disposal of shares*

Capital gains derived by a non-Luxembourg shareholder on the sale of our common shares will not be subject to taxation in Luxembourg, unless one of the following conditions applies:

- the shareholder does not benefit from a double tax treaty and (i) holds shares in Nexa Resources representing more than 10% of the share capital of Nexa Resources and such shares were held for less than six months prior to their sale or (ii) has been a resident taxpayer in Luxembourg for at least fifteen years and had acquired nonresident status less than five years prior to the disposal; or

- Our common shares are attributable to a permanent establishment or a fixed place of business maintained in Luxembourg by such non-Luxembourg shareholder. In such case, the non-Luxembourg shareholder is required to recognize capital gains or losses on the sale of such shares, which will be subject to CIT and MBT, unless the participation exemption applies.

Capital gains realized upon the sale of our common shares by a Luxembourg resident individual will be subject to Luxembourg income tax at the level of the Luxembourg resident individual only in case of (i) speculation gains or (ii) gains realized on a substantial participation.

*Speculation gains*

Capital gains realized upon the sale of our common shares within a shareholding period not exceeding six months will be subject to personal income taxation (unless such capital gain does not exceed €500) in the hands of a Luxembourg resident individual.

*Substantial participation*

In case where the Luxembourg resident individual has held the shares for at least six months and had a substantial participation, the capital gains realized will be subject to income tax at a rate equal to half the normal progressive rate applicable. A participation is considered as a substantial participation when a Luxembourg resident individual, jointly with his/her spouse and children under the age of 18, holds or has held, directly or indirectly, at any time during the five years prior to the date of the sale, 10.0% or more of the share capital of Nexa Resources.

Capital gains realized by the Luxembourg corporate shareholder (s*ociété de capitaux*) should be exempt from capital gains tax in Luxembourg if at the date of the disposal, the Luxembourg shareholder has held or undertakes to hold, for an uninterrupted period of at least 12 months, a direct participation which represents at least 10.0% of the share capital of Nexa Resources, or which acquisition price was at least €6.0 million. If these conditions are not met, the Luxembourg corporate shareholder would be fully taxed on the capital gains realized upon the sale of the common share. The exempt amount of the capital gains realized will be, however, reduced by the amount of any expenses related to the participation, including decreases in the acquisition cost that could have previously reduced such shareholder's Luxembourg taxable income.

*ATAD rules*

The European Council has adopted two Anti-Tax Avoidance Directives: Council Directive (EU) 2016/1164 of 12 July 2016 laying down rules against tax avoidance practices that directly affect the functioning of the internal market ("ATAD I") and Directive 2017/952/EU of 29 May 2017 amending ATAD I as regards hybrid mismatches with third countries ("ATAD II") that address many of the issues mentioned above. The measures included in ATAD I were implemented into Luxembourg law on December 21, 2018 and almost all of them have been applicable since January 1, 2019. The measures included in ATAD II were implemented into Luxembourg law on December 19, 2019 and almost all of them have been applicable since January 1, 2020. ATAD I and ATAD II may have a material impact on how returns to shareholders are taxed.

**Peruvian tax considerations**

The following is a general summary of material Peruvian tax matters, as in effect on the date of this report, and describes our understanding of the principal tax consequences of an investment in our common shares by a person or entity who is not considered a resident of Peru for tax purposes. This summary is not intended to be a comprehensive description of all the tax considerations that may be relevant to a decision to make an investment in the offered shares.

This summary is based on provisions of the Peruvian income tax law and its regulations in force as of the date hereof. No rulings from the Peruvian tax authorities or judicial rulings address the tax treatment of instruments similar to the shares of Nexa Resources. Accordingly, no assurance can be given that the Peruvian tax authorities will agree with the conclusions described below. If the Peruvian tax authorities were to take a position different from the conclusions described below, the Peruvian income tax consequences of investing in Nexa Resources may differ from those summarized below.

***Sale, exchange or disposition of the shares or a beneficial interest therein***

Investors who decide to invest in the shares of Nexa Resources hold the shares in book-entry form, in the name of a nominee holding such shares for the investors' benefit. Any future trading of such shares will be effected through a conveyance of the beneficial interest held by the investors thereupon through the designated clearing mechanism. Because the conveyance of such beneficial interest does not imply the actual transfer of shares, any capital gains resulting from the conveyance of the beneficial interest in such shares, obtained by a person or entity who is not considered a resident of Peru for Peruvian tax purposes, should not be subject to taxation in Peru.

Contrary to the conclusion stated above, if the sale of our common shares were to qualify as an "indirect transfer of Peruvian shares" (and the transfer of the beneficial interest in the shares were to be considered as an actual transfer of such shares), different rules would apply.

According to Peruvian income tax law, an "indirect transfer of Peruvian shares" is deemed to occur when there is a transfer of shares issued by a non-resident company which, in turn, owns—directly or through one or more companies—shares issued by a Peruvian company, and the following two conditions are concurrently met:

(i) during any of the 12 months preceding the transfer, the fair market value ("FMV") of the shares issued by the Peruvian company held directly or indirectly by the nonresident company which shares are being sold, is equivalent to 50% or more of the FMV of all the shares issued by said non-resident company; and

(ii) during any 12-month period, the shares transferred by a party, including those transferred by its related parties, represent at least 10% of the shares issued by such non-resident company.

Due to recent modifications to Peruvian income tax law, as of January 1, 2019, even if the abovementioned conditions are not met, an indirect transfer of Peruvian shares will also be deemed to exist if the "total value" of shares of the Peruvian company indirectly transferred within any 12-month period is equivalent to or higher than 40,000 Peruvian tax units (S/176 million or US$50.0 million approximately). Said "total value" is determined by multiplying: i) the "percentage" that the FMV of the shares issued by the Peruvian company held (directly or indirectly) by the non-resident company which shares are being transferred, represents with regard to the FMV of all the shares issued by said non-resident company; and, ii) the price agreed for the shares issued by the non-resident company directly transferred. To determine the "total value" threshold, transfers made by those parties which qualify as related to the transferor should also be considered. Nonetheless, the "taxable base" shall be determined, in any case, per party, considering the transfers made by the latter within the abovementioned 12-month period, but excluding those transfers previously taxed.

In case the sale of the shares were to qualify as an "indirect transfer of Peruvian shares" (and the transfer of the beneficial interest on the shares were to be considered as an actual transfer of such shares), any capital gain resulting therefrom will be subject to a 30% tax rate in Peru.

In case the corporate investor that makes the indirect transfer of Peruvian shares has a branch or a permanent establishment with assigned assets in Peru, said corporation will be jointly and severally liable for any income tax that resulted from the transfer of Peruvian shares; it will also be obligated to present to the Peruvian tax authority all the information related to the Peruvian shares of the non-resident investor that are being sold, particularly the information referred to the FMV; participation percentages; capital increase or reduction; issuance and placement of shares or participations; reorganization processes; patrimonial values and balance sheets; etc. Investors should consult their own tax advisors about the consequences of the acquisition, ownership, and disposition of their investment in the offered shares or any beneficial interest therein, including the possibility that the tax consequences of investing in the offered shares may differ from the description above.

**United States federal income tax considerations**

The following is a summary of certain U.S. federal income tax considerations that are likely to be relevant to the purchase, ownership and disposition of our common shares by a U.S. Holder (as defined below).

This summary is based on provisions of the Internal Revenue Code of 1986, as amended (the "Code"), and U.S. Treasury regulations (Regulations), rulings and judicial interpretations thereof, in force as of the date hereof, and the U.S.-Luxembourg Treaty dated December 20, 2000 (as amended by any subsequent protocols) (the "Treaty"). Those authorities may be changed at any time, perhaps retroactively, so as to result in U.S. federal income tax consequences different from those summarized below.

This summary is not a comprehensive discussion of all of the tax considerations that may be relevant to a particular investor's decision to purchase, hold, or dispose of our common shares. In particular, this summary is directed only to U.S. Holders that hold common shares as capital assets and does not address tax consequences to U.S. Holders who may be subject to special tax rules, such as banks, brokers or dealers in securities or currencies, traders in securities electing to mark to market, financial institutions, life insurance companies, tax exempt entities, entities that are treated as partnerships for U.S. federal income tax purposes (or partners therein), holders that own or are treated as owning 10% or more of our common shares by vote or value, persons holding common shares as part of a hedging or conversion transaction or a straddle, nonresident alien individuals present in the United States for more than 182 days in a taxable year, or persons whose functional currency is not the U.S. dollar. Moreover, this summary does not address state, local or foreign taxes, U.S. federal estate and gift taxes, or the Medicare contribution tax applicable to net investment income of certain non-corporate U.S. Holders, or the alternative minimum tax consequences of acquiring, holding or disposing of common shares.

For purposes of this summary, a "U.S. Holder" is a beneficial owner of common shares that is a citizen or resident of the United States, a U.S. domestic corporation or that otherwise is subject to U.S. federal income taxation on a net income basis in respect of such common shares.

U.S. Holders should consult their tax advisors about the consequences of the acquisition, ownership, and disposition of the common shares, including the relevance to their particular situation of the considerations discussed below and any consequences arising under foreign, state, local or other tax laws.

***Taxation of dividends***

Subject to the discussion below under "Passive Foreign Investment Company Status" the gross amount of any distribution of cash or property with respect to our common shares that is paid out of our current or accumulated earnings and profits (as determined for U.S. federal income tax purposes) will generally be includible in a U.S. Holder's taxable income as ordinary dividend income on the day on which the U.S. Holder receives the dividend and will not be eligible for the dividends received deduction allowed to corporations under the Code.

We do not expect to maintain calculations of our earnings and profits in accordance with U.S. federal income tax principles. U.S. Holders therefore should expect that distributions generally will be treated as dividends for U.S. federal income tax purposes.

Subject to certain exceptions for short-term positions, dividends received by an individual with respect to the common shares will be subject to taxation at a preferential rate if the dividends are "qualified dividends." Dividends paid on the common shares will be treated as qualified dividends if:

- the common shares are readily tradable on an established securities market in the United States; and
- we were not, in the year prior to the year in which the dividend was paid, and are not, in the year in which the dividend is paid, a passive foreign investment company ("PFIC").

The common shares are listed on the NYSE and will qualify as readily tradable on an established securities market in the United States so long as they are so listed. Based on our consolidated financial statements and certain estimates of our gross income and gross assets, and relying on the Commodity Exception (as defined below under "Passive Foreign Investment Company Status"), we do not believe that we were a PFIC for our 2022 or 2021 taxable years, and we do not anticipate becoming a PFIC for our current taxable year or in the foreseeable future. Accordingly, we expect that dividends paid on the common shares will be treated as qualified dividends. U.S. Holders should consult their tax advisors regarding the availability of the reduced dividend tax rate in light of their own particular circumstances.

Subject to generally applicable limitations and conditions, Luxembourg dividend withholding tax paid at the appropriate rate applicable to the U.S. Holder may be eligible for a credit against such U.S. Holder's U.S. federal income tax liability. These generally applicable limitations and conditions include new requirements recently adopted by the U.S. Internal Revenue Service ("IRS"), and any Luxembourg tax will need to satisfy these requirements in order to be eligible to be a creditable tax for a U.S. Holder. In the case of a U.S. Holder that is eligible for, and properly elects, the benefits of the Treaty, the Luxembourg tax on dividends will be treated as meeting the new requirements and therefore as a creditable tax. In the case of all other U.S. Holders, the application of these requirements to the Luxembourg tax on dividends is uncertain, and we have not determined whether these requirements have been met. If the Luxembourg dividend tax is not a creditable tax for a U.S. Holder or the U.S. Holder does not elect to claim a foreign tax credit for any foreign income taxes paid or accrued in the same taxable year, the U.S. Holder may be able to deduct the Luxembourg tax in computing such U.S. Holder's taxable income for U.S. federal income tax purposes. Dividend distributions will constitute income from sources without the United States and, for U.S. Holders that elect to claim foreign tax credits, generally will constitute "passive category income" for foreign tax credit purposes.

The availability and calculation of foreign tax credits and deductions for foreign taxes depend on a U.S. Holder's particular circumstances and involve the application of complex rules to those circumstances. U.S. Holders should consult their own tax advisors regarding the application of these rules to their particular situations.

U.S. Holders that receive distributions of additional common shares or rights to subscribe for common shares as part of a pro rata distribution to all our shareholders generally will not be subject to U.S. federal income tax in respect of the distributions.

***Taxation of dispositions of common shares***

Subject to the discussion below under "—Passive Foreign Investment Company Status," a U.S. Holder generally will recognize gain or loss on the sale, exchange or other disposition of common shares in an amount equal to the difference, if any, between the amount realized upon the sale, exchange or other disposition and the U.S. Holder's adjusted tax basis in the common shares. A U.S. Holder's adjusted tax basis in its common shares generally will equal the purchase price for the common shares. Any gain or loss will be capital gain or loss and generally will be long-term capital gain or loss if the common shares have been held for more than one year. Long-term capital gain realized by a U.S. Holder that is an individual generally is subject to taxation at a preferential rate. The deductibility of capital losses is subject to limitations. Gain, if any, realized by a U.S. Holder on the sale or other disposition of the common shares generally will be treated as U.S. source income for U.S. foreign tax credit purposes.

***Passive foreign investment company status***

Special U.S. tax rules apply to companies that are considered to be PFICs. We will be classified as a PFIC in a particular taxable year if either:

- 75 percent or more of our gross income for the taxable year is passive income; or
- the average percentage of the value of our assets that produce or are held for the production of passive income is at least 50 percent.

Passive income generally includes dividends, interest, royalties, rents, annuities, net gains from the sale or exchange of property producing such income, net foreign currency gains, and gains from commodities transactions other than gains that are active business gains from the sale of commodities or arise from "commodity hedging transactions", within the meaning of the applicable rules ("Commodity Exception").

Based on our consolidated financial statements and certain estimates of our gross income and gross assets, and relying on the Commodity Exception, we do not believe that we were a PFIC for our 2022 or 2021 taxable years, and we do not anticipate becoming a PFIC for our current taxable year or in the foreseeable future. However, since PFIC status will be determined by us on an annual basis and since such status depends upon the composition of our income and assets, and the nature of our activities (including our ability to qualify for the Commodity Exception or any similar exceptions), from time to time, there can be no assurance that we will not be considered a PFIC for any taxable year. In the event that, contrary to our expectation, we are classified as a PFIC in any year, and a U.S. Holder does not make a mark-to-market election, as described in the following paragraph, the U.S. Holder will be subject to a special tax at ordinary income tax rates on "excess distributions," including certain distributions by us and gain that the U.S. Holder recognizes on the sale of the common shares. The amount of income tax on any excess distributions will be increased by an interest charge to compensate for tax deferral, calculated as if the excess distributions were earned ratably over the period that the U.S. Holder holds the common shares. Classification as a PFIC may also have other adverse tax consequences.

A U.S. Holder can avoid the unfavorable rules described in the preceding paragraph by electing to mark the common shares to market. If a U.S. Holder makes this mark-to-market election, the U.S. Holder will be required in any year in which we are a PFIC to include as ordinary income the excess of the fair market value of the U.S. Holder's common shares at year-end over the U.S. Holder's basis in those shares. The U.S. Holder's basis in the shares will be adjusted to reflect the gain or loss. In addition, any gain that the U.S. Holder recognizes upon the sale of the common shares will be taxed as ordinary income in the year of sale.

A U.S. Holder that owns an equity interest in a PFIC must annually file IRS Form 8621 and may be required to file other IRS forms. A failure to file one or more of these forms as required may toll the running of the statute of limitations in respect of each of the U.S. Holder's taxable years for which such form is required to be filed. As a result, the taxable years with respect to which the U.S. Holder fails to file the form may remain open to assessment by the IRS indefinitely, until the form is filed.

U.S. Holders should consult their tax advisors regarding the U.S. federal income tax considerations discussed above and the desirability of making a mark-to-market election if we were to be classified as a PFIC.

***Foreign financial asset reporting***

Individual U.S. Holders that own "specified foreign financial assets" with an aggregate value in excess of US$50,000 on the last day of the taxable year or US$75,000 at any time during the taxable year are generally required to file an information statement along with their tax returns, currently on Form 8938, with respect to such assets. "Specified foreign financial assets" include any financial accounts held at a non-U.S. financial institution, as well as securities issued by a non-U.S. issuer that are not held in accounts maintained by financial institutions. Higher reporting thresholds apply to certain individuals living abroad and to certain married individuals. Regulations extend this reporting requirement to certain entities that are treated as formed or availed of to hold direct or indirect interests in specified foreign financial assets based on objective criteria. U.S. Holders who fail to report the required information could be subject to substantial penalties. In addition, the statute of limitations for assessment of tax would be suspended, in whole or part. Prospective investors are encouraged to consult with their tax advisors regarding the possible application of these rules, including the application of the rules to their particular circumstances.

***Backup withholding and information reporting***

Dividends paid on, and proceeds from the sale or other disposition of, the common shares to a U.S. Holder generally may be subject to the information reporting requirements of the Code and may be subject to backup withholding unless the U.S. Holder provides an accurate taxpayer identification number and makes any other required certification or otherwise establishes an exemption. Backup withholding is not an additional tax. The amount of any backup withholding from a payment to a U.S. Holder will be allowed as a refund or credit against the U.S. Holder's U.S. federal income tax liability, provided the required information is furnished to the IRS in a timely manner.

A holder that is a foreign corporation or a non-resident alien individual may be required to comply with certification and identification procedures in order to establish its exemption from information reporting and backup withholding.

## EXCHANGE CONTROLS AND OTHER LIMITATIONS AFFECTING SECURITY HOLDERS

We are not aware of any governmental laws, decrees, regulations or other legislation in Luxembourg that restrict the export or import of capital, including the availability of cash and cash equivalents for use by our affiliated companies, or that affect the remittance of dividends, interest or other payments to non-resident holders of our securities.

**EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES**

Our management, with the participation of our chief executive officer and chief financial officer, has evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2022. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives.

We have evaluated, with the participation of our chief executive officer and chief financial officer, the effectiveness of our disclosure controls and procedures as of December 31, 2022. Based on our evaluation, our chief executive officer and chief financial officer concluded that our disclosure controls and procedures were effective as of December 31, 2022.

# INTERNAL CONTROL OVER FINANCIAL REPORTING

**Management report on internal control over financial reporting**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting and for assessing its effectiveness.

Our internal control over financial reporting is a process designed by, or under the supervision of, our chief executive officer and our chief financial officer, and effected by our board of directors, management and other employees, and is designed to provide reasonable assurance regarding the reliability of financial reporting and of the preparation of our consolidated financial statements, in accordance with IFRS as issued by the IASB.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, projections of any evaluation of effectiveness of internal control over financial reporting to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with our policies or procedures may deteriorate.

Our management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2022, based upon the criteria established in Internal Controls—Integrated Framework (2013), issued by the Committee of Sponsoring Organizations of Treadway Commission ("COSO"). Based on this assessment and criteria, our management has concluded that our internal control over financial reporting was effective as of December 31, 2022.

**Audit of the effectiveness of internal control over financial reporting**

Our independent registered public accounting firm, PricewaterhouseCoopers Auditores Independentes Ltda., has audited the effectiveness of our internal control over financial reporting, as stated in their report as of December 31, 2022.

**Changes in internal control over financial reporting**

There were no changes in our internal control over financial reporting during the fiscal year of 2022, which have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

## PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table summarizes the fees billed to us by our independent auditors PricewaterhouseCoopers Auditores Independentes Ltda. for professional services in 2022 and 2021:

| | For the Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | (US$ thousand) | |
| Audit fees | 2,132.1 | 1,936.3 |
| Audit-related fees | 107.0 | 112.4 |
| Tax fees | - | - |
| Other fees | - | - |
| **Total fees** | **2,239.1** | **2,048.7** |

"Audit fees" are the aggregate fees billed by PricewaterhouseCoopers Auditores Independentes Ltda. for the audit of our annual financial statements, the audit of the statutory financial statements of our subsidiaries, and reviews of interim financial statements and attestation services that are provided in connection with statutory and regulatory filings or engagements. They also include fees for services that only the independent auditor reasonably can provide, including the provision of comfort letters and consents in connection with statutory and regulatory filings and the review of documents filed with the SEC and other capital markets or local financial reporting regulatory bodies. "Audit-related fees" are fees charged by PricewaterhouseCoopers Auditores Independentes Ltda. for assurance and related services that are reasonably related to the performance of the audit or review of our consolidated financial statements and are not reported under "Audit fees". "Tax fees" are the aggregate fees billed by PricewaterhouseCoopers Auditores Independentes Ltda. for services rendered for tax compliance, tax advice and tax planning. "Other fees" are the aggregate fees billed by PricewaterhouseCoopers Auditores Independentes Ltda. for services related with assurance and review procedures not related with regulatory or financial reporting of our consolidated financial statements.

Nexa has established policies and procedures that require any engagement of our independent auditor for audit or non-audit services to be submitted to and pre-approved by the audit committee. In addition, our audit committee may delegate the authority to pre-approve non-audit services to one or more of its members. All non-audit services that are pre-approved pursuant to such delegated authority must be presented to the full audit committee at its first scheduled meeting following such pre-approval. Our audit committee also has the authority to recommend pre-approval policies and procedures to our board of directors and for the engagement of our independent auditor's services.

**INFORMATION FILED WITH SECURITIES REGULATORS**

We are subject to various information and disclosure requirements in those countries in which our securities are traded, and we file financial statements and other periodic reports with the SEC and Canadian securities regulatory authorities.

- *United States*. We are subject to the information requirements of the Securities Exchange Act of 1934, as amended, and accordingly file reports and other information with the SEC. Our SEC filings are available to the public from the SEC at http://www.sec.gov. You may also inspect Nexa Resources' reports and other information at the offices of the New York Stock Exchange, 11 Wall Street, New York, New York 10005, on which our common shares are listed. For further information on obtaining copies of Nexa Resources' public filings at the NYSE, you should call (212) 656-5060.

- *Canada*. We must comply with certain Canadian periodic and ongoing disclosure rules under applicable Canadian provincial and territorial securities laws. However, with respect to the rules under applicable Canadian provincial and territorial securities laws, we are able to rely on certain exemptions from many of the requirements under such laws through our compliance with U.S. disclosures given our status in the U.S as a foreign private issuer. Our Canadian filings are available to the public from the website maintained by the Canadian Securities Administrators at www.sedar.com.

## GLOSSARY

***Brownfields project:*** An exploration or development project near or within an existing operation, which can share infrastructure and management.

***Concentration:*** The process by which crushed and ground ore is separated into metal concentrates and reject material through processes such as flotation.

***Concentrate plant:*** A plant where metal concentration occurs.

***Cut-off grade:*** is the grade (*i.e.,* the concentration of metal or mineral in rock) that determines the destination of the material during mining.

***Development:*** The process of constructing a mining facility and the infrastructure to support the facility is known as mine development.

***Diamond drilling:*** A method of drilling that uses a diamond bit, which rotates at the end of a drill rod or pipe. The opening at the end of the diamond bit allows a solid column of rock to move up into the drill pipe and be recovered at the surface. This column of rock is named drill core and is used for geological, geotechnical logging and for sampling for chemical analysis to define the metal content of the rock or mineralized material. Standard core sizes/diameters are 63.5 mm (defined as HQ), 46.7 mm (defined as NQ) and 36.5 mm (defined as BQ). Most drill rods are 10 feet long. After the first 10 feet are drilled, a new section of pipe is screwed into the top end, so the combination of pipes can be driven another 10 feet into the ground.

***Exploration:*** Activities associated with ascertaining the existence, location, extent or quality of a mineral deposit.

***Exploration stage property:*** is a property that has no mineral reserves disclosed.

***Greenfields project:*** An exploration or development project that is located outside the area of influence of existing mine operations and/or infrastructure and will be independently developed and managed.

***Indicated Mineral Resource:*** is that part of a mineral resource for which quantity and grade or quality are estimated on the basis of adequate geological evidence and sampling.

***Inferred Mineral Resource*****:** is that part of a mineral resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling.

***km:*** kilometer.

***ktpd:*** thousand tonnes per day.

***LBMA:*** The London Bullion Market Association.

***LME:*** London Metal Exchange.

***LOM:*** life of mine.

***Measured Mineral Resource:*** is that part of a mineral resource for which quantity and grade or quality are estimated on the basis of conclusive geological evidence and sampling.

***Metal concentrate:*** The crushed and ground material obtained after concentration, including zinc, lead and copper concentrates. This is the product from our mining operations. Most of the zinc concentrate we produce is used in our smelting operations and the remaining portion, along with our lead and copper concentrates, is sold to our customers.

***Metallic zinc:*** Pure metal (99.995% zinc) obtained from the electrodeposition of a zinc sulfate solution, free of impurities, through the Roaster-Leaching-Electrolysis ("RLE") process.

***Mineralization:*** The process or processes by which a mineral or minerals are introduced into a rock, resulting in a potentially valuable or valuable deposit.

***Mineralized material:*** Mineral bearing material that has been physically delineated by one or more methods, including drilling and underground work, and is supported by sampling and chemical analysis. This material has been found to contain a sufficient amount of mineralization of an average grade of metal or metals to have economic potential that warrants further exploration evaluation. While this material is not currently or may never be classified as ore reserves, it is reported as mineralized material only if the potential exists for reclassification into the reserves category. This material cannot be classified in the reserves category until final technical, economic and legal factors have been determined. Under the SEC's standards, a mineral deposit does not qualify as a reserve unless it can be economically and legally extracted at the time of reserve determination and it constitutes a proven or probable reserve (as defined below).

***Mineral Reserve:*** is an estimate of tonnage and grade or quality of indicated and measured mineral resources that, in the opinion of the qualified person, can be the basis of an economically viable project. More specifically, it is the economically mineable part of a measured or indicated mineral resource, which includes diluting materials and allowances for losses that may occur when the material is mined or extracted.

***Mineral Resource:*** is a concentration or occurrence of material of economic interest in or on the Earth's crust in such form, grade or quality, and quantity that there are reasonable prospects for economic extraction. A mineral resource is a reasonable estimate of mineralization, taking into account relevant factors such as cut-off grade, likely mining dimensions, location or continuity that, with the assumed and justifiable technical and economic conditions, is likely to, in whole or in part, become economically extractable.

***Mine site:*** An economic unit comprised of an underground and/or open pit mine, a treatment plant and equipment and other facilities necessary to produce metals concentrates, in existence at a certain location.

***NSR:*** Net Smelter Return is the net revenue that the owner of a mining property receives from the sale of the mine's metal/nonmetal products less transportation and refining costs.

***Open pit:*** Surface mining in which the ore is extracted from a pit. The geometry of the pit may vary with the characteristics of the ore body.

***Ore:*** A mineral or aggregate of minerals from which metal can be economically mined or extracted.

***Ore grade:*** The average amount of metal expressed as a percentage, grams per tonne or in ounces per tonne.

***Ounces or oz:*** Unit of weight. A troy ounce equals 31.1034 grams. All references to ounces in this report are to troy ounces unless otherwise specified.

***Probable Mineral Reserve:*** is the economically mineable part of an indicated and, in some cases, a measured mineral resource.

***Production stage property:*** is a property with material extraction of mineral reserves.

***Proven Mineral Reserve:*** is the economically mineable part of a measured mineral resource and can only result from conversion of a measured mineral resource.

***Reclamation:*** The process of stabilizing, contouring, maintaining, conditioning and/or reconstructing the surface of disturbed land (*i.e.*, used or affected by the execution of mining activities) to a state of "equivalent land capability." Reclamation standards vary widely, but usually address issues of ground and surface water, topsoil, final slope gradients, overburden and revegetation.

***Refining:*** The process of purifying an impure metal; the purification of crude metallic substances.

***Secondary feed materials:*** By-products of industrial processes such as smelting and refining that are then available for further treatment/recycling. It can cover foundry ashes, zinc oxides from brass and bronze production, electric arc furnace (“EAF”) dust and slags.

***SHG:*** Special High Grade.

***Skarn:*** Metamorphic zone developed in the contact area around igneous rock intrusions when carbonate sedimentary rocks are invaded by large amounts of silicon, aluminum, iron and magnesium. The minerals commonly present in a skarn include iron oxides, calc-silicates, andradite and grossularite garnet, epidote and calcite. Many skarns also include ore minerals. Several productive deposits of copper or other base metals have been found in and adjacent to skarns.

***Tailings:*** Finely ground rock from which valuable minerals have been extracted by concentration.

***Tonne:*** A unit of weight. One metric tonne equals 2,204.6 pounds or 1,000 kilograms. One short tonne equals 2,000 pounds. Unless otherwise specified, all references to “tonnes” in this report refer to metric tonnes.

***Zinc equivalent:*** A metric used to compare mineralization that is comprised of different metals in terms of zinc. Copper, lead, silver and gold contents in our concentrate production have been converted to a zinc equivalent grade at the average benchmark prices for 2022, *i.e.*, US$3,478.3 per tonne (US$1.58 per pound) for zinc, US$8,797.0 per tonne (US$3.99 per pound) for copper, US$2,150.2 per tonne (US$0.98 per pound) for lead, US$21.7 per ounce for silver and US$1,800.1 per ounce for gold.

***Zinc oxide:*** A chemical compound that results from the sublimation of zinc (Zn-metal) by oxygen in the atmosphere. Zinc oxide is in the form of powder or fine grains that is insoluble in water but very soluble in acid solutions.

**EXHIBITS**

| Exhibit Number | |
|---|---|
| 1 | Amended and Consolidated Articles of Association of Nexa Resources S.A., dated as of August 27, 2021 (incorporated by reference to Exhibit 1 to our annual report on Form 20-F (file no. 001-38256) filed with the SEC on March 17, 2022). |
| 2.1 | Indenture with respect to the 6.500% Notes due 2028, dated June 18, 2020, among Nexa Resource S.A., as issuer, Nexa Resources Cajamarquilla S.A., Nexa Resources Peru S.A. and Nexa Recursos Minerais S.A., as guarantors, and The Bank of New York Mellon, as trustee, registrar, paying agent and transfer agent (incorporated by reference to Exhibit 2.1 to our annual report on Form 20-F (file no. 001-38256) filed with the SEC on March 22, 2021). |
| 2.2 | Indenture with respect to the 5.375% Notes due 2027, dated as of May 4, 2017, among VM Holding S.A., as issuer, Votorantim Metais Zinco S.A., Compañía Minera Milpo S.A.A. and Votorantim Metais Cajamarquilla S.A., as guarantors, and The Bank of New York Mellon, as trustee, registrar, paying agent and transfer agent (incorporated by reference to Exhibit 4.1 to our Registration Statement on Form F-1 (file no. 333-220552) filed with the SEC on September 21, 2017). |
| 2.3 | Indenture with respect to the 4.625% Notes due 2023, dated as of March 28, 2013, among Compañía Minera Milpo S.A.A., as issuer, Deutsche Bank Trust Company Americas, as trustee, registrar, paying agent and transfer agent, and Deutsche Bank Luxembourg S.A., as Luxembourg paying agent (incorporated by reference to Exhibit 4.2 to our Registration Statement on Form F-1 (file no. 333-220552) filed with the SEC on September 21, 2017). |
| 2.4 | Description of Securities (incorporated by reference to Exhibit 2.4 to our Annual Report on Form 20-F (001-38256) filed with the SEC on March 20, 2023). |
| 8 | List of Subsidiaries (incorporated by reference to Exhibit 8 to our Annual Report on Form 20-F (001-38256) filed with the SEC on March 20, 2023). |
| 12.1 | Certification of Chief Executive Officer of Nexa Resources S.A. pursuant to Rules 13a-14 and 15d-14 under the Securities Exchange Act of 1934, as amended. |
| 12.2 | Certification of Chief Financial Officer of Nexa Resources S.A. pursuant to Rules 13a-14 and 15d-14 under the Securities Exchange Act of 1934, as amended. |
| 13.1 | Certification of Chief Executive Officer and Chief Financial Officer of Nexa Resources S.A., pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. |
| 15.1 | Technical Report Summary on the Cerro Lindo Mine, Department of Ica, Peru – S-K 1300 Report (incorporated by reference to Exhibit 15.1 to our annual report on Form 20-F filed with the SEC on November 4, 2021). |
| 15.2 | Technical Report Summary on the El Porvenir Polymetallic Operations, Department of Pasco, Peru – S-K 1300 Report (incorporated by reference to Exhibit 15.2 to our annual report on Form 20-F filed with the SEC on November 4, 2021). |
| 15.3 | Technical Report Summary on the Vazante Polymetallic Operations, Minas Gerais, Brazil – S-K 1300 Report (incorporated by reference to Exhibit 15.3 to our annual report on Form 20-F filed with the SEC on November 4, 2021). |
| 15.4 | Technical Report Summary on the Aripuanã Zinc Project, State of Mato Grosso, Brazil – S-K 1300 Report (incorporated by reference to Exhibit 15.4 to our annual report on Form 20-F filed with the SEC on November 4, 2021). |
| 101.INS | XBRL Instance Document -- the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document |
| 101.SCH | XBRL Taxonomy Extension Schema Document |
| 101.CAL | Inline XBRL Taxonomy Extension Calculation Linkbase Document |
| 101.DEF | Inline XBRL Taxonomy Extension Definition Linkbase Document |
| 101.LAB | Inline XBRL Taxonomy Extension Label Linkbase Document |
| 101.PRE | Inline XBRL Taxonomy Extension Presentation Linkbase Document |

**SIGNATURES**

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

**NEXA RESOURCES S.A.**

By: /s/ Ignacio Rosado
Name: Ignacio Rosado
Title: *President and Chief Executive Officer*

By: /s/ José Carlos del Valle
Name: José Carlos del Valle
Title: *Senior Vice President of Finance and Group Chief Financial Officer*

Date: October 27, 2023

**NEXA RESOURCES S.A. FINANCIAL STATEMENTS**

**Nexa Resources S.A.**

**Consolidated financial statements at December 31, 2022 and report of independent registered public accounting firm**

## Contents

**Consolidated financial statements**



**Notes to the consolidated financial statements**

## Nexa Resources S.A.

**Consolidated income statement**
**Years ended on December 31**
**All amounts in thousands of US dollars, unless otherwise stated**

| | Note | 2022 | 2021 | 2020 |
|---|---|---|---|---|
| Net revenues | 6 | 3,033,990 | 2,622,110 | 1,950,929 |
| Cost of sales | 7 | (2,395,180) | (1,989,019) | (1,576,159) |
| **Gross profit** | | **638,810** | **633,091** | **374,770** |
| | | | | |
| **Operating expenses** | | | | |
| Selling, general and administrative | 7 | (145,543) | (133,803) | (139,391) |
| Mineral exploration and project evaluation | 7 and 8 | (98,862) | (85,043) | (57,201) |
| Impairment loss of long-lived assets | 31 | (32,512) | - | (557,497) |
| Other income and expenses, net | 9 | (2,674) | 31,948 | (19,164) |
| | | **(279,591)** | **(186,898)** | **(773,253)** |
| **Operating income (loss)** | | **359,219** | **446,193** | **(398,483)** |
| | | | | |
| **Results from associates' equity** | | | | |
| Share in the results of associates | 4 (ii) | 1,885 | - | - |
| | | **1,885** | **-** | **-** |
| | | | | |
| **Net financial results** | 10 | | | |
| Financial income | | 25,018 | 11,472 | 11,168 |
| Financial expenses | | (168,694) | (142,275) | (159,759) |
| Other financial items, net | | 9,949 | (6,099) | (129,584) |
| | | **(133,727)** | **(136,902)** | **(278,175)** |
| | | | | |
| **Income (loss) before income tax** | | **227,377** | **309,291** | **(676,658)** |
| | | | | |
| Income tax | 11 (a) | **(150,983)** | **(153,204)** | **24,152** |
| | | | | |
| **Net income (loss) for the year** | | **76,394** | **156,087** | **(652,506)** |
| Attributable to NEXA's shareholders | | 49,101 | 114,332 | (559,247) |
| Attributable to non-controlling interests | | 27,293 | 41,755 | (93,259) |
| **Net income (loss) for the year** | | **76,394** | **156,087** | **(652,506)** |
| Weighted average number of outstanding shares – in thousands | | 132,439 | 132,439 | 132,439 |
| Basic and diluted earnings (losses) per share – USD | 30 (f) | 0.37 | 0.86 | (4.22) |

The accompanying notes are an integral part of these consolidated financial statements

## Nexa Resources S.A.

**Consolidated statement of comprehensive income**
**Years ended on December 31**
**All amounts in thousands of US dollars, unless otherwise stated**

| | Note | 2022 | 2021 | 2020 |
|---|---|---|---|---|
| **Net income (loss) for the year** | | **76,394** | **156,087** | **(652,506)** |
| | | | | |
| **Other comprehensive income (loss), net of income tax - items that can be reclassified to the income statement** | | | | |
| Cash flow hedge accounting | 16 (c) | (1,329) | 488 | (98) |
| Deferred income tax | | 998 | (161) | 101 |
| Translation adjustment of foreign subsidiaries | 30 (e) | 65,243 | (64,575) | (138,840) |
| | | **64,912** | **(64,248)** | **(138,837)** |
| | | | | |
| **Other comprehensive loss, net of income tax - items that will not be reclassified to the income statement** | | | | |
| Changes in fair value of financial liabilities related to changes in the Company's own credit risk | 24 (c) | 521 | (5,066) | (787) |
| Deferred income tax | | (178) | (2,375) | (88) |
| Changes in fair value of investments in equity instruments | | (3,608) | (2,632) | - |
| | | **(3,265)** | **(10,073)** | **(875)** |
| **Other comprehensive income (loss) for the year, net of income tax** | | **61,647** | **(74,321)** | **(139,712)** |
| | | | | |
| **Total comprehensive income (loss) for the year** | | **138,041** | **81,766** | **(792,218)** |
| Attributable to NEXA's shareholders | | 105,972 | 43,828 | (682,132) |
| Attributable to non-controlling interests | | 32,069 | 37,938 | (110,086) |
| **Total comprehensive income (loss) for the year** | | **138,041** | **81,766** | **(792,218)** |

The accompanying notes are an integral part of these consolidated financial statements

# Nexa Resources S.A.

**Consolidated balance sheet**
**As at December 31**
**All amounts in thousands of US dollars, unless otherwise stated**

| Assets | Note | 2022 | 2021 |
|---|---|---|---|
| **Current assets** | | | |
| Cash and cash equivalents | 15 | 497,826 | 743,817 |
| Financial investments | | 18,062 | 19,202 |
| Other financial instruments | 16 (a) | 7,380 | 16,292 |
| Trade accounts receivables | 17 | 223,740 | 231,174 |
| Inventory | 18 | 395,197 | 372,502 |
| Recoverable income tax | | 2,455 | 8,703 |
| Other assets | 19 | 75,486 | 81,119 |
| | | **1,220,146** | **1,472,809** |
| **Non-current assets** | | | |
| Investments in equity instruments | 14 (c) | 7,115 | 3,723 |
| Other financial instruments | 16 (a) | 63 | 102 |
| Deferred income tax | 11 (b) | 166,983 | 168,205 |
| Recoverable income tax | | 4,914 | 4,223 |
| Other assets | 19 | 134,474 | 98,584 |
| Investments in associates | 4 (ii) | 38,990 | - |
| Property, plant and equipment | 21 | 2,295,275 | 2,087,730 |
| Intangible assets | 22 | 1,016,927 | 1,056,771 |
| Right-of-use assets | 23 (a) | 6,895 | 12,689 |
| | | **3,671,636** | **3,432,027** |
| | | | |
| **Total assets** | | **4,891,782** | **4,904,836** |
| | | | |
| **Liabilities and shareholders' equity** | | | |
| **Current liabilities** | | | |
| Loans and financings | 24 (a) | 50,840 | 46,713 |
| Lease liabilities | 23 (b) | 3,661 | 16,246 |
| Other financial instruments | 16 (a) | 11,435 | 22,684 |
| Trade payables | 25 | 413,856 | 411,818 |
| Confirming payables | 26 | 216,392 | 232,860 |
| Dividends payable | | 7,922 | 11,441 |
| Asset retirement and environmental obligations | 27 | 23,646 | 31,953 |
| Contractual obligations | 29 | 26,188 | 33,156 |
| Salaries and payroll charges | | 79,078 | 76,031 |
| Tax liabilities | | 40,610 | 65,063 |
| Other liabilities | | 25,136 | 41,317 |
| | | **898,764** | **989,282** |
| **Non-current liabilities** | | | |
| Loans and financings | 24 (a) | 1,618,419 | 1,652,602 |
| Lease liabilities | 23 (b) | 1,360 | 3,393 |
| Other financial instruments | 16 (a) | 20,416 | 241 |
| Asset retirement and environmental obligations | 27 | 242,673 | 232,197 |
| Provisions | 28 | 43,897 | 36,828 |
| Deferred income tax | 11 (b) | 199,499 | 208,583 |
| Contractual obligations | 29 | 105,972 | 114,076 |
| Other liabilities | | 50,528 | 23,354 |
| | | **2,282,764** | **2,271,274** |
| | | | |
| **Total liabilities** | | **3,181,528** | **3,260,556** |
| | | | |
| **Shareholders' equity** | 30 | | |
| Attributable to NEXA's shareholders | | 1,442,245 | 1,386,273 |
| Attributable to non-controlling interests | | 268,009 | 258,007 |
| | | **1,710,254** | **1,644,280** |
| **Total liabilities and shareholders' equity** | | **4,891,782** | **4,904,836** |

The accompanying notes are an integral part of these consolidated financial statements

**Nexa Resources S.A.**

**Consolidated statement of cash flows**
**Years ended on December 31**
**All amounts in thousands of US dollars, unless otherwise stated**

| | Note | 2022 | 2021 | 2020 |
|---|---|---|---|---|
| **Cash flows from operating activities** | | | | |
| Income (loss) before income tax | | 227,377 | 309,291 | (676,658) |
| Impairment loss of long-lived assets | 31 | 32,512 | - | 557,497 |
| Depreciation and amortization | 21, 22 and 23 | 290,937 | 258,711 | 243,925 |
| Share in the results of associates | | (1,885) | - | - |
| Interest and foreign exchange effects | | 126,545 | 143,496 | 157,806 |
| Loss on sale of property, plant and equipment and intangible assets | 9 | 698 | 4,891 | 2,268 |
| Changes in accruals and other assets impairments | | 84,393 | 21,325 | 13,159 |
| Changes in fair value of loans and financings | 24 (c) | 1,472 | (19,380) | 8,058 |
| Changes in fair value of derivative financial instruments | 16 (c) | (14,947) | 26,408 | 7,809 |
| Changes in fair value of offtake agreement | 16 (d) | (24,267) | - | - |
| Contractual obligations | 29 (a) | (20,873) | (25,729) | (20,679) |
| GSF recovered costs | 22 (a) | - | (19,407) | - |
| **Decrease (increase) in assets** | | | | |
| Trade accounts receivables | | 2,223 | (9,375) | (68,896) |
| Inventory | | (75,071) | (102,068) | 8,883 |
| Other financial instruments | | 8,648 | (14,936) | (7,809) |
| Other assets | | (72,607) | (47,312) | 30,557 |
| **Increase (decrease) in liabilities** | | | | |
| Trade payables | | (32,476) | 44,880 | 21,589 |
| Confirming payables | | (16,348) | 87,565 | 62,525 |
| Other liabilities | | (17,448) | 2,759 | 58,481 |
| **Cash provided by operating activities** | | **498,883** | **661,119** | **398,515** |
| | | | | |
| Interest paid on loans and financings | 24 (c) | (109,263) | (121,112) | (69,906) |
| Interest paid on lease liabilities | 23 (b) | (994) | (1,415) | (1,385) |
| Premium paid on bonds repurchase | 24 (b) | (3,277) | - | (14,481) |
| Income tax paid | | (118,719) | (45,607) | (21,043) |
| **Net cash provided by operating activities** | | **266,630** | **492,985** | **291,700** |
| | | | | |
| **Cash flows from investing activities** | | | | |
| Additions of property, plant and equipment | | (382,468) | (485,204) | (323,688) |
| Additions of intangible assets | | (4,595) | - | - |
| Net sales of financial investments | | 10,647 | 20,076 | (47,522) |
| Proceeds from the sale of property, plant and equipment | | 751 | 2,210 | 2,014 |
| Investments in equity instruments | 14 (c) | (7,000) | (6,356) | - |
| Acquisition of additional shares in associates | 4 (ii) | (4,136) | - | - |
| Dividends received from associates | | 7,867 | - | - |
| **Net cash used in investing activities** | | **(378,934)** | **(469,274)** | **(369,196)** |
| | | | | |
| **Cash flows from financing activities** | | | | |
| New loans and financings | 24 (c) | 95,621 | 59,771 | 1,296,496 |
| Debt issue costs | 24 (c) | (63) | (178) | (9,921) |
| Payments of loans and financings | 24 (c) | (24,639) | (251,044) | (542,983) |
| Prepayment of fair value debt | 24 (c) | - | (90,512) | - |
| Bonds repurchase | 24 (c) | (128,470) | - | (214,530) |
| Payments of lease liabilities | 23 (b) | (17,091) | (9,827) | (9,100) |
| Dividends paid | 30 (g) | (68,466) | (52,344) | (55,964) |
| Payments of share premium | 30 (g) | (6,126) | - | - |
| Dividends not withdrawn | | - | - | 1,009 |
| Capital reduction of subsidiary – non-controlling interests | | - | - | (13,392) |
| **Net cash (used in) provided by financing activities** | | **(149,234)** | **(344,134)** | **451,615** |
| | | | | |
| Foreign exchange effects on cash and cash equivalents | | 15,547 | (21,923) | (16,070) |
| Other high liquid short term investments | | - | - | 29,496 |
| | | | | |
| **(Decrease) increase in cash and cash equivalents** | | **(245,991)** | **(342,346)** | **387,545** |
| Cash and cash equivalents at the beginning of the year | | 743,817 | 1,086,163 | 698,618 |
| **Cash and cash equivalents at the end of the year** | | **497,826** | **743,817** | **1,086,163** |

The accompanying notes are an integral part of these consolidated financial statements

## Nexa Resources S.A.

**Consolidated statement of cash flows**
**Years ended on December 31**
**All amounts in thousands of US dollars, unless otherwise stated**

| | | | | |
|---|---|---|---|---|
| **Non-cash investing and financing transactions** | | | | |
| Additions to right-of-use assets | 23 (a) | (2,018) | (5,174) | (5,785) |
| Additions to intangible assets related to GSF recovered costs | 22 (a) | - | (19,407) | - |
| Write-offs of property, plant and equipment | | 1,449 | 3,343 | - |
| Additions to intangible assets related to offtake agreement and other intangibles | 22 (a) | (52,934) | - | - |
| Increase in investment in associates | 4 (ii) | (32,456) | - | - |
| Derecognition of Nexa's share of Enercan's property, plant and equipment, intangible assets and financial investments | 4 (ii) | 46,858 | - | - |
| (Decrease) increase in dividends payable | | 4,961 | 6,885 | (1,418) |
| Decrease in loans and financings at fair value | | - | (14,314) | - |

The accompanying notes are an integral part of these consolidated financial statements

## Nexa Resources S.A.

**Consolidated statement of changes in shareholders' equity**
**At and for the years ended on December 31**
**All amounts in thousands of US dollars, unless otherwise stated**

| | Capital | Treasury shares | Share premium | Additional paid in capital | Retained earnings (cumulative deficit) | Accumulated other comprehensive loss | Total NEXA's shareholders | Non-controlling interests | Total shareholders' equity |
|---|---|---|---|---|---|---|---|---|---|
| **At January 1, 2020** | **133,320** | **(9,455)** | **1,043,755** | **1,245,418** | **(196,855)** | **(106,606)** | **2,109,577** | **372,609** | **2,482,186** |
| Net loss for the year | - | - | - | - | (559,247) | - | (559,247) | (93,259) | (652,506) |
| Other comprehensive loss for the year | - | - | - | - | - | (122,885) | (122,885) | (16,827) | (139,712) |
| **Total comprehensive loss for the year** | **-** | **-** | **-** | **-** | **(559,247)** | **(122,885)** | **(682,132)** | **(110,086)** | **(792,218)** |
| Dividends distribution to NEXA's shareholders - USD 0.38 per share | - | - | - | - | (50,000) | - | (50,000) | - | (50,000) |
| Cancellation of 881,902 treasury shares acquired for USD 9,455 | (882) | 9,455 | - | - | (8,573) | - | - | - | - |
| Dividends distribution to non-controlling interests | - | - | - | - | - | - | - | (5,332) | (5,332) |
| Capital reduction of subsidiary - non-controlling interests | - | - | - | - | - | - | - | (13,392) | (13,392) |
| **Total contributions by and distributions to shareholders** | **(882)** | **9,455** | **-** | **-** | **(58,573)** | **-** | **(50,000)** | **(18,724)** | **(68,724)** |
| **At December 31, 2020** | **132,438** | **-** | **1,043,755** | **1,245,418** | **(814,675)** | **(229,491)** | **1,377,445** | **243,799** | **1,621,244** |
| Net income for the year | - | - | - | - | 114,332 | - | 114,332 | 41,755 | 156,087 |
| Other comprehensive loss for the year | - | - | - | - | - | (70,504) | (70,504) | (3,817) | (74,321) |
| **Total comprehensive income (loss) for the year** | **-** | **-** | **-** | **-** | **114,332** | **(70,504)** | **43,828** | **37,938** | **81,766** |
| Transfer of the changes in fair value of prepaid debt related to changes in the Company's own credit risk to retained earnings | - | - | - | - | (10,965) | 10,965 | - | - | - |
| Dividends distribution to NEXA's shareholders - USD 0.26 per share | - | - | - | - | (35,000) | - | (35,000) | - | (35,000) |
| Dividends distribution to non-controlling interests | - | - | - | - | - | - | - | (23,730) | (23,730) |
| **Total contributions by and distributions to shareholders** | **-** | **-** | **-** | **-** | **(45,965)** | **10,965** | **(35,000)** | **(23,730)** | **(58,730)** |
| **At December 31, 2021** | **132,438** | **-** | **1,043,755** | **1,245,418** | **(746,308)** | **(289,030)** | **1,386,273** | **258,007** | **1,644,280** |

The accompanying notes are an integral part of these consolidated financial statements

nexa

## Nexa Resources S.A.

**Consolidated statement of changes in shareholders' equity**
**At and for the years ended on December 31**
**All amounts in thousands of US dollars, unless otherwise stated**

| | Capital | Treasury shares | Share premium | Additional paid in capital | Retained earnings (cumulative deficit) | Accumulated other comprehensive loss | Total NEXA's shareholders | Non-controlling interests | Total shareholders' equity |
|---|---|---|---|---|---|---|---|---|---|
| **At January 1, 2022** | **132,438** | **-** | **1,043,755** | **1,245,418** | **(746,308)** | **(289,030)** | **1,386,273** | **258,007** | **1,644,280** |
| Net income for the year | - | - | - | - | 49,101 | - | 49,101 | 27,293 | 76,394 |
| Other comprehensive income for the year | - | - | - | - | - | 56,871 | 56,871 | 4,776 | 61,647 |
| **Total comprehensive income for the year** | **-** | **-** | **-** | **-** | **49,101** | **56,871** | **105,972** | **32,069** | **138,041** |
| Dividends distribution to NEXA's shareholders – USD 0.33 per share – note 30 (g) | - | - | - | - | (43,874) | - | (43,874) | - | (43,874) |
| Share premium distribution to NEXA's shareholders – USD 0.05 per share – note 30 (g) | - | - | (6,126) | - | - | - | (6,126) | - | (6,126) |
| Dividends distribution to non-controlling interests | - | - | - | - | - | - | - | (23,075) | (23,075) |
| Other equity movements | - | - | - | - | - | - | - | 1,008 | 1,008 |
| **Total distributions to shareholders** | **-** | **-** | **(6,126)** | **-** | **(43,874)** | **-** | **(50,000)** | **(22,067)** | **(72,067)** |
| **At December 31, 2022** | **132,438** | **-** | **1,037,629** | **1,245,418** | **(741,081)** | **(232,159)** | **1,442,245** | **268,009** | **1,710,254** |

The accompanying notes are an integral part of these consolidated financial statements

## 1 General information

Nexa Resources S.A. ("NEXA") is a public limited liability company (société anonyme) incorporated and domiciled in the Grand Duchy of Luxembourg. Its shares are publicly traded on the New York Stock Exchange ("NYSE").

The Company's registered office is located at 37A, Avenue J. F. Kennedy in the city of Luxembourg in the Grand Duchy of Luxembourg.

NEXA and its subsidiaries (the "Company") have operations that include large-scale, mechanized underground and open pit mines and smelters. The Company owns and operates three polymetallic mines in Peru, and two polymetallic mines in Brazil and currently continues the ramp-up process at its third polymetallic mine in Aripuanã, Brazil. The Company also owns and operates a zinc smelter in Peru and two zinc smelters in Brazil.

NEXA's majority shareholder is Votorantim S.A. ("VSA"), which holds 64.68% of its equity. VSA is a Brazilian privately-owned industrial conglomerate that holds ownership interests in metal, steel, cement, and energy companies, among others.

## 2 Information by business segment

### Business segment definition

The Company's Chief Executive Officer has been identified as the chief operating decision maker ("CODM") since the role encompasses authority over resource allocation decisions and performance assessment, mainly analyzing performance from the production obtained in the operations. The Company has identified two operating segments:

- Mining: consists of six long-life polymetallic mines, three located in the Central Andes of Peru and three located in Brazil (two in the state of Minas Gerais and one in the state of Mato Grosso). In addition to zinc, the Company produces substantial amounts of copper, lead, silver, and gold as by-products, which reduce the overall cost to produce mined zinc.

- Smelting: consists of three operating units, one located in Cajamarquilla in Peru and two located in the state of Minas Gerais in Brazil. The facilities recover and produce metallic zinc (SHG zinc and zinc alloys), zinc oxide and by-products, such as sulfuric acid.

### Accounting policy

Segment performance is assessed based on Adjusted EBITDA, since net financial results, comprising financial income and expenses and other financial items, and income tax are managed at the corporate level and are not allocated to operating segments. This measure is presented to provide information to investors and other stakeholders about the Company's ability to generate cash flow from its core operations.

During December, 2022, the Company updated its definition of Adjusted EBITDA as follows: net income (loss) for the year, adjusted by (i) share in the results of associates; (ii) depreciation and amortization; (iii) net financial results; (iv) income tax; (v) (loss) gain on sale of investments; (vi) impairment and impairment reversals; (vii) (loss) gain on sale of long-lived assets; (viii) write-offs of long-lived assets; and (ix) remeasurement in estimates of asset retirement obligations. In addition, management may adjust the effect of certain types of transactions that in its judgment are not indicative of the Company´s normal operating activities, or do not necessarily occur on a regular basis. For comparative purposes, the related 2021 and 2020 amounts have also been adjusted following this updated definition.

**All amounts in thousands of US dollars, unless otherwise stated**

The internal information used for making decisions is prepared using International Financial Reporting Standards ("IFRS") based on accounting measurements and management reclassifications between income statement lines items, which are reconciled to the consolidated financial statements in the column "Adjustments", as shown in the tables below. These adjustments include reclassifications of certain overhead costs and revenues from Other income and expenses, net to Net Revenues, Cost of sales and/or Selling, general and administrative expenses.

In 2022, the Company decided to stop reclassifying certain accounts to better approximate business segment information to the financial statements. These reclassifications included the effects of derivative financial instruments from Other income and expenses, net to Net revenues and Cost of sales. For comparative purposes, the related 2021 and 2020 amounts have also been reclassified.

The Company uses customary market terms for intersegment sales. The Company's corporate headquarters expenses are allocated to the operating segments to the extent they are included in the measures of performance used by the CODM.

The presentation of segments results and reconciliation to income before income tax in the consolidated income statement is as follows:

| | | | | | **2022** |
|---|---|---|---|---|---|
| | **Mining** | **Smelting** | **Intersegment sales** | **Adjustments** | **Consolidated** |
| Net revenues | 1,248,027 | 2,466,967 | (683,583) | 2,579 | 3,033,990 |
| Cost of sales | (905,241) | (2,190,903) | 683,583 | 17,381 | (2,395,180) |
| **Gross profit** | **342,786** | **276,064** | **-** | **19,960** | **638,810** |
| | | | | | |
| Selling, general and administrative | (64,444) | (60,435) | - | (20,664) | (145,543) |
| Mineral exploration and project evaluation | (88,947) | (9,915) | - | - | (98,862) |
| Impairment loss of long-lived assets | (32,276) | (236) | - | - | (32,512) |
| Other income and expenses, net | (32,787) | 43,049 | - | (12,936) | (2,674) |
| **Operating income** | **124,332** | **248,527** | **-** | **(13,640)** | **359,219** |
| | | | | | |
| Depreciation and amortization | 204,514 | 78,727 | - | 7,696 | 290,937 |
| Miscellaneous adjustments | 110,993 | (825) | - | - | 110,168 |
| **Adjusted EBITDA** | **439,839** | **326,429** | **-** | **(5,944)** | **760,324** |
| | | | | | |
| Change in fair value of offtake agreement (i) | | | | | 24,267 |
| Impairment loss of long-lived assets | | | | | (32,512) |
| Aripuaña's pre-operating expenses and ramp-up impacts (ii) | | | | | (87,540) |
| Impairment of other assets | | | | | (9,302) |
| Loss on sale of long-lived assets | | | | | (698) |
| Remeasurement in estimates of asset retirement obligations | | | | | 6,182 |
| Remeasurement adjustment of streaming agreement (iii) | | | | | (10,565) |
| **Miscellaneous adjustments** | | | | | **(110,168)** |
| | | | | | |
| Depreciation and amortization | | | | | (290,937) |
| Share in the results of associates | | | | | 1,885 |
| Net financial results | | | | | (133,727) |
| **Income before income tax** | | | | | **227,377** |

**All amounts in thousands of US dollars, unless otherwise stated**

| | | | | | **2021** |
|---|---|---|---|---|---|
| | **Mining** | **Smelting** | **Intersegment sales** | **Adjustments** | **Consolidated** |
| Net revenues | 1,165,584 | 2,021,787 | (636,212) | 70,951 | 2,622,110 |
| Cost of sales | (726,653) | (1,842,704) | 636,212 | (55,874) | (1,989,019) |
| **Gross profit** | **438,931** | **179,083** | **-** | **15,077** | **633,091** |
| | | | | | |
| Selling, general and administrative | (64,739) | (51,635) | - | (17,429) | (133,803) |
| Mineral exploration and project evaluation | (75,550) | (9,493) | - | - | (85,043) |
| Other income and expenses, net | (32,286) | 70,874 | - | (6,640) | 31,948 |
| **Operating income** | **266,356** | **188,829** | **-** | **(8,992)** | **446,193** |
| | | | | | |
| Depreciation and amortization | 174,891 | 78,861 | - | 4,959 | 258,711 |
| Miscellaneous adjustments | 35,697 | 3,234 | - | - | 38,931 |
| **Adjusted EBITDA** | **476,944** | **270,924** | **-** | **(4,033)** | **743,835** |
| | | | | | |
| Aripuaña's pre-operating expenses (ii) | | | | | (8,753) |
| Loss on sale of long-lived assets | | | | | (4,891) |
| Remeasurement in estimates of asset retirement obligations | | | | | (6,371) |
| Remeasurement adjustment of streaming agreement (iii) | | | | | (19,580) |
| Other adjustments | | | | | 664 |
| **Miscellaneous adjustments** | | | | | **(38,931)** |
| | | | | | |
| Depreciation and amortization | | | | | (258,711) |
| Net financial results | | | | | (136,902) |
| **Income before income tax** | | | | | **309,291** |

| | | | | | **2020** |
|---|---|---|---|---|---|
| | **Mining** | **Smelting** | **Intersegment sales** | **Adjustments** | **Consolidated** |
| Net revenues | 748,462 | 1,547,398 | (375,402) | 30,471 | 1,950,929 |
| Cost of sales | (627,372) | (1,310,206) | 375,402 | (13,983) | (1,576,159) |
| **Gross profit** | **121,090** | **237,192** | **-** | **16,488** | **374,770** |
| | | | | | |
| Selling, general and administrative | (70,223) | (54,021) | - | (15,147) | (139,391) |
| Mineral exploration and project evaluation | (48,555) | (5,466) | - | (3,180) | (57,201) |
| Impairment loss of long-lived assets | (512,706) | (44,791) | - | - | (557,497) |
| Other income and expenses, net | (21,815) | 8,831 | - | (6,180) | (19,164) |
| **Operating (loss) income** | **(532,209)** | **141,745** | **-** | **(8,019)** | **(398,483)** |
| | | | | | |
| Depreciation and amortization | 159,984 | 82,650 | - | 1,291 | 243,925 |
| Miscellaneous adjustments | 527,582 | 45,893 | - | - | 573,475 |
| **Adjusted EBITDA** | **155,357** | **270,288** | **-** | **(6,728)** | **418,917** |
| | | | | | |
| Impairment loss of long-lived assets | | | | | (557,497) |
| Aripuaña's pre-operating expenses (ii) | | | | | (1,885) |
| Loss on sale of long-lived assets | | | | | (2,268) |
| Remeasurement in estimates of asset retirement obligations | | | | | (4,012) |
| Remeasurement adjustment of streaming agreement (iii) | | | | | (7,813) |
| **Miscellaneous adjustments** | | | | | **(573,475)** |
| | | | | | |
| Depreciation and amortization | | | | | (243,925) |
| Net financial results | | | | | (278,175) |
| **Loss before income tax** | | | | | **(676,658)** |

(i) This amount represents the change in the fair value of the offtake agreement described in note 16, which is being measured at Fair value through profit and loss ("FVTPL"). This change in the fair value is a non-cash item and has been included in the Company's Adjusted EBITDA calculation.

**All amounts in thousands of US dollars, unless otherwise stated**

(ii) These amounts include Aripuanã's pre-operating expenses and ramp-up impacts; considering that these items do not reflect the Company's normal operating activities, they have been adjusted from its EBITDA. For the year 2022, this amount includes USD 42,785 related to the idleness of Aripuanã mine's and plant's capacity (without depreciation), USD 8,916 related to other pre-operating expenses and USD 35,838 related to the provision of Aripuanã's inventory to its net realizable value (without depreciation). For comparative purposes, the related 2021 and 2020 amounts have also been adjusted.

(iii) This amount includes the annual remeasurement adjustment of the Company's silver streaming revenues previously recognized given the changes in long-term prices and in the mine plan for the Cerro Lindo mining unit. This remeasurement is a non-cash item and has been included in the Company's Adjusted EBITDA calculation.

## 3 Basis of preparation of the consolidated financial statements

These consolidated financial statements have been prepared in accordance with IFRS and interpretations issued by the IFRS Interpretations Committee applicable to companies reporting under IFRS, as issued by the International Accounting Standards Board ("IASB").

The consolidated financial statements have been prepared under the historical cost convention, except for certain financial assets and financial liabilities (including other financial instruments) measured at fair value at the end of each reporting period.

The consolidated financial statements of the Company for the year ended December 31, 2022, were approved for issue in accordance with a resolution of the Board of Directors on February 15, 2023.

## 4 Principles of consolidation

The consolidated financial statements comprise the financial statements of NEXA and its subsidiaries. The main entities included in the consolidated financial statements are:

| | Percentage of shares | | Company | Headquarter | Activities |
|---|---|---|---|---|---|
| | 2022 | 2021 | controls | | |
| **Subsidiaries** | | | | | |
| Nexa Recursos Minerais S.A. "NEXA BR" | 100 | 100 | Directly | Brazil | Mining / Smelting |
| Nexa Resources Cajamarquilla S.A. "NEXA CJM" | 99.99 | 99.99 | Directly | Peru | Smelting |
| Nexa Resources US. Inc. | 100 | 100 | Directly | United States | Trading |
| Exploraciones Chimborazo Metals & Mining | 100 | 100 | Directly | Ecuador | Holding and others |
| L.D.O.S.P.E. Geração de Energia e Participações Ltda. – "L.D.O.S.P.E." | 100 | 100 | Indirectly | Brazil | Energy |
| L.D.Q.S.P.E. Geração de Energia e Participações Ltda. - "L.D.Q.S.P.E." | 100 | 100 | Indirectly | Brazil | Energy |
| L.D.R.S.P.E. Geração de Energia e Participações Ltda. - "L.D.R.S.P.E." | 100 | 100 | Indirectly | Brazil | Energy |
| Mineração Dardanelos Ltda. - "Dardanelos" | 100 | 100 | Indirectly | Brazil | Mining projects |
| Mineração Santa Maria Ltda. | 99.99 | 99.99 | Indirectly | Brazil | Mining projects |
| Pollarix S.A. - "Pollarix" (i) | 33.33 | 33.33 | Indirectly | Brazil | Holding and others |
| Karmin Holding Ltda. | 100 | 100 | Indirectly | Brazil | Holding and others |
| Mineração Rio Aripuaña Ltda. | 100 | 100 | Indirectly | Brazil | Holding and others |
| Votorantim Metals Canada Inc. | 100 | 100 | Indirectly | Canada | Holding and others |
| Nexa Resources El Porvenir S.A.C. | 99.99 | 99.99 | Indirectly | Peru | Mining |
| Minera Pampa de Cobre S.A.C | 99.99 | 99.99 | Indirectly | Peru | Mining |
| Nexa Resources Perú S.A.A. - "NEXA Peru" | 83.55 | 83.55 | Indirectly | Peru | Mining |
| Nexa Resources Atacocha S.A.A. - "NEXA Atacocha" | 66.62 | 66.62 | Indirectly | Peru | Mining |
| Nexa Resources UK Ltd. - "NEXA UK" | 100 | 100 | Indirectly | United Kingdom | Mining |
| **Joint-operations** | | | | | |
| Campos Novos Energia S.A. - "Enercan" (ii) | - | 20.98 | | Brazil | Energy |
| Cia. Minera Shalipayco S.A.C | 75 | 75 | | Peru | Mining projects |

**All amounts in thousands of US dollars, unless otherwise stated**

(i) NEXA BR owns all the common shares of Pollarix, which represents 33.33% of its total share capital. The remaining shares are preferred shares with limited voting rights, which are indirectly owned by NEXA's controlling shareholder, VSA.

(ii) On November 17th, 2022, NEXA, through Pollarix, acquired 1.46% of Enercan's additional shares for BRL 21,731 (USD 4,136) by exercising its proportional pre-emptive rights given the withdrawal of one of Enercan's previous shareholders. Prior to this date, NEXA and the other shareholders exercised joint control over Enercan's assets and liabilities. However, because of this withdrawal, Enercan's remaining shareholders exercised their option to acquire these additional shares, resulting in the loss of joint control by NEXA. Since this date, NEXA ceased recognizing its share of Enercan's jointly held assets, liabilities, revenues and expenses and began to account for it as an investment in an associate, through the equity method, since it still holds significant influence over this entity.

The following table shows the amounts in each balance sheet line that were derecognized since December 2022.

| **Assets** | **November 30, 2022** |
|---|---|
| **Current assets** | |
| Cash and cash equivalents | 1 |
| Financial investments | 8,260 |
| Trade accounts receivables | 9,137 |
| Other assets | 275 |
| | **17,674** |
| **Non-current assets** | |
| Deferred income tax | 1,320 |
| Recoverable income tax | 126 |
| Other assets | 299 |
| Property, plant and equipment | 29,216 |
| Intangible assets | 9,382 |
| | **40,342** |
| **Total assets** | **58,016** |
| **Liabilities and shareholders' equity** | |
| **Current liabilities** | |
| Trade payables | 1,014 |
| Dividends payable | 8,745 |
| Salaries and payroll charges | 35 |
| Tax liabilities | 7,917 |
| Other liabilities | 788 |
| | **18,499** |
| **Non-current liabilities** | |
| Provisions | 311 |
| Deferred income tax | 4,658 |
| Other liabilities | 2,093 |
| | **7,062** |
| **Total liabilities** | **25,561** |
| **Shareholders' equity** | |
| Attributable to NEXA's shareholders | 32,456 |

As of December 31, 2022, the total investment of NEXA in Enercan is USD 38,990, which is composed of: (i) USD 32,456 related to the net effect of the derecognition of its share of Enercan's jointly controlled assets and liabilities; (ii) USD 4,136 related to the amount paid by NEXA for the additional shares; (iii) USD 1,885 related to NEXA's share in Enercan's results; and (iv) USD 513 related to foreign exchange effects.

### (a) Subsidiaries

Subsidiaries include all entities over which the Company has control. The Company controls an entity when it (i) has the power over the entity; (ii) is exposed, or has the right, to variable returns from its involvement with the entity; and (iii) has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Company, except when the predecessor basis of accounting is applied. Subsidiaries are unconsolidated from the date that control ceases.

Accounting policies of subsidiaries are usually consistent with the policies adopted by the Company. If there are differences, to ensure the accounting policies' standardization, an adjustment is performed in the consolidation process.

Non-controlling interests in the subsidiaries' equity and results are shown separately in the consolidated balance sheet, income statement, statement of comprehensive income and statement of changes in shareholders' equity. A change in a subsidiary's ownership interest, without loss of control, is accounted for as an equity transaction.

If the Company loses control over a subsidiary, it derecognizes the related assets, liabilities, non-controlling interests and other equity components and any resultant gain or loss is recognized in the income statement. Any investment retained is recognized at fair value.

In general, there is a presumption that a majority of voting rights results in control. When the Company has less than a majority of the voting rights of an investee, it considers all relevant facts and circumstances to determine whether it has power over this investee. This may include contractual arrangements with the other holders of voting rights in the investee; rights arising from other contractual arrangements; and the Company's voting rights and potential voting rights that will give it the practical ability to direct the relevant activities of the investee unilaterally.

Intercompany transactions, balances, and unrealized gains on transactions between companies in the consolidated group are eliminated in full on consolidation. Unrealized losses are also eliminated unless the transaction indicates impairment of the transferred asset.

### (b) Joint operations

The Company recognizes its direct right to the assets, liabilities, revenues and expenses of joint operations and its share of any jointly held assets or incurred liabilities or revenues and expenses. These have been included in the consolidated financial statements under the appropriate headings.

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

### (c) Associates

Associates are initially recognized at cost and adjusted thereafter for the equity method, being increased, or reduced from its interest in the investee's income after the acquisition date.

For an entity to become an associate the Company must have significant influence, which is the power to participate in the financial and operating policy decisions of the investee, without having its control or joint control of those policies.

### (d) Transactions with non-controlling interests

Transactions with non-controlling interests that do not result in a loss of control are recognized within shareholders' equity as transactions with equity owners of the consolidated group. A change in ownership interest results in an adjustment between the carrying amounts of the controlling and non-controlling interests to reflect their relative interests in the subsidiary. Any difference between the amount of the adjustment to non-controlling interests and any consideration paid or received is recognized in Additional paid in capital within shareholders' equity.

### (e) Foreign currency translation

#### (i) Functional and presentation currency

Items included in the financial statements of each of the Company's entities are measured using the currency of the primary economic environment in which each entity operates ("the functional currency"). The Company's consolidated financial statements are presented in US Dollars ("USD"), which is NEXA's functional currency and the Company's reporting currency.

#### (ii) Transactions and balances

Foreign currency transactions are initially recorded by each of the Company's entities at their respective functional currency spot rates at the date the transaction is recognized. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at the functional currency spot rates at the end of each reporting period are recognized in the income statement. Non-monetary items that are measured at historical cost in a foreign currency are translated using the exchange rates at the dates of the initial transaction. Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss.

#### (iii) Consolidated entities

The results of operations and financial position of the Company's entities that have a functional currency different from the Company's reporting currency are translated into the reporting currency as follows:

- Assets and liabilities for each balance sheet presented are translated at the closing rate at the date of that balance sheet;
- Income and expenses for each income statement and statement of comprehensive income presented are translated at average exchange rates for the annual period of that income statement and statement of comprehensive income, which are a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates; and

All resulting exchange differences are recognized in other comprehensive income and accumulated in a separate component of shareholders' equity.

## 5 Changes in the main accounting policies and disclosures

### (a) New standards and amendments – applicable as of January 1, 2022 or thereafter

There were some new standards and amendments effective for annual periods commencing on January 1, 2022. The adoption of these new standards and amendments did not have a material impact on the Company's financial statements. The Company has not early adopted any other standard, interpretation or amendment that has been issued but is not yet effective and does not expect that the adoption of such issued but not early adopted standard, interpretation or amendment will have a material impact on the Company's financial statements.

## (b) Critical estimates, assumptions and judgments

The preparation of the Company's consolidated financial statements requires the use of estimates, assumptions and judgments that affect the reported amounts of revenues, expenses, assets and liabilities, the accompanying disclosures, and the disclosure of contingent liabilities at the date of the consolidated financial statements. Critical estimates, assumptions and judgments, by definition, will seldom equal the actual results and are continually evaluated to reflect changing expectations about future events. Management also needs to exercise judgment in applying the Company's accounting policies.

This note provides an overview of the areas that involve a higher degree of judgment or complexity, and of items which are more likely to be materially adjusted due to estimates and assumptions turning out to be wrong due to their uncertainty. Detailed information about each of these estimates, assumptions and judgments is included in other notes together with information about the basis of calculation for each affected item in the financial statements.

The critical accounting estimates, assumptions and judgments applied by the Company in the preparation of these financial statements are as follows:

• estimation of current and deferred income taxes – note 11
• estimation of fair value of financial instruments – note 14
• estimation of impairment of trade accounts receivables – note 17
• estimation of the net realizable value of inventories – note 18
• estimation of quantification of mineral reserves and resources for useful life calculation – note 22
• estimation of asset retirement and environmental obligations – note 27
• estimation of provisions for legal claims – note 28
• estimation of contractual obligations – note 29
• estimation of impairment of long-lived assets – note 31

Estimates, assumptions and judgments are continuously evaluated. They are based on historical experience and other factors, including expectations of future events that may have a financial impact on the Company and that are believed to be reasonable under the circumstances.

Among others, the Company has considered the effects of the Environmental, Social and Governance ("ESG") commitments when making its critical estimates, assumptions and judgments based on the long-term ESG commitments announced by NEXA on October 6, 2022. Events and changes in circumstances arising after December 31, 2022 will be reflected in management's estimates for future periods.

### Ukraine war impacts on NEXA´s financial statements and operations

The invasion of Ukraine by Russia, the resulting conflict, and retaliatory measures by the global community have created global security concerns and economic uncertainty, including the possibility of expanded regional or global conflict, which have had, and are likely to continue to have, adverse impacts around the globe. Potential ramifications include disruption of the supply chain, which may impact production, investment, and demand for the Company's products, higher and more volatile prices for oil and gas, volatility in commodity prices, and disruption of global financial markets, further exacerbating overall macroeconomic trends including inflation and rising interest rates. As of the date of issuance of these consolidated financial statements, we have not identified any material impacts on the Company ´s operations, financial condition, or cash flows related to this war. However, NEXA cannot predict any future impact that this war could have on its business and operations and continues to closely monitor the developments related to it.

### Peruvian political instability impact on the Company’s consolidated financial statements and operations

As of the date of the issuance of these consolidated financial statements, there have been no identified impacts on the Company´s operations, financial condition, or cash flows that could be related to this political situation. However, the Company cannot predict any future impact that this situation could have on its business and operations and continues to closely monitor the developments related to it, mainly considering that the Peruvian mining sector, as well as other economic sectors have been affected in some ways, such as logistics and personnel transport.

## 6 Net revenues

### Accounting policy

Revenues represent the amount of the consideration received or receivable for the sale of goods in the ordinary course of the Company’s activities. Revenues are shown net of value-added tax, returns, rebates and discounts, after eliminating sales between the consolidated companies.

The Company recognizes revenues when a performance obligation is satisfied by transferring a promised good or service to a customer. The asset is transferred when the customer obtains control of that asset. To determine the point in time at which a customer obtains control of a promised asset the Company considers the following indicators: (i) the Company has a present right to payment for the asset; (ii) the customer has legal title to the asset; (iii) the Company has transferred physical possession of the asset; (iv) the customer has the significant risks and rewards of ownership of the asset; (v) the customer has accepted the asset.

Identification and timing of satisfaction of performance obligations

The Company has two distinct performance obligations included in certain sales contracts:

(i) the promise to provide goods to its customers; and (ii) the promise to provide freight and insurance services to its customers.

*Promise to provide goods:* this performance obligation is satisfied when the control of such goods is transferred to the final customer, which is substantially determined based on the Incoterms agreed upon in each of the contracts with customers.

*Promise to provide freight and insurance services:* this performance obligation is satisfied when the freight and insurance services contracted to customers are completed.

As a result of the distinct performance obligations identified, part of the Company’s revenues is presented as revenues from services. Cost related to revenues from services is presented as Cost of sales. Revenues from the sale of goods and from freight and insurance services are recognized at a point in time when control is transferred and when contracted services are provided. It is at this point that a trade receivable is recognized because only the passage of time is required before the consideration is due. The Company does not have any contract assets, which give right to consideration in exchange for goods or services that the Company has transferred to the customer, since all rights to consideration of the contracts are unconditional.

Deferred revenues are related to contractual obligations that are an entity’s obligation to transfer goods or services to a customer for which the entity has received consideration from the customer (or the payment is due) but the transfer has not yet been completed. For contracts where performance obligations are satisfied over a period of time, the stage of completion is required to calculate how much revenue should be recognized to date and revenue shall be deducted from the prepayment to the extent that performance obligations are delivered. Refer to note 29 for the specific accounting policy and information related to NEXA’s contractual obligations.

All amounts in thousands of US dollars, unless otherwise stated

Determining the transaction price and the amounts allocated to performance obligations

The Company considers the terms of the contract and its customary business practices to determine the transaction price. The transaction price is the amount of consideration that the Company expects to be entitled to receive in exchange for transferring promised goods or services to its customers. Transaction price is allocated to each performance obligation on a relative standalone selling price basis.

The transaction prices included in the Company's sales contracts are mainly based on international prices references and subject to price adjustments based on the market price at the end of the relevant quotation period stipulated in the sales contract. These are referred to as provisional pricing arrangements which are subject to a monthly price adjustment as per the London Metal Exchange (LME) quotational periods. As of December 31, 2022, the pending price adjustments to be made were not material.

Additionally, the Company has a contractual obligation related to a long-term silver streaming arrangement linked to specific production of its Cerro Lindo mine. The Company received an upfront payment in advance of this specific production. The transaction price is linked to the silver production and spot market prices, which change over time and, therefore, it is accounted for as variable consideration. For more details about this streaming transaction see note 29.

## (a) Composition

### (i) Gross billing reconciliation

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| **Gross billing** | **3,440,863** | **2,974,850** | **2,138,786** |
| Billing from products | 3,330,975 | 2,898,210 | 2,074,203 |
| Billing from freight and insurance services | 109,888 | 76,640 | 64,583 |
| Taxes on sales | (402,064) | (347,311) | (184,714) |
| Return of products sales | (4,809) | (5,429) | (3,143) |
| **Net revenues** | **3,033,990** | **2,622,110** | **1,950,929** |

### (ii) Net revenues breakdown

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Zinc | 2,093,105 | 1,844,632 | 1,323,287 |
| Lead | 276,438 | 223,341 | 161,964 |
| Copper | 290,519 | 305,793 | 197,756 |
| Silver | 57,921 | 69,691 | 58,568 |
| Other products | 206,119 | 102,013 | 144,771 |
| Freight and insurance services | 109,888 | 76,640 | 64,583 |
| **Net revenues** | **3,033,990** | **2,622,110** | **1,950,929** |
| | | | |
| Taxes on sales | 402,064 | 347,311 | 184,714 |
| Return of products sales | 4,809 | 5,429 | 3,143 |
| **Gross billing** | **3,440,863** | **2,974,850** | **2,138,786** |

## (b) Information on geographical areas in which the Company operates

The geographical areas are determined based on the location of the Company's customers. The net revenues of the Company, classified by geographical location and currency, are as follows:

**All amounts in thousands of US dollars, unless otherwise stated**

### (i) Net revenues by geographical location

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Peru | 859,760 | 774,735 | 485,850 |
| Brazil | 827,173 | 753,280 | 583,141 |
| United States | 174,526 | 119,564 | 116,717 |
| Singapore | 166,412 | 56,879 | 76,724 |
| Switzerland | 124,726 | 78,770 | 68,912 |
| Chile | 120,060 | 54,044 | 48,969 |
| Luxembourg | 95,252 | 97,462 | 76,072 |
| Argentina | 94,433 | 93,107 | 56,165 |
| Japan | 71,370 | 58,296 | 46,719 |
| Taiwan | 65,036 | 53,752 | 28,764 |
| Colombia | 64,013 | 54,325 | 34,768 |
| South Africa | 55,864 | 25,126 | - |
| Turkey | 54,955 | 34,493 | 25,005 |
| Austria | 48,676 | 45,057 | 35,197 |
| South Korea | 32,406 | 118,596 | 77,429 |
| Malaysia | 26,032 | 25,681 | 13,948 |
| Belgium | 17,905 | 13,690 | 30,174 |
| Ecuador | 15,433 | 15,652 | 9,095 |
| Netherlands | 13,623 | 17,693 | 11,740 |
| Italy | 9,586 | 14,834 | 9,895 |
| Vietnam | 8,396 | 14,555 | 10,798 |
| Other | 88,353 | 102,519 | 104,847 |
| **Net revenues** | **3,033,990** | **2,622,110** | **1,950,929** |

### (ii) Net revenues by currency

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| USD | 2,251,866 | 1,914,905 | 1,388,746 |
| Brazilian Real ("BRL") | 782,124 | 707,205 | 562,183 |
| **Net revenues** | **3,033,990** | **2,622,110** | **1,950,929** |

## 7 Expenses by nature

### Accounting policy

Cost of sales mainly consists of the cost of manufacturing the products sold by the Company and is recognized in the income statement on the date of delivery to the customer at the same time revenue is recognized from the related sale.

Selling, general and administrative expenses are recognized on the accrual basis and, if applicable, in the same period in which the income they are related to is recognized.

| | | | | 2022 | 2021 | 2020 |
|---|---|---|---|---|---|---|
| | Cost of sales (i) | Selling, general and administrative | Mineral exploration and project evaluation | Total | Total | Total |
| Raw materials and consumables used | (1,463,472) | - | - | (1,463,472) | (1,189,728) | (856,300) |
| Third-party services | (449,373) | (30,878) | (65,041) | (545,292) | (467,071) | (407,695) |
| Depreciation and amortization | (282,968) | (4,064) | (37) | (287,069) | (258,711) | (243,925) |
| Employee benefit expenses | (182,609) | (58,909) | (18,030) | (259,548) | (223,115) | (213,865) |
| Others | (16,758) | (51,692) | (15,754) | (84,204) | (69,240) | (50,966) |
| | **(2,395,180)** | **(145,543)** | **(98,862)** | **(2,639,585)** | **(2,207,865)** | **(1,772,751)** |

(i) Includes USD 52,215 (including depreciation of USD 16,377) related to the provision of Aripuanã's inventory to its net realizable value, for both its ore stockpile and its produced concentrates, as explained in note 18. This amount also includes USD 15,681 (including depreciation of USD 5,911) related to the idleness of the Aripuanã mine's and plant's capacity since November given the start of the unit's revenues. Before November, 2022 these idleness costs were recorded within Other income and expenses, net.

**All amounts in thousands of US dollars, unless otherwise stated**

## 8 Mineral exploration and project evaluation

### Accounting policy

Mineral exploration and project evaluation costs are expensed in the year in which they are incurred.

Mineral exploration activities involve the search for mineral resources from potential areas up to the determination of commercial viability and technical feasibility of an identified resource. Mineral exploration costs include gathering exploration data through geological and geophysical studies, conducting exploratory drilling and sampling, and determining and examining the volume and grade of the identified resources.

Project evaluation costs are mainly related to scoping, pre-feasibility and feasibility studies for greenfield and brownfield projects. Additionally, these evaluation costs could also include costs incurred for studies related to other corporate projects, research, innovation, automation, and information technology projects.

Note 21 describes when mineral exploration and project evaluation costs begin to be capitalized.

### Composition

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Mineral exploration | (61,986) | (55,594) | (38,519) |
| Project evaluation | (36,876) | (29,449) | (18,682) |
| | **(98,862)** | **(85,043)** | **(57,201)** |

## 9 Other income and expenses, net

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| ICMS tax incentives (i) | 56,697 | 71,949 | - |
| Changes in fair value of offtake agreement - note 16 (d) | 24,267 | - | - |
| Changes in fair value of derivative financial instruments – note 16 (c) | 1,363 | 7,486 | 948 |
| Loss on sale of property, plant and equipment | (698) | (4,891) | (2,268) |
| Remeasurement of asset retirement and environmental obligations | (1,512) | (6,664) | (900) |
| Slow moving and obsolete inventory | (11,511) | (985) | (1,057) |
| Provision of legal claims | (7,664) | (13,173) | (10,912) |
| Contribution to communities | (17,233) | (7,070) | (2,773) |
| Pre-operating expenses related to Aripuanã (ii) | (45,800) | (8,753) | (1,885) |
| Impairment of other assets (iii) | (9,302) | - | - |
| Others | 8,719 | (5,951) | (317) |
| | **(2,674)** | **31,948** | **(19,164)** |

(i) In December 2021, the Company adhered to a Brazilian Law that states that government grants of the "Imposto circulação de mercadorias e serviços" ("ICMS") tax incentives are considered investment subsidies and should be excluded from taxable income for the purpose of calculating the Corporate Income Tax ("IRPJ") and the Social Contribution on Net Income tax ("CSLL"). In 2022, the Company received USD 56,697 of ICMS tax incentives, which were excluded from the corporate income taxes basis for the year and were considered a permanent difference reducing the income tax to pay in the amount of USD 19,277 as shown in note 11 (a). Additionally, based on this, the Company stopped presenting the expenses and revenues of the received ICMS tax incentives on a net basis and started to separate the expenses in Taxes on Sales and the corresponding revenues in Other income and expenses, net. The presentation on a gross basis became necessary to demonstrate the taxes on sales for Brazilian corporate tax deduction purposes.

**All amounts in thousands of US dollars, unless otherwise stated**

(ii) Related to Aripuanã's pre-operating expenses that mainly comprise USD 36,884 (including depreciation of USD 3,868) related to the idleness of the Aripuanã mine's and plant's capacity from January to October, the period before the unit started to generate revenues. Since November, these idleness costs were recorded within Cost of Sales.

(iii) Amounts mainly related to the write-off of some non-commercial account receivables and taxes, which the Company does not expect to recover.

## 10 Net financial results

### Accounting policy

(i) Financial expenses
Financial costs of obligations are recognized as expenses when accrued, except for those directly attributable to the acquisition or the construction of qualifying assets, that is, assets that require a substantial time to be ready for use, which are capitalized at cost within Property, plant and equipment and/or Intangibles assets to which they relate.

(ii) Financial income
Financial income is mainly composed of interest income and is recognized on an accrual basis to reflect the asset's effective yield under the effective interest rate method.

(iii) Other financial items, net is composed by the net of the income and expenses related to the fair value of loans and financings, derivative financial instruments, and foreign exchange losses.

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| **Financial income** | | | |
| Interest income on financial investments and cash equivalents | 16,913 | 6,074 | 7,295 |
| Interest on tax credits | 980 | 1,377 | 854 |
| Other financial income | 7,125 | 4,021 | 3,019 |
| | **25,018** | **11,472** | **11,168** |
| | | | |
| **Financial expenses** | | | |
| Interest on loans and financings | (104,689) | (96,565) | (97,422) |
| Premium paid on bonds repurchase – note 24 (c) | (3,277) | - | (14,481) |
| Interest on other liabilities | (35,134) | (12,371) | (8,051) |
| Interest on contractual obligations - note 29 (a) | (5,801) | (6,936) | (6,182) |
| Interest on lease liabilities | (542) | (1,272) | (1,757) |
| Other financial expenses | (19,251) | (25,131) | (31,866) |
| | **(168,694)** | **(142,275)** | **(159,759)** |
| | | | |
| **Other financial items, net** | | | |
| Changes in fair value of loans and financings – note 24 (c) | (1,472) | 19,380 | (8,058) |
| Changes in fair value of derivative financial instruments – note 16 (c) | (83) | (5,640) | (717) |
| Foreign exchange gains (losses) (i) | 11,504 | (19,839) | (120,809) |
| | **9,949** | **(6,099)** | **(129,584)** |
| | | | |
| **Net financial results** | **(133,727)** | **(136,902)** | **(278,175)** |

(i) The amounts for years 2022 and 2021 include USD 6,413 and USD (10,468), respectively, which are related to the outstanding USD denominated intercompany debt of NEXA BR with NEXA and to the accounts payables of NEXA BR with related parties. The exchange variation of NEXA BR's loans and account payables with its related parties are not eliminated in the consolidation process and both transactions were impacted by the volatility of the Brazilian Real ("BRL"), which appreciated against the USD during 2022.

## 11 Current and deferred income tax

### Accounting policy

The current income tax is calculated based on the tax laws enacted or substantively enacted as of the balance sheet date in the countries where the Company's entities operate and generate taxable income. Management periodically evaluates positions taken by the Company in the taxes on income returns with respect to situations in which the applicable tax regulations are subject to interpretation.

It establishes provisions, where appropriate, considering amounts expected to be paid to the tax authorities.

The current income tax is presented net, separated by tax paying entity, in liabilities when there are amounts payable, or in assets when the amounts prepaid exceed the total amount due on the reporting date.

Deferred income tax is provided in full, using the balance sheet liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes at the reporting date. However, deferred tax liabilities are not recognized if they arise from the initial recognition of goodwill. Deferred income tax is also not accounted for if it arises from the initial recognition of an asset or liability in a transaction other than a business combination that, at the time of the transaction affects neither the accounting nor the taxable income or loss. Deferred income tax is determined using tax rates (and laws), of the Company's entities, that have been enacted or substantially enacted at the end of the reporting period and that are expected to be applied when the related deferred income tax asset is realized, or the deferred income tax liability is settled.

Deferred tax assets are recognized only to the extent it is probable that future taxable income will be available against which the temporary deductible differences and/or tax losses can be utilized. Deferred tax assets and liabilities are offset when there is a legally enforceable right and an intention to offset them in the calculation of current taxes, generally when they are related to the same legal entity and the same tax authority. Accordingly, deferred tax assets and liabilities in different entities or in different countries are generally presented separately, and not on a net basis.

Deferred tax liabilities and assets are not recognized for temporary differences between the carrying amounts and tax bases of investments in foreign operations where the Company is able to control the timing of the reversal of the temporary differences and it is probable that the differences will not be reversed in the foreseeable future.

### Critical accounting estimates, assumptions and judgments

The Company is subject to income tax in all countries in which it operates where uncertainties arise in the application of complex tax regulations. Significant estimates, assumptions and judgments are required to determine the amount of deferred tax assets that would be recovered since this amount may be affected by factors including, but not limited to: (i) internal assumptions on the projected taxable income, which are based on production and sales planning, commodity prices, operational costs and planned capital costs; (ii) macroeconomic environment; and (iii) trade and tax scenarios.

In addition, there are many transactions and calculations for which the ultimate tax determination is uncertain. The Company also exercises judgment in the identification of these uncertainties over income tax treatments which could impact the consolidated financial statements as the Company operates in a complex multinational environment.

The Company and its subsidiaries are subject to reviews of income tax filings and other tax payments, and disputes can arise with the tax authorities over the interpretation of the applicable laws and regulations.

**All amounts in thousands of US dollars, unless otherwise stated**

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## (a) Reconciliation of income tax (expense) benefit

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Income (loss) before income tax | 227,377 | 309,291 | (676,658) |
| Statutory income tax rate | 24.94% | 24.94% | 24.94% |
| | | | |
| **Income tax (expense) benefit at statutory rate** | **(56,708)** | **(77,137)** | **168,759** |
| ICMS tax incentives permanent difference – note 9 | 19,277 | 24,463 | - |
| Tax effects of translation of non-monetary assets/liabilities to functional currency | 6,279 | (32,998) | (28,174) |
| Withholding tax over subsidiary capital reduction (i) | (5,263) | (10,526) | - |
| Impairment of goodwill | (18,247) | - | (78,866) |
| Special mining levy and special mining tax | (13,321) | (17,279) | (5,909) |
| Difference in tax rate of subsidiaries outside Luxembourg (ii) | (10,319) | (3,179) | 36,390 |
| Unrecognized deferred tax on net operating losses (iii) | (66,069) | (36,577) | (35,849) |
| Other permanent tax differences | (6,612) | 29 | (32,199) |
| **Income tax (expense) benefit** | **(150,983)** | **(153,204)** | **24,152** |
| | | | |
| Current | (146,869) | (122,081) | (63,192) |
| Deferred | (4,114) | (31,123) | 87,344 |
| **Income tax (expense) benefit** | **(150,983)** | **(153,204)** | **24,152** |

(i) On July 13, 2022, NEXA and the other shareholders of NEXA CJM approved a capital reduction of USD 105,350 (2021: USD 210,703), which was paid on August 30, 2022. Given this capital reduction, the Company recognized USD 5,263 of tax expenses (2021: USD 10,526) given that the tax withheld by NEXA CJM on the corresponding participation of NEXA in its capital was considered as not recoverable.

(ii) NEXA's subsidiaries had a higher taxable profit in 2022 which explains their higher income tax for the year.

(iii) On December 31, 2022, Nexa has not recognized deferred tax on net operating losses over a taxable basis of USD 211,780 (2021: USD 134,156), after an assessment made by management considering the future recoverability of these net operating losses.

## (b) Analysis of deferred income tax assets and liabilities

| | 2022 | 2021 |
|---|---|---|
| Tax credits on net operating losses (i) | 127,016 | 116,284 |
| | | |
| Uncertain income tax treatments | (10,980) | (5,279) |
| **Tax credits on temporary differences** | | |
| Environmental liabilities | 15,764 | 13,923 |
| Asset retirement obligations | 18,175 | 17,698 |
| Inventory provisions | 10,569 | 7,224 |
| Tax, labor and civil provisions | 8,882 | 7,797 |
| Provision for employee benefits | 7,099 | 7,138 |
| Revaluation of derivative financial instruments | 754 | 506 |
| Other | 12,144 | 15,652 |
| | | |
| **Tax debits on temporary differences** | | |
| Capitalized interest | (10,504) | (9,261) |
| Foreign exchange gains | (25,542) | (16,365) |
| Depreciation, amortization and asset impairment | (178,041) | (189,799) |
| Other | (7,852) | (5,896) |
| | **(32,516)** | **(40,378)** |
| | | |
| Deferred income tax assets | 166,983 | 168,205 |
| Deferred income tax liabilities | (199,499) | (208,583) |
| | **(32,516)** | **(40,378)** |

(i) As a result of adopting the Law described in note 9, there was also an increase in the amount of USD 19,277 in the balance of tax losses for the year, amount which is included in the tax credits on net operating losses.

All amounts in thousands of US dollars, unless otherwise stated

### (c) Effects of deferred tax on income statement and other comprehensive income

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| **Balance at the beginning of the year** | **(40,378)** | **3,188** | **(48,212)** |
| Effect on income (loss) for the year | (4,114) | (31,123) | 87,344 |
| Effect on other comprehensive income (loss) – Fair value adjustment | 820 | (2,536) | 13 |
| Prior years uncertain income tax treatment payment | 1,923 | - | 4,706 |
| Effect on other comprehensive income – Translation effect included in Cumulative translation adjustment | 8,481 | (9,907) | (40,663) |
| Derecognition of Nexa's share of Enercan's deferred income taxes - note 4 (ii) | 3,338 | - | - |
| Others movements of deferred income tax | (2,586) | - | - |
| **Balance at the end of the year** | **(32,516)** | **(40,378)** | **3,188** |

### (d) Summary of uncertain tax positions on income tax

There are discussions and ongoing disputes with tax authorities related to uncertain tax positions adopted by the Company in the calculation of its income tax, and for which management, supported by its legal counsel, concluded that the risk of loss is not more likely to occur, and then, it is not probable that an outflow of resources will be required. In such cases, a provision is not recognized. As of December 31, 2022, the main legal proceedings are related to: (i) the interpretation of the application of Cerro Lindo´s stability agreement; and (ii) the carryforward calculation of net operating losses. The estimated amount of these contingent liabilities on December 31, 2022 is USD 349,322 which increased compared to that estimated on December 31, 2021 of USD 134,804, mainly due to the closing of tax audits in Peru and the beginning of certain administrative proceedings in 2022 regarding (i) the stability agreement of Cerro Lindo for the years 2014, 2015 and 2016; and (ii) the result of the Nexa CJM tax audit regarding income tax and transfer pricing for the fiscal year 2016.

## 12 Financial risk management

### Financial risk factors

The Company's activities expose it to a variety of financial risks: a) market risk (including currency risk, interest rate risk and commodities risk); b) credit risk; and c) liquidity risk.

A significant portion of the products sold by the Company are commodities, with prices pegged to international indices and denominated in USD. Part of the production costs, however, is denominated in BRL and Peruvian Soles ("PEN"), and therefore, there is a mismatch of currencies between revenues and costs. Additionally, the Company has debts linked to different indices and currencies, which may impact its cash flows.

In order to mitigate the potential adverse effects of each financial risk factor, the Company follows a Financial Risk Management Policy that establishes governance and guidelines for the financial risk management process, as well as metrics for measurement and monitoring. This policy establishes guidelines and rules for: (i) Commodities Exposure Management, (ii) Foreign Exchange Exposure Management, (iii) Interest Rate Exposure Management, (iv) Issuers and Counterparties Risk Management, and (v) Liquidity and Financial Indebtedness Management. All strategies and proposals must comply with the Financial Risk Management Policy guidelines and rules, be presented to and discussed with the Finance Committee of the Board of Directors, and, when applicable, submitted for the approval of the Board of Directors, under the governance structure described in such Policy.

### (a) Market risk

The purpose of the market risk management process and all related actions are intended to protect the Company's cash flows against adverse events, such as changes in foreign exchange rates, interest rates and commodity prices, to maintain the ability to pay financial obligations, and to comply with liquidity and indebtedness levels defined by management.

**All amounts in thousands of US dollars, unless otherwise stated**

## (i) Sensitivity analysis

Presented below is a sensitivity analysis of the main risk factors that affect the pricing of the outstanding financial instruments related to cash and cash equivalents, financial investments, loans and financings, and other financial instruments. The main sensitivities are the exposure to changes in the USD exchange rate, the Interbank Deposit Certificate (“CDI”) interest rates, the National Broad Consumer Price Index (“IPCA”) and the commodity prices. The scenarios for these factors are prepared using market sources and other relevant sources, in compliance with the Company's policies. The scenarios on December 31, 2022 are described below:

- Scenario I: considers a change in the market forward yield curves and quotations as of December 31, 2022, according to the base scenario defined by the Company for March 31, 2023.
- Scenario II: considers a change of + or -25% in the market forward yield curves as of December 31, 2022.
- Scenario III considers a change of + or -50% in the market forward yield curves as of December 31, 2022.

| | | | | | Impacts on income statement | | | | | Impacts on statement of comprehensive income | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Scenarios II and III | | | | | Scenarios II and III | | | |
| **Risk factor** | **Quotation at December 31, 2022** | **Amount** | **Changes from 2022** | **Scenario I** | **-25%** | **-50%** | **+25%** | **+50%** | **Scenario I** | **-25%** | **-50%** | **+25%** | **+50%** |
| **Cash and cash equivalents and financial investments** | | | | | | | | | | | | | |
| **Foreign exchange rates** | | | | | | | | | | | | | |
| BRL | 5.2177 | 61,919 | 2.06% | - | - | - | - | - | 1,274 | (15,479) | (30,959) | 15,479 | 30,959 |
| EUR | 1.0674 | 12 | (6.01%) | (1) | (3) | (6) | 3 | 6 | - | - | - | - | - |
| PEN | 3.7895 | 32,963 | (5.41%) | (1,783) | (8,240) | (16,480) | 8,240 | 16,480 | - | - | - | - | - |
| CAD | 1.3536 | 641 | 2.46% | - | - | - | - | - | 16 | (160) | (321) | 160 | 321 |
| NAD | 16.9647 | 1,862 | 6.19% | - | - | - | - | - | 115 | (466) | (931) | 466 | 931 |
| **Interest rates** | | | | | | | | | | | | | |
| BRL - CDI - SELIC | 13.65% | 61,341 | (1) bps | (8) | (2,093) | (4,187) | 2,093 | 4,187 | - | - | - | - | - |

| | | | | | Impacts on income statement | | | | | Impacts on statement of comprehensive income | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Scenarios II and III | | | | | Scenarios II and III | | | |
| **Risk factor** | **Quotation at December 31, 2022** | **Amount** | **Changes from 2022** | **Scenario I** | **-25%** | **-50%** | **+25%** | **+50%** | **Scenario I** | **-25%** | **-50%** | **+25%** | **+50%** |
| **Loans and financings** | | | | | | | | | | | | | |
| **Foreign exchange rates** | | | | | | | | | | | | | |
| BRL | 5.2177 | 277,852 | 2.06% | - | - | - | - | - | (5,717) | 69,463 | 138,926 | (69,463) | (138,926) |
| PEN | 3.7895 | 443 | (5.41%) | 24 | 111 | 222 | (111) | (222) | - | - | - | - | - |
| **Interest rates** | | | | | | | | | | | | | |
| BRL - CDI - SELIC | 13.65% | 78,904 | (1) bps | 10 | 2,693 | 5,385 | (2,693) | (5,385) | - | - | - | - | - |
| USD - LIBOR | 4.77% | 182,067 | 6 bps | (106) | 2,169 | 4,339 | (2,169) | (4,339) | - | - | - | - | - |
| IPCA - TLP | 5.79% | 176,269 | (29) bps | 511 | 2,551 | 5,103 | (2,551) | (5,103) | - | - | - | - | - |
| TJLP | 7.37% | 22,634 | 17 bps | (38) | 417 | 834 | (417) | (834) | - | - | - | - | - |

**All amounts in thousands of US dollars, unless otherwise stated**

| | | | | Impacts on income statement | | | | | Impacts on statement of comprehensive income | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Scenarios II and III | | | | | Scenarios II and III | | | |
| **Risk factor** | **Quotation at December 31, 2022** | **Amount** | **Changes from 2022** | **Scenario I** | **-25%** | **-50%** | **+25%** | **+50%** | **Scenario I** | **-25%** | **-50%** | **+25%** | **+50%** |
| **Other financial instruments** | | | | | | | | | | | | | |
| **Foreign exchange rates** | | | | | | | | | | | | | |
| BRL | 5.2177 | (292) | 2.06% | (6) | 73 | 146 | (73) | (146) | - | - | - | - | - |
| **Interest rates** | | | | | | | | | | | | | |
| BRL - CDI - SELIC | 13.65% | (292) | (1) bps | 41 | 986 | 2,114 | (867) | (1,633) | - | - | - | - | - |
| USD - LIBOR | 4.77% | (2,283) | 6 bps | (2) | 140 | 280 | (140) | (280) | (0) | (36) | (71) | 36 | 71 |
| **Commodities price** | | | | | | | | | | | | | |
| Zinc | 3,025 | (2,283) | 1.79% | 18,733 | 20,988 | 41,976 | (20,988) | (41,976) | (4,174) | (4,676) | (9,353) | 4,676 | 9,353 |
| Copper | 8,387 | (21,833) | (8.49%) | (14,153) | (4,483) | (360) | (55,027) | (97,498) | - | - | - | - | - |

**All amounts in thousands of US dollars, unless otherwise stated**

### (ii) Foreign exchange risk

Foreign exchange risk is managed through the Company's Financial Risk Management Policy, which states that the objectives of derivative transactions are to reduce cash flow volatility, hedge against foreign exchange exposure and minimize currency mismatches.

Presented below are the financial assets and liabilities in foreign currencies on December 31, 2022. These mainly result from NEXA BR's operations, for which the functional currency is the BRL.

Intercompany loans balances are fully eliminated in the consolidated financial statements. However, the related foreign exchange gain or loss is not, and is presented as foreign exchange effects.

| USD amounts of foreign currency balances | 2022 | 2021 |
|---|---|---|
| **Assets** | | |
| Cash, cash equivalents and financial investments | 97,397 | 95,320 |
| Derivative Financial Instruments | 143 | 314 |
| Trade accounts receivables | 19,132 | 34,858 |
| | **116,672** | **130,492** |
| **Liabilities** | | |
| Loans and financings | 276,634 | 272,353 |
| Derivative Financial Instruments | 435 | 380 |
| Trade payables and other liabilities | 182,275 | 200,983 |
| Lease liabilities | 2,738 | 7,921 |
| Use of public assets | 23,263 | 24,384 |
| | **485,345** | **506,021** |
| | | |
| **Net exposure** | **(368,673)** | **(375,529)** |

### (iii) Interest rate risk

The Company's interest rate risk arises mainly from long-term loans. Loans at variable rates expose the Company to cash flow interest rate risk. Loans at fixed rates expose the Company to fair value risk associated with interest rates. For further information related to interest rates, refer to note 24.

The Company's Financial Risk Management Policy establishes guidelines and rules to hedge against changes in interest rates that impact the Company's cash flows. Exposure to each interest rate is projected until the maturity of the assets and liabilities exposed to this index. Occasionally the Company enters into floating to fixed interest rate swaps to manage its cash flow interest rate risk. In the case of loans and financings contracted together with swaps, the Company accounts for them under the fair value option to eliminate the accounting mismatch that would arise if amortized cost were used.

### (iv) Commodity price risk

The commodity price risk is related to the volatility in the prices of the Company's commodities. Prices fluctuate depending on demand, production capacity, inventory levels, commercial strategies adopted by large producers, and the availability of substitutes for these products in the global market.

The Company's Financial Risk Management Policy establishes guidelines to mitigate the risk of fluctuations in commodity prices that could impact the Company's cash flows. The exposure to the price of each commodity considers the monthly production projections, inputs purchases and the maturity flows of hedges associated with them.

Commodity prices hedge transactions are classified into the following hedging strategies:

**Hedges for sales of zinc at a fixed price (Customer Hedge)**

The objective is to convert fixed priced sales to floating prices, observed on the London Metal Exchange (LME). The purpose of the strategy is to maintain the revenues of a business unit linked to the LME prices. These transactions usually relate to purchases of zinc for future settlement on the over-the-counter market.

**Hedges for mismatches of quotational periods (Hedge Book)**

The objective is to hedge quotational periods mismatches arising between the purchases of metal concentrate or processed metal and the sale of the processed metal. These transactions usually relate to purchases and sales of zinc for future trading on the over-the-counter market.

**(b) Credit risk**

Trade receivables, derivative financial instruments, term deposits, bank deposit certificates ("CDBs") and government securities create exposure to credit risk with respect to the counterparties and issuers. The Company has a policy of making deposits in financial institutions that have, at least, a rating from two of the following international rating agencies: Fitch, Moody’s or Standard & Poor’s. The minimum rating required for counterparties is determined as follows:

- Onshore operations: rating "A", or equivalent, on a local scale by two rating agencies. In the case of foreign financial institutions that have a local rating by only one rating agency, it should be at least "AA-", and its headquarters should have a rating "A" minimum on a global scale.

- Offshore operations: rating "BBB-", or equivalent, on a global scale by two rating agencies.

In the case of financial institutions in Peru or in Luxembourg, local ratings from local agencies associated with rating agencies approved in the Company’s policy are accepted. In case that only a global rating is available, it will be eligible provided that it has a rating "BBB-" at least by one rating agency.

In the case of financial institutions that do not have a rating available for a specific country, it will be eligible provided that its headquarters follow the minimum ratings specified above.

The pre-settlement risk methodology is used to assess counterparty risks in derivative transactions.

This methodology consists of determining the risk associated with the likelihood (via Monte Carlo simulations) of a counterparty defaulting on the financial commitments defined by contract.

The global ratings were obtained from the rating agencies Fitch, Moody’s or Standard & Poor’s ratings and are related to commitments in foreign or local currency and, in both cases, they assess the capacity to honor these commitments, using a scale applicable on a global basis. Therefore, both ratings in foreign currency and in local currency are internationally comparable ratings.

The ratings used by the Company are always the most conservative ratings of the referred agencies.

In the case of credit risk arising from customer credit exposure, the Company assesses the credit quality of the customer, considering mainly the history of the relationship and financial indicators defining individual credit limits, which are continuously monitored.

The Company performs initial analyses of customer credit and, when deemed necessary, guarantees or letters of credit are obtained to mitigate the credit risk. Additionally, most sales to the United States of America, Europe and Asia are collateralized by letters of credit and credit insurance.

The carrying amount of the Company’s financial instruments best represents the maximum exposure to their credit risk.

**All amounts in thousands of US dollars, unless otherwise stated**

The following table reflects the credit quality of issuers and counterparties for transactions involving cash and cash equivalents, financial investments and derivative financial instruments. The variations presented are mainly related to the Company's transactions in the year and not to changes in the counterparties' ratings.

| | | | **2022** | | | **2021** |
|---|---|---|---|---|---|---|
| | **Local rating** | **Global rating** | **Total** | **Local rating** | **Global rating** | **Total** |
| **Cash and cash equivalents** | | | | | | |
| AAA | 191,269 | - | 191,269 | 117,439 | - | 117,439 |
| AA+ | - | - | - | - | - | - |
| AA | 10,259 | - | 10,259 | 19 | - | 19 |
| AA- | - | 15,958 | 15,958 | - | 21,252 | 21,252 |
| A+ | - | 117,968 | 117,968 | 35,923 | 318,120 | 354,043 |
| A | - | 93,117 | 93,117 | 25,354 | 115,653 | 141,007 |
| A- | - | 54,737 | 54,737 | - | 104,528 | 104,528 |
| No rating (i) | 8,451 | 6,067 | 14,518 | 2,660 | 2,869 | 5,529 |
| | **209,979** | **287,847** | **497,826** | **181,395** | **562,422** | **743,817** |
| | | | | | | |
| **Financial investments** | | | | | | |
| AAA | 18,006 | - | 18,006 | 16,849 | - | 16,849 |
| AA | - | - | - | 2,353 | - | 2,353 |
| No rating (i) | 56 | - | 56 | - | - | - |
| | **18,062** | **-** | **18,062** | **19,202** | **-** | **19,202** |
| | | | | | | |
| **Derivative financial instruments** | | | | | | |
| AAA | 144 | - | 144 | 314 | - | 314 |
| A+ | - | 3,061 | 3,061 | - | 8,491 | 8,491 |
| A- | - | 4,238 | 4,238 | - | 7,589 | 7,589 |
| | **144** | **7,299** | **7,443** | **314** | **16,080** | **16,394** |

(i) Refers to subsidiaries of international financial institutions that do not have a global rating available in the international rating agencies. According to the Company's policy, for these financial institutions, the rating of the financial institution controlling entities is assumed, which must be at least BBB-.

### (c) Liquidity risk

Liquidity risk is managed through the Company's Financial Risk Management Policy, which aims to ensure the availability of funds to meet the Company's financial obligations. The main liquidity measurement and monitoring instrument is the cash flow projection, using a minimum projection period of 12 months from the benchmark date.

The table below shows the Company's financial obligations to be settled by the Company based on their maturity (the remaining period from the balance sheet up to the contractual maturity date). The amounts below represent the estimated undiscounted future cash flows, which include interests to be incurred and, accordingly, do not reconcile directly with the amounts presented in the consolidated balance sheet.

**All amounts in thousands of US dollars, unless otherwise stated**

| 2022 | Less than 1 year | Between 1 and 3 years | Between 3 and 5 years | Over 5 years | Total |
|---|---|---|---|---|---|
| Loans and financings | 136,348 | 391,201 | 981,759 | 704,944 | 2,214,252 |
| Lease liabilities | 4,105 | 1,410 | - | - | 5,515 |
| Derivative financial instruments | 9,712 | 215 | 86 | 5 | 10,018 |
| Trade payables and other liabilities | 413,856 | 12,154 | - | - | 426,010 |
| Confirming payables | 216,392 | - | - | - | 216,392 |
| Salaries and payroll charges | 79,078 | - | - | - | 79,078 |
| Dividends payable | 7,922 | - | - | - | 7,922 |
| Related parties | 487 | 546 | - | - | 1,033 |
| Asset retirement and environmental obligations | 19,360 | 29,625 | 28,868 | 241,258 | 319,111 |
| Use of public assets | 2,484 | 4,972 | 4,890 | 16,584 | 28,930 |
| | **889,744** | **440,123** | **1,015,603** | **962,791** | **3,308,261** |

| 2021 | Less than 1 year | Between 1 and 3 years | Between 3 and 5 years | Over 5 years | Total |
|---|---|---|---|---|---|
| Loans and financings | 114,240 | 443,780 | 247,226 | 1,439,295 | 2,244,541 |
| Lease liabilities | 17,340 | 3,744 | - | - | 21,084 |
| Derivative financial instruments | 22,684 | 146 | 71 | 24 | 22,925 |
| Trade payables | 411,818 | - | - | - | 411,818 |
| Confirming payables | 232,860 | - | - | - | 232,860 |
| Salaries and payroll charges | 76,031 | - | - | - | 76,031 |
| Dividends payable | 11,441 | - | - | - | 11,441 |
| Related parties | 321 | 71 | - | - | 392 |
| Asset retirement and environmental obligations | 31,953 | 64,752 | 85,021 | 243,076 | 424,802 |
| Use of public assets | 1,368 | 3,244 | 3,657 | 21,840 | 30,109 |
| | **920,056** | **515,737** | **335,975** | **1,704,235** | **3,476,003** |

### (d) Capital management

The Company's objectives when managing capital are to safeguard its ability to continue as a going concern, so it can continue to provide returns for shareholders and benefits for other stakeholders; and to maintain an optimal capital structure to reduce the cost of capital.

To maintain or adjust the capital structure, the Company may adjust the dividends level paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt. The Company monitors capital mainly using the leverage ratio, calculated as net debt to Adjusted EBITDA.

Net debt and Adjusted EBITDA measures should not be considered in isolation or as a substitute for net income or operating income, as indicators of operating performance, or as alternatives to cash flow as measures of liquidity. Additionally, management's calculation of Adjusted EBITDA may be different from the calculation used by other companies, including competitors in the mining and smelting industry, so these measures may not be comparable to those of other companies.

**All amounts in thousands of US dollars, unless otherwise stated**

| | Note | 2022 | 2021 | 2020 |
|---|---|---|---|---|
| Loans and financings | 24 (a) | 1,669,259 | 1,699,315 | 2,024,314 |
| Derivative financial instruments | 16 (a) | 2,575 | 6,531 | (5,106) |
| Lease liabilities | 23 (b) | 5,021 | 19,639 | 25,689 |
| Cash and cash equivalents | 15 | (497,826) | (743,817) | (1,086,163) |
| Financial investments | | (18,062) | (19,202) | (35,044) |
| **Net debt (i)** | | **1,160,967** | **962,466** | **923,690** |
| | | | | |
| Net income (loss) for the year | | 76,394 | 156,087 | (652,506) |
| Plus (less): | | | | |
| Depreciation and amortization | 21, 22 and 23 | 290,937 | 258,711 | 243,925 |
| Share in the results of associates | | (1,885) | | |
| Net financial results | 10 | 133,727 | 136,902 | 278,175 |
| Income tax expense (benefit) | 11 (a) | 150,983 | 153,204 | (24,152) |
| Miscellaneous adjustments | 2 | 110,168 | 38,931 | 573,475 |
| **Adjusted EBITDA (ii)** | | **760,324** | **743,835** | **418,917** |
| | | | | |
| **Leverage ratio (Net debt/Adjusted EBITDA)** | | **1.53** | **1.29** | **2.20** |

(i) Net debt is defined as (a) loans and financings, plus lease liabilities, plus or minus (b) the fair value of derivative financial instruments, less (c) cash and cash equivalents, less (d) financial investments.

(ii) Adjusted EBITDA for capital management calculation uses the same assumptions described in note 2 for Adjusted EBITDA by segment.

## 13 Financial instruments

### Accounting policy

Normal purchases and sales of financial assets are recognized on the trade date – the date on which the Company commits to purchase or sell the asset. Financial assets are initially recognized at fair value plus transaction costs for all financial assets not carried at fair value through profit or loss. Financial assets carried at fair value through profit or loss, if any, are initially recognized at fair value, and transaction costs are expensed in the income statement.

Financial assets are derecognized when the rights to receive cash flows from the investments have expired or the Company has transferred substantially all the risks and rewards of ownership. Financial assets at fair value through profit or loss and at fair value through other comprehensive income are subsequently carried at fair value. Financial assets at amortized costs are subsequently measured using the effective interest rate method.

Equity instruments may be irrevocably elected on their initial recognition for their fair value changes to be presented in other comprehensive income instead of in the income statement. Since the objective of the Company's equity instruments is to buy more participation in a project and not sell the investment, they are classified as fair value through other comprehensive income.

Then, the Company classifies its financial assets and liabilities under the following categories: amortized cost, fair value through profit or loss and fair value through other comprehensive income.

### (i) Amortized cost

Financial assets measured at amortized cost are assets held within a business model whose objective is to hold financial assets to collect contractual cash flows and for which the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest ("SPPI") on the principal amount outstanding.

Financial liabilities are measured at amortized cost, except for financial liabilities at fair value through profit or loss such as derivatives and some specific loans and financings.

**All amounts in thousands of US dollars, unless otherwise stated**

### (ii) Fair value through profit or loss

Financial assets measured at fair value through profit or loss are assets which an entity manages with the objective of realizing cash flows through the sale of such assets and financial assets that do not give rise to cash flows that are SPPI on the principal amount outstanding.

Financial liabilities measured at fair value through profit or loss are liabilities which were not measured at amortized cost, such as derivatives and loans and financings that are designated at fair value option when is necessary to eliminate the accounting mismatch that would arise if amortized cost were used.
For these loans and financings, the portion of the variation in credit risk is recorded in the OCI.

### (iii) Fair value through other comprehensive income

Financial assets measured at fair value through other comprehensive income are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets and for which the contractual terms of the financial asset give rise on specified dates to cash flows that are SPPI on the principal amount outstanding. Investments in equity instruments are measured at fair value through other comprehensive income as mentioned before.

### (a) Breakdown by category

The Company's financial assets and liabilities are classified as follows:

| | | | | | **2022** |
|---|---|---|---|---|---|
| **Assets per balance sheet** | **Note** | **Amortized cost** | **Fair value through profit or loss** | **Fair value through other comprehensive income** | **Total** |
| Cash and cash equivalents | 15 | 497,826 | - | - | 497,826 |
| Financial investments | | 18,062 | - | - | 18,062 |
| Other financial instruments | 16 (a) | - | 7,443 | - | 7,443 |
| Trade accounts receivables | 17 | 53,123 | 170,617 | - | 223,740 |
| Investments in equity instruments | 14 (c) | - | - | 7,115 | 7,115 |
| Related parties (i) | 20 (a) | 2 | - | - | 2 |
| | | **569,013** | **178,060** | **7,115** | **754,188** |

| | | | | | **2022** |
|---|---|---|---|---|---|
| **Liabilities per balance sheet** | **Note** | **Amortized cost** | **Fair value through profit or loss** | **Fair value through Other comprehensive income** | **Total** |
| Loans and financings | 24 (a) | 1,578,864 | 90,395 | - | 1,669,259 |
| Lease liabilities | 23 (b) | 5,021 | - | - | 5,021 |
| Other financial instruments | 16 (a) | - | 31,851 | - | 31,851 |
| Trade payables | 25 | 413,856 | - | - | 413,856 |
| Confirming payables | 26 | 216,392 | - | - | 216,392 |
| Use of public assets (ii) | | 23,263 | - | - | 23,263 |
| Related parties (ii) | 20 (a) | 1,033 | - | - | 1,033 |
| | | **2,238,429** | **122,246** | **-** | **2,360,675** |

**All amounts in thousands of US dollars, unless otherwise stated**

| | | | | | **2021** |
|---|---|---|---|---|---|
| **Assets per balance sheet** | **Note** | **Amortized cost** | **Fair value through profit or loss** | **Fair value through Other comprehensive income** | **Total** |
| Cash and cash equivalents | 15 | 743,817 | - | - | 743,817 |
| Financial investments | | 19,202 | - | - | 19,202 |
| Other financial instruments | 16 (a) | - | 16,394 | - | 16,394 |
| Trade accounts receivables | 17 | 84,969 | 146,205 | - | 231,174 |
| Investments in equity instruments | 14 (c) | - | - | 3,723 | 3,723 |
| Related parties (i) | 20 (a) | 2 | - | - | 2 |
| | | **847,990** | **162,599** | **3,723** | **1,014,312** |

| | | | | | **2021** |
|---|---|---|---|---|---|
| **Liabilities per balance sheet** | **Note** | **Amortized cost** | **Fair value through profit or loss** | **Fair value through Other comprehensive income** | **Total** |
| Loans and financings | 24 (a) | 1,610,638 | 88,677 | - | 1,699,315 |
| Lease liabilities | 23 (b) | 19,639 | - | - | 19,639 |
| Other financial instruments | 16 (a) | - | 22,925 | - | 22,925 |
| Trade payables | 25 | 411,818 | - | - | 411,818 |
| Confirming payables | 26 | 232,860 | - | - | 232,860 |
| Use of public assets (ii) | | 24,384 | - | - | 24,384 |
| Related parties (ii) | 20 (a) | 393 | - | - | 393 |
| | | **2,299,732** | **111,602** | **-** | **2,411,334** |

(i) Classified as Other assets in the consolidated balance sheet.

(ii) Classified as Other liabilities in the consolidated balance sheet.

## 14 Fair value estimates

### Critical accounting estimates, assumptions and judgments

The fair value of financial instruments that are not traded in an active market is determined using valuation techniques. The Company uses judgment to select among a variety of methods and makes estimates and assumptions that are mainly based on market conditions existing at the end of each reporting period.

Although management has used its best judgment in estimating the fair value of its financial instruments, any technique for making said estimates and assumptions involves some level of inherent fragility.

### (a) Analysis

The main financial instruments and the estimates and assumptions made by the Company for their valuation are described below:

- Cash and cash equivalents, financial investments, trade accounts receivables and other current assets – considering their nature, terms and maturity, the carrying amounts approximate their fair value.

**All amounts in thousands of US dollars, unless otherwise stated**

- Financial liabilities – these instruments are subject to usual market interest rates. The fair value is based on the present value of expected future cash disbursements, at interest rates currently available for debt with similar maturities and terms and adjusted for the Company's credit risk. Loans and financings are measured at amortized cost, except for certain contracts for which the Company has elected the fair value option.
- Other financial instruments – the fair value is determined by calculating their present value through yield curves at the closing dates. The curves and prices used in the calculation for each group of instruments are developed based on data from Brazilian Securities, Commodities and Futures Exchange – B3, Central Bank of Brazil, LME and Bloomberg, interpolated between the available maturities. The main derivative financial instruments are:

  - Swap contracts – the present value of both the assets and liabilities are calculated through the discount of forecasted cash flows by the interest rate of the currency in which the swap is denominated. The difference between the present value of the assets and the liabilities generates its fair value.
  - Forward contracts – the present value is estimated by discounting the notional amount multiplied by the difference between the future price at the reference date and the contracted price. The future price is calculated using the convenience yield of the underlying asset. It is common to use Asian non-deliverable forwards for hedging non-ferrous metals positions. Asian contracts are derivatives in which the underlying is the average price of certain asset over a range of days.
  - Option contracts – the present value is estimated based on the Black and Scholes model, with assumptions that include the underlying asset price, strike price, volatility, time to maturity and interest rate.

## (b) Fair value by hierarchy

| | | | | **2022** |
|---|---|---|---|---|
| | **Note** | **Level 1** | **Level 2** | **Total** |
| **Assets** | | | | |
| Other financial instruments | 16 (a) | - | 7,443 | 7,443 |
| Trade accounts receivables | | - | 170,617 | 170,617 |
| Investments in equity instruments (i) | 14 (c) | 7,115 | - | 7,115 |
| | | **7,115** | **178,060** | **185,175** |
| **Liabilities** | | | | |
| Other financial instruments | 16 (a) | - | 31,851 | 31,851 |
| Loans and financings designated at fair value (ii) | | - | 90,395 | 90,395 |
| | | **-** | **122,246** | **122,246** |

| | | | | **2021** |
|---|---|---|---|---|
| | **Note** | **Level 1** | **Level 2** | **Total** |
| **Assets** | | | | |
| Other financial instruments | 16 (a) | - | 16,394 | 16,394 |
| Trade accounts receivables | | - | 146,205 | 146,205 |
| Investments in equity instruments (i) | 14 (c) | 3,723 | - | 3,723 |
| | | **3,723** | **162,599** | **166,322** |
| **Liabilities** | | | | |
| Other financial instruments | 16 (a) | - | 22,925 | 22,925 |
| Loans and financings designated at fair value (ii) | | - | 88,677 | 88,677 |
| | | **-** | **111,602** | **111,602** |

(i) To determine the fair value of the investments in equity instruments, the Company uses the share's quotation as of the last day of the reporting period.
(ii) Loans and financings are measured at amortized cost, except for certain contracts for which the Company has elected the fair value option.

The Company discloses fair value measurements based on their level on the following fair value measurement hierarchy:

**All amounts in thousands of US dollars, unless otherwise stated**

### Level 1:

When fair value is calculated with quoted prices (unadjusted) in active markets for identical assets and liabilities traded in active markets at the balance sheet date. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, industry group, pricing service, or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price used for financial assets held by the Company is the current bid price.

### Level 2:

When fair value is calculated with valuation techniques since the financial instruments are not traded in an active market and all of the significant inputs required to identify the fair value of an instrument are observable. Specific valuation techniques used to value financial instruments include:

- Quoted market prices or dealer quotes for similar instruments are used where available;
- The fair values of interest rate swaps are calculated at the present value of the estimated future cash flow based on observable yield curves; and
- The fair value of forward foreign exchange contracts is determined using forward exchange rates at the balance sheet date, with the resulting value discounted to present value.

Other techniques, such as discounted cash flows analysis, are used to determine the fair value of the remaining financial instruments.

### Level 3:

When fair value is calculated with inputs for the asset or liability that are not based on observable market data (that is, unobservable inputs). As of December 31, 2022, there were no financial assets and liabilities carried at fair value classified as Level 3.

### (c) Investments in equity instruments – Increase of equity interest in Tinka Resources

In 2021, the Company acquired 9.0% of the issued and outstanding common shares of Tinka Resources Limited ("Tinka"), an exploration and development company which holds 100% of the Ayawilca zinc-silver project in Peru. On May 31, 2022, the Company subscribed to an additional 40,792,541 common shares in a private transaction at a price of CAD 0.22 per share (approximately USD 0.17) for a total consideration of CAD 8,974 thousand (USD 7,000). After this subscription, the Company holds 18.23% of the issued and outstanding common shares of Tinka. Similar to the original acquisitions made in 2021, this transaction has been accounted for as an investment in equity instruments at its acquisition cost and all are being subsequently measured at fair value through other comprehensive income.

## 15 Cash and cash equivalents

### Accounting policy

Cash and cash equivalents include cash, bank deposits, and highly liquid short-term investments (investments with an original maturity less than 90 days), which are readily convertible into a known amount of cash and subject to an immaterial risk of changes in value. Bank overdrafts are shown within Loans and financings in current liabilities in the balance sheet.

### (a) Composition

| | **2022** | **2021** |
|---|---|---|
| Cash and banks | 330,653 | 276,761 |
| Term deposits | 167,173 | 467,056 |
| | **497,826** | **743,817** |

## 16 Other financial instruments

### Accounting policy

Derivatives are initially recognized at fair value as at the date on which a derivative contract is entered into and are subsequently measured at fair value. Derivatives are only used for risk mitigation purposes and not as speculative investments. When derivatives do not meet the hedge accounting criteria, they are classified as held for trading and accounted for at fair value through profit or loss.

For derivatives that meet the hedge accounting criteria, the Company documents at the inception of the hedging transaction the relationship between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking the hedge transactions. The Company also documents its assessment, both at hedge inception and on an ongoing basis, whether the derivatives that are used in hedging transactions and accounted for as hedge accounting were, and will continue to be, highly effective in offsetting changes in the fair value or cash flow of hedged items.

### (i) Derivative financial instruments designated as cash flow hedge

Derivatives that are designated for hedge accounting recognition are qualified as cash flow hedges when they are related to a highly probable forecasted transaction. The effective portion of the changes in fair value is recognized in shareholders' equity in Accumulated other comprehensive income and is subsequently reclassified to the income statement in the same period when the hedged expected cash flows affects the income statement.

The reclassification adjustment is recognized in the same income statement line item affected by the highly probable forecasted transaction, while gains or losses related to the non-effective portion are immediately recognized as Other income and expenses, net.

When a hedging instrument expires, is sold or no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in shareholders' equity at that time remains in shareholders' equity and is recognized when the forecast transaction is ultimately recognized in the income statement. When a forecasted transaction is no longer expected to occur, the cumulative gain or loss that was previously accounted in shareholders' equity is immediately transferred to the income statement within Other income and expenses, net.

Currently, the Company classifies as cash flow hedge only some strategies related to mismatches of quotational periods.

### (ii) Derivative financial instruments designated as fair value hedge

Derivatives that are designated for hedge accounting recognition are qualified as fair value hedges when they are related to assets or liabilities already recognized in the consolidated balance sheet. Changes in the fair values of derivatives that are designated and qualify as fair value hedges and changes in the fair value of the hedged item are recorded in the income statement in the same period.

Currently, the Company does not have any derivatives designated as fair value hedge.

### (iii) Derivatives financial instruments not designated as hedge accounting

Changes in the fair value of derivative financial instruments not designated as hedge accounting are recognized in the income statement in the line affected by the related transaction.

Currently, the Company does not designate as hedge accounting some strategies related to mismatches of quotational periods, to sales of zinc at a fixed price, and to interest rate risk.

**All amounts in thousands of US dollars, unless otherwise stated**

### (iv) Offtake agreement

On January 25, 2022, the Company signed an offtake agreement with an international offtaker (the "Offtaker") a subsidiary of a BBB rated company, in which it agreed to sell 100% of the copper concentrate to be produced by Aripuanã for a 5-year period starting in February 2023 up to a total of 30,810 tons, at the lower of current spot market prices or a price cap.

The offtake agreement resulted from negotiations with the Offtaker to sell the copper concentrate in lieu of paying future royalties related to the previous acquisition of the Aripuanã project mining rights from the Offtaker. The amount of USD 46,100, representing the fair value of the agreement at its inception date, was recognized as an intangible asset and will be amortized over the life of the mine according to the Units of Production ("UoP") method.

Additionally, the Company opted to voluntarily and irrevocably designate the entire offtake agreement at fair value through profit and loss within the scope of IFRS 9, rather than separate the value of the embedded derivative associated with the price cap, recognizing a non-cash accumulated gain of USD 24,267 in the income statement for period ended on December 31, 2022. Refer to note 22 for additional information about the offtake agreement accounting treatment.

### (a) Composition

| | 2022 | 2021 |
|---|---|---|
| **Derivatives financial instruments** | | |
| Current assets | 7,380 | 16,292 |
| Non-current assets | 63 | 102 |
| Current liabilities | (9,711) | (22,684) |
| Non-current liabilities | (307) | (241) |
| **Derivatives financial instruments, net** | **(2,575)** | **(6,531)** |
| **Offtake agreement measured at FVTPL** | | |
| Current liabilities | (1,724) | - |
| Non-current liabilities | (20,109) | - |
| **Offtake agreement measured at FVTPL, net** | **(21,833)** | **-** |

### (b) Derivative financial instruments: Fair value by strategy

| | | | 2022 | | 2021 |
|---|---|---|---|---|---|
| **Strategy** | **Per Unit** | **Notional** | **Fair value** | **Notional** | **Fair value** |
| **Mismatches of quotational periods** | | | | | |
| Zinc forward | ton | 209,319 | (2,357) | 215,809 | (9,898) |
| | | | **(2,357)** | | **(9,898)** |
| **Sales of zinc at a fixed price** | | | | | |
| Zinc forward | ton | 8,297 | 74 | 8,787 | 3,433 |
| | | | **74** | | **3,433** |
| **Interest rate risk** | | | | | |
| IPCA vs. CDI | BRL | 226,880 | (292) | 226,880 | (66) |
| | | | **(292)** | | **(66)** |
| | | | | | |
| | | | **(2,575)** | | **(6,531)** |

**All amounts in thousands of US dollars, unless otherwise stated**

### (c) Derivative financial instruments: Changes in fair value – At the end of each period

| Strategy | Inventory | Cost of sales | Net revenues | Other income and expenses, net | Net financial results | Other comprehensive income | Realized (loss) gain |
|---|---|---|---|---|---|---|---|
| Mismatches of quotational periods | (1,014) | 19,394 | (2,868) | 743 | - | (1,329) | 7,385 |
| Sales of zinc at a fixed price | - | - | (2,859) | 620 | - | - | 1,120 |
| Interest rate risk – IPCA vs. CDI | - | - | - | - | (83) | - | 143 |
| **2022** | **(1,014)** | **19,394** | **(5,727)** | **1,363** | **(83)** | **(1,329)** | **8,648** |
| **2021** | **1,146** | **(37,963)** | **9,709** | **7,486** | **(5,640)** | **488** | **(13,137)** |

### (d) Offtake agreement measured at FVTPL: Changes in fair value

| | 2022 | 2021 |
|---|---|---|
| **Inception date** | **46,100** | **-** |
| Changes in fair value | (24,267) | - |
| **Balance at the end of year** | **21,833** | **-** |
| **Notional (ton)** | **30,810** | **-** |

## 17 Trade accounts receivables

### Accounting policy

Trade accounts receivables are amounts due from customers for goods sold or services provided in the ordinary course of the Company’s business.

Trade accounts receivables are recognized initially at fair value and subsequently measured at:

(i) Fair value through profit or loss when are related to the Company’s accounts receivables portfolio outstanding at the balance sheet date that is designated at inception to be included in a forfaiting program whereby the Company, at its discretion, can discount certain outstanding trade accounts receivables and receive payments in advance. The program is used to meet short-term liquidity needs. Trade accounts receivables within this program are derecognized since all risks and rewards, control of the assets and contractual rights to receive the assets cash flows are transferred to the counterparty.

(ii) Fair value through profit or loss when are related to sales that are subsequently adjusted to changes in LME prices, which is recorded on net revenues. These accounts receivable do not meet the SPPI criteria because there is a component of commodity price risk that modifies the cash flows that otherwise would be required by the sales contract.

(iii) Amortized cost using the effective interest rate method, less impairment, when the receivables do not meet the aforementioned classifications.

Credit risk can arise from non-performance by counterparties of their contractual obligations to the Company. To ensure an effective credit risk evaluation, management applies procedures related to the application for credit granting and approvals, renewal of credit limits, continuous monitoring of credit exposure in relation to established limits and events that trigger requirements for secured payment terms. As part of the Company’s process, the credit exposures with all counterparties are regularly monitored and assessed.

The Company applies the IFRS 9 simplified approach to measure the impairment losses for trade accounts receivables. This approach requires the use of the lifetime expected credit losses on its trade accounts receivables measured at amortized cost. To calculate the lifetime expected credit losses the Company uses a provision matrix and forward-looking information. The additions to impairment of trade accounts receivables are included in selling expenses. Trade accounts receivables are generally written off when there is no expectation of recovering additional cash.

**All amounts in thousands of US dollars, unless otherwise stated**

### (a) Composition

| | 2022 | 2021 |
|---|---|---|
| Trade accounts receivables | 227,265 | 233,623 |
| Related parties - note 20 | 801 | 1,016 |
| Impairment of trade accounts receivables | (4,326) | (3,465) |
| | **223,740** | **231,174** |

### (b) Changes in impairment of trade accounts receivables

| | 2022 | 2021 |
|---|---|---|
| **Balance at the beginning of the year** | **(3,465)** | **(3,179)** |
| Additions | (1,793) | (1,586) |
| Reversals | 1,005 | 1,206 |
| Foreign exchange (losses) gains | (73) | 94 |
| **Balance at the end of the year** | **(4,326)** | **(3,465)** |

### (c) Analysis by currency

| | 2022 | 2021 |
|---|---|---|
| USD | 204,608 | 196,316 |
| BRL | 18,740 | 34,464 |
| Other | 392 | 394 |
| | **223,740** | **231,174** |

### (d) Aging of trade accounts receivables

| | 2022 | 2021 |
|---|---|---|
| Current | 212,814 | 222,083 |
| Up to 3 months past due | 10,495 | 9,201 |
| From 3 to 6 months past due | 2,181 | 51 |
| Over 6 months past due | 2,576 | 3,304 |
| | **228,066** | **234,639** |
| Impairment of trade accounts receivable | (4,326) | (3,465) |
| | **223,740** | **231,174** |

## 18 Inventory

### Accounting policy

Inventory is stated at the lower of cost and net realizable value. Cost is determined using the weighted average cost method. The cost of finished goods and work in progress comprises raw materials, direct labor, other direct costs and related fixed production overheads (based on normal operating capacity). Variable production overhead costs are included in inventory costs based on the actual production level. Imports in transit are stated at the accumulated cost of each import. At the end of the reporting period, the net realizable value of inventories is assessed and a provision for non-realizable, losses on obsolete or slow-moving inventory may be recognized.

The provision for net realizable value is estimated considering the current selling price in the ordinary course of business, less any additional selling expenses. The write-downs and reversals are recognized within Cost of sales.

**All amounts in thousands of US dollars, unless otherwise stated**

A provision for obsolete inventory, finished products, semi-finished products, raw materials and auxiliary materials is recognized when items cannot be used in normal production or sold because they are damaged or do not meet the Company's specification and is recognized as Other income and expenses.

Slow-moving provision is recognized for inventory items that are in excess of the expected normal use or sale. The amount of slow-moving provision recognized is determined based on 20% of the carrying amount for each six-month period without use or sale and is recognized as Other income and expenses.

## (a) Composition

| | 2022 | 2021 |
|---|---|---|
| Finished products | 142,935 | 157,285 |
| Semi-finished products (i) | 163,805 | 60,315 |
| Raw materials | 68,497 | 90,087 |
| Auxiliary materials and consumables | 115,562 | 94,564 |
| Inventory provisions | (95,602) | (29,749) |
| | **395,197** | **372,502** |

(i) Semi-finished products in December 2022 include the stockpile produced during Aripuanã's commissioning phase in the total amount of USD 40,303. In 2021, the amount of USD 23,009 of the ore stockpile that was included in raw material was reclassified as a semi-finished products.

## (b) Changes in the provision of the year

| | 2022 | 2021 |
|---|---|---|
| **Balance at the beginning of the year** | **(29,749)** | **(29,074)** |
| Additions (i) | (69,761) | (15,094) |
| Reversals | 4,634 | 13,986 |
| Exchange variation (losses) gains | (726) | 433 |
| **Balance at the end of the year** | **(95,602)** | **(29,749)** |

(i) The main amount is related to the provision of Aripuanã's inventory to its net realizable value for both its ore stockpile and its produced concentrates in the total amount of USD 52,215 (including depreciation of USD 16,377) as of December 31, 2022.

# 19 Other assets

| | 2022 | 2021 |
|---|---|---|
| Other recoverable taxes | 139,168 | 128,377 |
| Advances to third parties | 7,057 | 8,545 |
| Prepaid expenses | 9,858 | 10,361 |
| Judicial deposits | 16,753 | 5,446 |
| Works-for-taxes program | 7,902 | 5,338 |
| Other assets | 29,222 | 21,636 |
| | **209,960** | **179,703** |
| Current assets | 75,486 | 81,119 |
| Non-current assets | 134,474 | 98,584 |

**All amounts in thousands of US dollars, unless otherwise stated**

## 20 Related parties

### (a) Balances

| | Trade accounts receivables | | Related parties' assets | | Trade payables | | Dividends payable | | Related parties' liabilities | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Assets and liabilities** | **2022** | **2021** | **2022** | **2021** | **2022** | **2021** | **2022** | **2021** | **2022** | **2021** |
| **Parent** | | | | | | | | | | |
| Votorantim S.A. | - | - | 2 | 2 | 765 | 1,102 | - | - | - | - |
| | | | | | | | | | | |
| **Related parties** | | | | | | | | | | |
| Andrade Gutierrez Engenharia S.A. | - | - | - | - | 3,353 | 1,890 | - | - | - | - |
| Auren Comercializadora de Energia Ltda. | 1 | 302 | - | - | 976 | 945 | - | - | - | - |
| Campos Novos Energia S.A. | - | - | - | - | 9,652 | - | - | - | - | - |
| Companhia Brasileira de Alumínio | 187 | 158 | - | - | 263 | 264 | - | - | - | - |
| Votorantim Cimentos S.A. | 607 | 551 | - | - | 163 | 64 | - | - | - | - |
| Votorantim International CSC S.A.C | - | - | - | - | 1 | 306 | - | - | 487 | 152 |
| Other | 6 | 5 | - | - | 164 | 240 | 7,922 | 11,441 | 546 | 241 |
| | **801** | **1,016** | **2** | **2** | **15,337** | **4,811** | **7,922** | **11,441** | **1,033** | **393** |
| | | | | | | | | | | |
| Current | 801 | 1,016 | - | - | 15,337 | 4,811 | 7,922 | 11,441 | - | - |
| Non-current | - | - | 2 | 2 | - | - | - | - | 1,033 | 393 |
| | **801** | **1,016** | **2** | **2** | **15,337** | **4,811** | **7,922** | **11,441** | **1,033** | **393** |

All amounts in thousands of US dollars, unless otherwise stated

## (b) Transactions

| | Sales | | | Purchases | | |
|---|---|---|---|---|---|---|
| **Profit and loss** | **2022** | **2021** | **2020** | **2022** | **2021** | **2020** |
| **Parent** | | | | | | |
| Votorantim S.A. | - | - | - | 4,704 | 3,735 | 4,378 |
| | | | | | | |
| **Related parties** | | | | | | |
| Andrade Gutierrez Engenharia S.A. (ii) | - | - | - | 38,907 | 41,498 | 26,280 |
| Auren Comercializadora de Energia Ltda. | 744 | 5,993 | 9,740 | 4,974 | 16,207 | 7,721 |
| Campos Novos Energia S.A. | - | - | - | 4,954 | - | - |
| Companhia Brasileira de Alumínio | 9,708 | 8,988 | 7,828 | 8,891 | 3,736 | 1,156 |
| Votorantim Cimentos S.A. | - | - | - | 3,078 | 661 | 524 |
| Votorantim International CSC S.A.C | - | - | - | 12,480 | 4,278 | 6,638 |
| Other | - | 113 | 11 | 1,157 | 1,120 | 582 |
| | **10,452** | **15,094** | **17,579** | **79,145** | **71,235** | **47,279** |

(i) As part of the execution of the Aripuanã project, in June 2019 the Company entered into a mining development services agreement with Andrade Gutierrez Engenharia S.A., in which one of the Company director's close family member may have significant influence at its holding level. Additionally, in June 2020, NEXA entered into one additional agreement with Consórcio Construtor Nova Aripuanã (a consortium of the Andrade Gutierrez group of companies) in connection with construction services for the Aripuanã project.

## (c) Key management compensation

Key management includes the members of the Company's global executive team and Board of Directors. Key management compensation, including all benefits, was as follows:

| | **2022** | **2021** |
|---|---|---|
| Short-term benefits | 7,371 | 6,602 |
| Other long-term benefits | 158 | 664 |
| | **7,529** | **7,266** |

Short-term benefits include fixed compensation, payroll charges and short-term benefits under the Company's variable compensation program. Other long-term benefits relate to the variable compensation program.

## 21 Property, plant and equipment

### Accounting policy

Property, plant and equipment are stated at their historical cost of acquisition or construction less accumulated depreciation and any recognized impairment losses. Historical cost includes expenditures that are directly attributable to the acquisition and construction of the assets. The mining projects development costs that are registered within Property, plant and equipment include (i) direct and indirect costs attributed to building the mining facilities; (ii) financial charges incurred during the construction period; (iii) depreciation of other fixed assets used during construction; and (iv) estimated decommissioning and site restoration expenses.

Subsequent costs are included in the asset's carrying amount, or recognized as a separate asset as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Company and they can be measured reliably. The carrying amount of any component accounted for as a separate asset is derecognized when replaced. All other repairs and maintenance are charged to the income statement during the reporting period in which they are incurred.

Replacement costs are included in the carrying amount of the asset when it is probable that the Company will realize future economic benefits in excess of the benefits expected from the asset in its current condition. Replacement costs are depreciated over the remaining useful life of the related asset.

Land is not depreciated. Depreciation of other assets is calculated using the straight-line method to reduce their costs to their residual values over their estimated useful lives.

The assets' residual values and useful lives are reviewed annually and adjusted if appropriate.

An asset's carrying amount is reduced to its recoverable amount when it is greater than the estimated recoverable amount, in accordance with the criteria adopted by the Company to determine the recoverable amount.

Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognized within Other income and expenses, net in the income statement.

Loans and financings costs directly related to the acquisition, construction or production of a qualifying asset that requires a substantial period of time to prepare for its intended use or sale are capitalized as part of the cost of that asset when it is probable that future economic benefits associated with the item will flow to the Company and costs can be measured reliably.

## Stripping costs

In its surface mining operations, the Company must remove overburden and other waste to gain access to mineral ore deposits. The removal process is referred to as stripping. During the development of a mine, before production commences, when the stripping activity improves access to the ore body, the component of the ore body for which access has been improved can be identified and the costs can be measured reliably, a stripping activity asset is capitalized as part of the investment in the construction of the mine and is accounted for as part of Property, plant and equipment within Assets and projects under construction. Subsequently, when the operation starts, the stripping costs are transferred to Buildings and are depreciated by a linear calculation considering the asset's useful life.

Stripping costs incurred during the production phase of operations are treated as production costs and are part of the inventory cost.

## Mining Projects

The Company starts to capitalize a project's mineral exploration and evaluation costs at the beginning of its feasibility study phase, following completion of a pre-feasibility study in which probability of economic feasibility has been established and where there is sufficient geologic and economic certainty of converting mineral resources into proven and probable mineral reserves at a development stage (construction or execution phase) or production stage based on various factors including the known geology, metallurgy and life-of-mine ("LOM") plans.

Capitalized costs incurred during a project's mineral exploration and evaluation stages are classified within Mining projects, under Property, plant and equipment until the project starts its development stage and are only depreciated by the UoP method once the development stage finishes and the project's operation starts.

Costs incurred during a project's development stage are also capitalized under Property, plant, and equipment but within Assets and projects under construction. In this way, the capitalized mineral exploration and evaluation costs will remain within Mining projects and will only be depreciated once the development stage finishes and the project´s operation starts.

Once the development stage is finished and the project's operation starts, the capitalized development costs are reclassified to the appropriate group of assets considering their nature and are depreciated on a linear calculation based on the assets' useful life.

Based on the above, once a project begins operation, there will be depreciation coming from the project's capitalized mineral exploration and evaluation costs within the Mining projects account and based on the UoP method and from the project's capitalized development costs within the corresponding group of assets based on their useful life.

The carrying value of the capitalized mineral exploration and evaluation costs, which remain within Mining projects, and the capitalized development costs, which are within Assets and projects under construction, of the projects are assessed for impairment at least annually or whenever evidence indicates that the assets may be impaired in accordance with IFRS 6 and IAS 36. If the Company decides at any moment to discontinue the project, this could be an impairment indicator that will be assessed under the impairment test. For purposes of this impairment assessment, the projects are allocated to cash generating units ("CGUs") when applicable. The annual impairment test is disclosed in note 31.

Refer to note 8 for the Company's accounting policy related to expensed mineral exploration and project evaluation costs for mining projects.

Costs to acquire exploration legal mining rights are included as Intangible within Rights to use natural resources as explained in note 22.

### Asset retirement obligations

An asset retirement obligation is an obligation related to the permanent removal from service of a tangible long-lived asset that results from the acquisition, construction or development, or the normal operations of a tangible long-lived asset. At the initial recognition of an asset retirement obligation and at the periodical revisions of the expected disbursements and the discount rate, the changes in the liability are charged to Property, plant and equipment.

The capitalized amount recognized in Property, plant and equipment is depreciated based on the UoP method. Any reduction in the provision that exceeds the carrying amount of the asset, is immediately recognized in the income statement as Other income and expenses, net.

### Impairment

Refer to note 31 for the Company's accounting policy related to impairment of Property, plant and equipment.

**All amounts in thousands of US dollars, unless otherwise stated**

## (a) Changes in the year

| | Dam and buildings | Machinery, equipment, and facilities | Assets and projects under construction | Asset retirement obligations | Mining projects (iii) | Other | Total |
|---|---|---|---|---|---|---|---|
| | | | | | | | **2022** |
| **Balance at the beginning of the year** | | | | | | | |
| Cost | 1,054,413 | 2,330,748 | 874,776 | 202,242 | 181,528 | 35,266 | 4,678,973 |
| Accumulated depreciation and impairment | (615,428) | (1,763,377) | (62,681) | (118,439) | (16,291) | (15,027) | (2,591,243) |
| **Balance at the beginning of the year** | **438,985** | **567,371** | **812,095** | **83,803** | **165,237** | **20,239** | **2,087,730** |
| Additions (ii) | 4 | 706 | 381,223 | 22,252 | 479 | 56 | 404,720 |
| Disposals and write-offs | (568) | (369) | (430) | - | - | (82) | (1,449) |
| Depreciation | (82,293) | (109,009) | - | (5,169) | (2,120) | (1,302) | (199,893) |
| Impairment (loss) reversal of long-lived assets - note 31 | 19,802 | 7,513 | (6,168) | - | (39,910) | - | (18,763) |
| Derecognition of Nexa's share of Enercan's property, plant and equipment - note 4 (ii) | (19,688) | (8,711) | (634) | - | - | (183) | (29,216) |
| Foreign exchange effects | 18,577 | 23,855 | 37,280 | 3,686 | 1,215 | 839 | 85,452 |
| Transfers (v) – note 22 | 466,513 | 284,635 | (767,561) | - | 3,524 | 8,608 | (4,281) |
| Remeasurement of asset retirement obligations | - | - | - | (29,025) | - | - | (29,025) |
| **Balance at the end of the year** | **841,332** | **765,991** | **455,805** | **75,547** | **128,425** | **28,175** | **2,295,275** |
| Cost | 1,512,360 | 2,636,582 | 521,191 | 200,665 | 221,077 | 44,094 | 5,135,969 |
| Accumulated depreciation and impairment | (671,028) | (1,870,591) | (65,386) | (125,118) | (92,652) | (15,919) | (2,840,694) |
| **Balance at the end of the year** | **841,332** | **765,991** | **455,805** | **75,547** | **128,425** | **28,175** | **2,295,275** |
| Average annual depreciation rates % | 4 | 8 | - | UoP | UoP | | |

All amounts in thousands of US dollars, unless otherwise stated

| | | | | | | | 2021 |
|---|---|---|---|---|---|---|---|
| | Dam and buildings | Machinery, equipment, and facilities | Assets and projects under construction | Asset retirement obligation | Mining projects (iii) | Other | Total |
| **Balance at the beginning of the year** | | | | | | | |
| Cost | 1,022,432 | 2,360,426 | 596,675 | 211,650 | 292,322 | 36,816 | 4,520,321 |
| Accumulated depreciation and impairment | (567,829) | (1,734,232) | (69,143) | (124,838) | (108,698) | (17,285) | (2,622,025) |
| **Net balance at the beginning of the year** | **454,603** | **626,194** | **527,532** | **86,812** | **183,624** | **19,531** | **1,898,296** |
| Reclassification (i) | - | - | - | - | (31,851) | - | (31,851) |
| **Net balance at the beginning of the year - adjusted** | **454,603** | **626,194** | **527,532** | **86,812** | **151,773** | **19,531** | **1,866,445** |
| Additions (ii) | 12 | 671 | 507,907 | 42,739 | - | 1,576 | 552,905 |
| Disposals and write-offs | (567) | (7,663) | (454) | - | - | (1,751) | (10,435) |
| Depreciation | (56,493) | (110,895) | - | (6,436) | (2,062) | (1,143) | (177,029) |
| Foreign exchange effects | (15,963) | (23,188) | (40,278) | (2,452) | (1,027) | (631) | (83,539) |
| Transfers (iv) | 57,393 | 82,252 | (182,612) | - | 16,553 | 2,657 | (23,757) |
| Remeasurement of asset retirement obligations | - | - | - | (36,860) | - | - | (36,860) |
| **Balance at the end of the year** | **438,985** | **567,371** | **812,095** | **83,803** | **165,237** | **20,239** | **2,087,730** |
| Cost | 1,054,413 | 2,330,748 | 874,776 | 202,242 | 181,528 | 35,266 | 4,678,973 |
| Accumulated depreciation and impairment | (615,428) | (1,763,377) | (62,681) | (118,439) | (16,291) | (15,027) | (2,591,243) |
| **Balance at the end of the year** | **438,985** | **567,371** | **812,095** | **83,803** | **165,237** | **20,239** | **2,087,730** |
| Average annual depreciation rates % | 4 | 7 | - | UoP | UoP | | |

(i) Reclassification of USD 31,851 from Mining projects to Intangible assets (Rights to use natural resources), as explained in note 22 (a).

(ii) Additions include capitalized borrowing costs on Assets and projects under construction in the amount of USD 15,946 for the year ended on December 31, 2022 (December 31, 2021: USD 19,614).

(iii) Only the amounts related to the operating unit Atacocha are being depreciated under the UoP method.

(iv) Amount includes: (i) in 2021 a transfer from Assets and projects under construction to Inventories (raw materials) of USD 23,009 related to the ore pile costs that were incurred during Aripuanã´s commissioning phase and which should already be included in the Company's inventory; and (ii) USD 748 thousand related to other intangibles.

(v) Mainly related to the transfers from Assets and projects under construction to the corresponding group of assets, given the ramp-up process in Aripuanã's mining unit as explained in note 1.

## 22 Intangible assets

### Accounting policy

### Goodwill

Goodwill arising from business combinations is measured as the excess of the sum of the consideration transferred, the amount of any non-controlling interests in the acquiree, and the fair value of the acquirer's previously held equity interest in the acquiree (if any) over the net assets acquired. Goodwill is not amortized but is tested for impairment annually and whenever circumstances indicate that the carrying amount may not be recovered. Refer to note 31 for the Company's impairment accounting policy and critical estimates and assumptions and judgments.

### Rights to use natural resources

The significant costs incurred for the acquisition of legal rights to explore mining concessions and develop mineral properties are capitalized and are amortized as production costs when the associated projects start their commercial operation using the UoP method over their useful lives. Useful lives consider the period of extraction for both mineral reserves and mineral resources, which includes a portion of the Company's inferred resources in the Company's mining operations. The costs for the acquisition of legal rights attributed to mining projects are not depreciated until the project becomes operational and production activities start.

The costs incurred are impaired if the Company determines that the projects and their mineral rights associated have no future economic value. For purposes of impairment assessment, rights to use natural resources are allocated to CGUs. Refer to note 31 for the Company's impairment accounting policy.

### Critical accounting estimates, assumptions and judgments - Quantification of mineral reserves and resources for useful life calculation

The Company classifies proven and probable reserves, and measured, indicated and inferred resources based on the definitions of the United States Securities and Exchange Commission's (SEC) Modernized Property Disclosure Requirements for Mining Registrants as described in Subpart 229.1300 of Regulation S-K, Disclosure by Registrants Engaged in Mining Operations (S-K 1300) and Item 601 (b)(96) Technical Report Summary.

The useful life determination applied to the rights to use natural resources reflect the pattern in which the benefits are expected to be derived by the Company and is based on the estimated life of mine ("LOM"). Any changes to the LOM, based on new information regarding estimates of mineral reserves and mineral resources and mining plan, may affect prospectively the LOM and amortization rates.

The estimation process of mineral reserves and mineral resources is based on a technical evaluation, which includes geological, geophysics, engineering, environmental, legal and economic estimates and may have relevant impact on the economic viability of the mineral reserves and mineral resources. These estimates are reviewed periodically, and any changes are reflected in the expected LOM. Management is confident based on testing, continuity of the ore bodies and conversion experience that a part of the inferred resources will be converted into measured and indicated resources, and if they are economically recoverable, and such inferred resources may also be classified as proven and probable mineral reserves. Where the Company can demonstrate the expected economic recovery with a high level of confidence, inferred resources are included in the amortization calculation.

**All amounts in thousands of US dollars, unless otherwise stated**

However, the future conversion of inferred resources is inherently uncertain and involves estimates, assumptions and judgments that could have a material impact on the Company's results of operations.

### (a) Changes in the year

| | | | | 2022 |
|---|---|---|---|---|
| | **Goodwill (iv)** | **Rights to use natural resources** | **Other** | **Total** |
| **Balance at the beginning of the year** | | | | |
| Cost | 673,570 | 1,791,643 | 72,414 | 2,537,627 |
| Accumulated amortization and impairment | (267,342) | (1,179,373) | (34,141) | (1,480,856) |
| **Balance at the beginning of the year** | **406,228** | **612,270** | **38,273** | **1,056,771** |
| Additions (ii) | - | 57,529 | - | 57,529 |
| Amortization | - | (76,695) | (5,639) | (82,334) |
| Impairment (loss) reversal of long-lived assets – note 31 | (61,856) | 48,107 | - | (13,749) |
| Derecognition of Nexa's share of Enercan's intangible assets - note 4 (ii) | - | - | (9,382) | (9,382) |
| Foreign exchange effects | 195 | 3,661 | (45) | 3,811 |
| Transfers – note 21 | - | 2,546 | 1,735 | 4,281 |
| **Balance at the end of the year** | **344,567** | **647,418** | **24,942** | **1,016,927** |
| Cost | 611,909 | 1,855,014 | 65,246 | 2,532,169 |
| Accumulated amortization and impairment | (267,342) | (1,207,596) | (40,304) | (1,515,242) |
| **Balance at the end of the year** | **344,567** | **647,418** | **24,942** | **1,016,927** |
| | | | | |
| Average annual depreciation rates % | - | UoP | - | |

| | | | | 2021 |
|---|---|---|---|---|
| | **Goodwill (iv)** | **Rights to use natural resources** | **Other** | **Total** |
| **Balance at the beginning of the year** | | | | |
| Cost | 673,776 | 1,665,149 | 53,463 | 2,392,388 |
| Accumulated amortization and impairment | (267,342) | (1,016,279) | (32,362) | (1,315,983) |
| **Net balance at the beginning of the year** | **406,434** | **648,870** | **21,101** | **1,076,405** |
| Reclassification (i) | - | 31,851 | - | 31,851 |
| | **406,434** | **680,721** | **21,101** | **1,108,256** |
| Additions (iii) | - | - | 21,821 | 21,821 |
| Disposals | - | - | (9) | (9) |
| Amortization | - | (67,829) | (3,550) | (71,379) |
| Foreign exchange effects | (206) | (622) | (1,838) | (2,666) |
| Transfers – note 21 | - | - | 748 | 748 |
| **Balance at the beginning of the year** | **406,228** | **612,270** | **38,273** | **1,056,771** |
| Cost | 673,570 | 1,791,643 | 72,414 | 2,537,627 |
| Accumulated amortization and impairment | (267,342) | (1,179,373) | (34,141) | (1,480,856) |
| **Balance at the end of the year** | **406,228** | **612,270** | **38,273** | **1,056,771** |
| | | | | |
| Average annual depreciation rates % | - | UoP | - | |

(i) The Company identified USD 31,851 of legal mining rights that were being classified as Mining projects within Property, plant and equipment, instead of as Rights to use natural resources within Intangible assets. Given the nature of this reclassification, which is entirely between Property, plant and equipment and Intangible assets, the Company made an out-of-period adjustment, to account for the correct classification of those legal mining rights as of December 31, 2021.

(ii) The main addition is related to the offtake agreement signed on January 25, 2022 to sell 100% of the copper concentrate to be produced by Aripuanã for a specified period. As explained in note 16, this agreement replaced the obligation of future royalty payments arising from the acquisition of mining rights by the Company for the Aripuanã project. The fair value of this agreement on its inception date, in the amount of USD 46,100, was recognized as Rights to use natural resources within Intangible assets and should be amortized during the life of the mine by the UoP method.

(iii) As described in the audited consolidated financial statements for the year ended on December 31, 2021, in 2021, the Brazilian Electric Energy Chamber ("CCEE") finalized the necessary calculations for the extension of the concession period for the energy power plants that were affected by the increased costs related to the Generation Scaling Factor ("GSF"). After evaluating the amounts involved, NEXA agreed to accept the renegotiation agreement with the Brazilian Electricity Regulator Agency ("ANEEL") and to waive any future judicial claim related to the increased GSF costs. This had an impact of USD 19,407 (Picada – 5 years of extended concession period: USD 4,592; Armador Aguiar I – 6 years and 2 months of extended concession period: USD 3,293; Igarapava – 2 years and 7 months of extended concession period: USD 2,565; and Enercan – 3 years and 6 months of extended concession period: USD 8,957). These amounts were recorded as an Intangible asset against recovered energy costs in the income statement within Cost of sales, and will be amortized using the straight-line method until the end of the extended concession period without any direct cash benefit in 2021.

(iv) At December 31, 2022, the balances of the Company's recognized goodwill were: (i) USD 95,484 allocated to the Cajamarquilla CGU; and (ii) USD 249,082 allocated to the Mining Peru group of CGUs. In the third quarter of 2022, the recoverability of goodwill was tested, as explained in note 31.

## 23 Right-of-use assets and lease liabilities

### Accounting policy

Right-of-use assets represent the right to use an underlying asset for the lease term and lease liabilities represent the Company’s obligation to make lease payments arising from the lease.

Lease terms are negotiated on an individual asset basis and contractual provisions contain a wide range of different terms and conditions. The lease agreements do not impose any covenants, but leased assets may not be used as security for borrowing purposes.

The Company accounts for non-lease components such as service costs separately, whenever applicable. The Company’s lease terms may include options to extend or terminate the lease and when it is reasonably certain that we will exercise that option, the financial effect is included in the contract’s measurement.

### Measurement

Liabilities arising from a lease contract are initially measured on a present value basis, using the incremental borrowing rate approach. The incremental borrowing rate is determined by the Company based on equivalent financial costs that would be charged by a counterparty for a transaction with the same currency and a similar amount, term and risk of the lease contract. The finance cost charged to the income statement produces a constant periodic rate of interest over the lease term. On December 31, 2022, interest rates were between 5.87% to 11.39% for Brazil; and, 2.85% to 5.93% for Peru.

Lease contracts are recognized as a liability with a corresponding right-of-use asset at the date at which the leased asset is available for use by the Company. The right-of-use asset also includes any lease payments made and it is amortized over the shorter of the asset’s useful life and the lease term on a straight-line basis. Amortization expenses are classified either in Cost of sales or Administrative expenses based on the designation of the related assets.

**All amounts in thousands of US dollars, unless otherwise stated**

### (a) Right-of-use assets - Changes in the year

| | Buildings | Machinery, equipment, and facilities | IT equipment | Vehicles | 2022 Total | 2021 Total |
|---|---|---|---|---|---|---|
| **Balance at the beginning of the year** | | | | | | |
| Cost | 5,731 | 17,560 | 5,427 | 21,286 | 50,004 | 47,562 |
| Accumulated amortization | (3,844) | (12,757) | (5,427) | (15,286) | (37,314) | (28,693) |
| **Balance at the beginning of the year** | **1,887** | **4,803** | **-** | **6,000** | **12,690** | **18,869** |
| New contracts | 1,547 | 189 | 282 | - | 2,018 | 5,174 |
| Amortization | (1,235) | (2,330) | (84) | (5,061) | (8,710) | (10,303) |
| Remeasurement | 563 | (98) | - | (46) | 419 | (290) |
| Foreign exchange effects | 71 | 148 | - | 259 | 478 | (761) |
| **Balance at the end of the year** | **2,833** | **2,712** | **198** | **1,152** | **6,895** | **12,690** |
| Cost | 7,300 | 18,106 | 282 | 18,830 | 44,518 | 50,004 |
| Accumulated amortization | (4,467) | (15,394) | (84) | (17,678) | (37,623) | (37,314) |
| **Balance at the end of the year** | **2,833** | **2,712** | **198** | **1,152** | **6,895** | **12,690** |
| Average annual amortization rates % | 31 | 34 | 33 | 34 | | |

### (b) Lease liabilities - Changes in the year

| | 2022 | 2021 |
|---|---|---|
| **Balance at the beginning of the year** | **19,638** | **25,689** |
| New contracts | 2,018 | 5,174 |
| Payments of lease liabilities | (17,091) | (9,827) |
| Interest paid on lease liabilities | (994) | (1,415) |
| Remeasurement | 419 | (302) |
| Accrued interest – note 10 | 542 | 1,272 |
| Foreign exchange effects | 489 | (952) |
| **Balance at the end of the year** | **5,021** | **19,638** |
| Current liabilities | 3,661 | 16,246 |
| Non-current liabilities | 1,360 | 3,393 |

## 24 Loans and financings

### Accounting policy

Loans and financings are initially recognized at fair value, net of transaction costs incurred, and are subsequently measured at amortized cost, unless they are designated as fair value option, if necessary to eliminate the accounting mismatch that would arise if amortized cost were used. Any difference between the proceeds (net of transaction costs) and the total amount payable is recognized in the income statement as interest expense over the period of the loans using the effective interest rate method, except for the loans measured at fair value.

Loans and financings are classified as current liabilities unless the Company has the unconditional right to defer repayment of the liability for at least 12 months after the reporting period.

Fees paid on the establishment of loan facilities are recognized as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. In this case, the fee is deferred until the drawdown occurs.

**All amounts in thousands of US dollars, unless otherwise stated**

To the extent that there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalized as a prepayment for liquidity services and amortized over the period of the facility to which it relates.

## (a) Composition

| | | | | Total | | | Fair Value |
|---|---|---|---|---|---|---|---|
| | | | | 2022 | 2021 | 2022 | 2021 |
| **Type** | **Average interest rate** | **Current** | **Non-current** | **Total** | **Total** | **Total** | **Total** |
| Eurobonds – USD | Pre-USD 5.84% | 18,656 | 1,191,827 | 1,210,483 | 1,338,334 | 1,162,741 | 1,440,920 |
| BNDES | TJLP + 2.82 %<br>SELIC + 3.10 %<br>TLP - IPCA + 5.46 % | 26,105 | 190,211 | 216,316 | 215,801 | 183,452 | 180,565 |
| Export credit notes | LIBOR + 1.54 %<br>134.20% CDI<br>SOFR + 2.5% | 5,500 | 227,290 | 232,790 | 135,077 | 227,201 | 136,389 |
| Debentures | 107.5 % CDI | - | - | - | 4,916 | - | 4,901 |
| Other | | 579 | 9,091 | 9,670 | 5,187 | 7,054 | 4,192 |
| | | **50,840** | **1,618,419** | **1,669,259** | **1,699,315** | **1,580,448** | **1,766,967** |

## (b) Loans and financing transactions during the year ended on December 31, 2022

On March 18, 2022, the Company entered into an Export Credit Note agreement in the total principal amount of USD 90,000 (equivalent to BRL 459,468 thousand) with maturity in 2027, and an interest rate of 2.5% plus the 6-month TERM SOFR (Secured Overnight Financing Rate).

On March 28, 2022, the Company completed the early redemption and cancellation of all outstanding 4.625% Senior Notes due in 2023. Holders of the 2023 Notes tendered an aggregate principal amount of USD 128,470. In this transaction, the Company also paid an amount of USD 2,971 of accrued interest and USD 3,277 of premium paid over the notes, which was recognized in Net financial results (note 10).

## (c) Changes in the year

| | 2022 | 2021 |
|---|---|---|
| **Balance at the beginning of the year** | **1,699,315** | **2,024,314** |
| New loans and financings | 95,621 | 59,771 |
| Debt issue costs | (63) | (178) |
| Payments of loans and financings | (24,639) | (251,044) |
| Bonds repurchase | (128,470) | - |
| Prepayment of fair value debt | - | (90,512) |
| Foreign exchange effects | 22,695 | (21,066) |
| Changes in fair value of financing liabilities related to changes in the Company´s own credit risk | (521) | 5,066 |
| Changes in fair value of loans and financings | 1,472 | (10,784) |
| Write-off of fair value of loans and financings | - | (8,596) |
| Interest accrual | 110,679 | 113,456 |
| Interest paid on loans and financings | (109,263) | (121,112) |
| Amortization of debt issue costs | 2,433 | - |
| **Balance at the end of the year** | **1,669,259** | **1,699,315** |

All amounts in thousands of US dollars, unless otherwise stated

## (d) Maturity profile

| | 2023 | 2024 | 2025 | 2026 | 2027 | As from 2028 | 2022 Total |
|---|---|---|---|---|---|---|---|
| Eurobonds – USD (i) | 18,656 | (2,149) | (2,216) | (2,287) | 698,561 | 499,918 | 1,210,483 |
| BNDES | 26,105 | 24,773 | 23,722 | 21,154 | 13,454 | 107,108 | 216,316 |
| Export credit notes | 5,500 | 88,907 | 48,382 | - | 90,000 | 1 | 232,790 |
| Other | 579 | 97 | 1,285 | 1,285 | 1,285 | 5,139 | 9,670 |
| | **50,840** | **111,628** | **71,173** | **20,152** | **803,300** | **612,166** | **1,669,259** |

(i) The negative balances refer to related funding costs (fee) amortization.

## (e) Analysis by currency

| | Current | Non-current | 2022 Total | 2021 Total |
|---|---|---|---|---|
| USD | 21,861 | 1,370,764 | 1,392,625 | 1,426,962 |
| BRL | 28,535 | 247,655 | 276,190 | 270,571 |
| Other | 444 | - | 444 | 1,782 |
| | **50,840** | **1,618,419** | **1,669,259** | **1,699,315** |

## (f) Analysis by index

| | Current | Non-current | 2022 Total | 2021 Total |
|---|---|---|---|---|
| Fixed rate | 19,144 | 1,191,828 | 1,210,972 | 1,340,247 |
| LIBOR | 1,474 | 88,937 | 90,411 | 88,677 |
| TLP | 14,348 | 160,924 | 175,272 | 170,324 |
| BNDES SELIC | 7,943 | 19,853 | 27,796 | 29,680 |
| CDI | 2,369 | 48,353 | 50,722 | 51,316 |
| SOFR | 1,657 | 90,000 | 91,657 | - |
| TJLP | 3,830 | 18,524 | 22,354 | 19,071 |
| Other | 75 | - | 75 | - |
| | **50,840** | **1,618,419** | **1,669,259** | **1,699,315** |

## (g) Guarantees and covenants

The Company has loans and financings that are subject to certain financial covenants at the consolidated level, such as: (i) leverage ratio; (ii) capitalization ratio; and (iii) debt service coverage ratio. When applicable, these compliance obligations are standardized for all debt agreements. No changes to the contractual guarantees occurred in the period ended on December 31, 2022.

As of December 31, 2022, the Company was in compliance with all its financial covenants, as well as the Company was compliant with other qualitative covenants.

## 25 Trade Payables

### Accounting policy

Trade payables represent liabilities for goods and services that were provided to the Company before the end of the financial year which are unpaid. Trade and other payables are presented as current liabilities unless payment is not due within 12 months after the reporting period. These amounts are recognized initially at their fair value and subsequently measured at amortized cost using the effective interest method.

## (a) Composition

| | 2022 | 2021 |
|---|---|---|
| Trade payables | 398,519 | 407,007 |
| Related parties - note 20 | 15,337 | 4,811 |
| | **413,856** | **411,818** |

## 26 Confirming Payables

### Accounting policy

The Company has contracts with some suppliers in which the commercial payment term is 180 days. In these contracts, the suppliers have the option to request a bank to advance the payment of their commercial invoice within 180 days, before the invoice matures. As a result of those contracts between the suppliers and the bank, the commercial terms agreed with the Company do not change. In accordance with the commercial agreement, the supplier communicates to the Company its interest in selling the invoice to the bank, and it is only the supplier who can decide to sell its invoice at any time during the commercial period. With this option, suppliers can improve their working capital position. The bank pays the supplier with an interest discount and the Company assumes part of the interest payment to the supplier.

Applying the concepts of IFRS 9, this transaction maintains its essence as a trade account payable since the Group has not derecognized the original liabilities to which the agreement applies because neither a legal release was obtained, nor the original liability was substantially modified in the execution of the agreement. The Company understands that the 180-day period can be considered common for the sector, as it is a specific product and the 90% of the outstanding balance of the concentrate belongs to these suppliers. The Company, however, understands that the separate presentation of these accounts within Confirming payables is relevant to the understanding of the entity's financial position.

Payments of the principal amounts and interest reimbursements are presented within the operating activities group in the Company's cash flow statement, in accordance with IAS 7.

The total amount of interests paid in the reverse factoring program in 2022 was of USD 932 (December 31, 2021: USD 1,290).

As of December 31, 2022, accounts payable of USD 216,392 were included in these contracts (December 31, 2021: USD 232,860; December 31, 2020: USD 145,295).

## 27 Asset retirement and environmental obligations

### Accounting policy

Provision for asset retirement obligations include costs to restoration and closure of the mining assets and is recognized due to the development or mineral production, based on the net present value of estimated closure costs. Management uses its judgment and previous experience to determine the potential scope of rehabilitation work required and the related costs associated with that work, which are recognized as a Property, plant and equipment for asset retirement obligations relating to operating mining assets or as Other income and expenses, net for non-operating structures.

Environmental obligations include costs related to rehabilitation of areas damaged by the Company in its extractive actions (for example - soil contamination, water contamination, among others) or penalties. Therefore, it becomes an event that creates obligations when these environmental damages are detected by the Company, when a new law requires that the existing damage be rectified or when the Company publicly accepts any responsibility for the rectification, creating a constructive obligation. The costs to remedy an eventual unexpected contamination, which give rise to a probable loss and can be reliably estimated, must be recognized in Other income and expenses, net in income statement.

**All amounts in thousands of US dollars, unless otherwise stated**

In addition, investments in infrastructure, machinery and equipment regarding operational improvements to avoid future environmental damage, are not provisioned, because it is expected that these assets will bring future economic benefits to the operating units, thus it is capitalized as Property, plant and equipment.

The cash flows are discounted to present value using a credit risk-adjusted rate that reflects current market assessments of the time value of the money and the specifics risks for the asset to be restored. The interest rate charges relating to the liability are recognized as an accretion expense in the Net financial results. Difference in the settlement amount of the liability is recognized in the income statement.

### Critical accounting estimates, assumptions and judgments

The initial recognition and the subsequent revisions of the asset retirement obligations and environmental obligations consider critical future closure and repairing costs and several assumptions such as interest rates, inflation, useful lives of the assets and the estimated moment that the expenditure will be executed. These estimates are reviewed annually by the Company or when there is a relevant change in these assumptions.

Cost estimates can vary in response to many factors of each site that include timing, expected LOM, changes to the relevant legal or government requirements and commitments with stakeholders, review of remediation and relinquishment options, emergence of new restoration techniques, among others.

External experts support the cost estimation process where appropriate. These factors either isolated or consolidated could significantly affect the future financial results and balance sheet position.

### (a) Changes in the year

| | | | 2022 | 2021 |
|---|---|---|---|---|
| | Asset retirement obligations | Environmental obligations | Total | Total |
| **Balance at the beginning of the year** | **221,710** | **42,441** | **264,151** | **276,046** |
| Additions (ii) | 26,116 | 8,920 | 35,036 | 51,893 |
| Payments | (14,879) | (10,514) | (25,393) | (26,255) |
| Foreign exchange effects | 6,034 | 3,126 | 9,160 | (7,851) |
| Interest accrual | 20,014 | 3,648 | 23,662 | 9,667 |
| Remeasurement - discount rate (i) / (ii) | (39,072) | (1,225) | (40,297) | (39,350) |
| **Balance at the end of the year** | **219,923** | **46,396** | **266,319** | **264,151** |
| Current liabilities | 18,658 | 4,988 | 23,646 | 31,953 |
| Non-current liabilities | 201,265 | 41,408 | 242,673 | 232,197 |

(i) As of December 31, 2022, the credit risk-adjusted rate used for Peru was between 10.92% and 12.04% (December 31, 2021: 3.54% and 7.28%) and for Brazil was between 8.22% and 8.61% (December 31, 2021: 7.68% and 8.67%).

(ii) The change in the period ended on December 31, 2022, was mainly due to the time change in the expected disbursements on decommissioning obligations in certain operations, in accordance with updates in their asset retirement and environmental obligations studies, and by the increase in the discount rates, as described above. In this way, asset retirement obligations for operational assets, decreased in an amount of USD 6,773 (December 31, 2021: increase of USD 5,879) as shown in note 21; and asset retirement and environmental obligations for non-operational assets expense in USD 1,512 (December 31, 2021: expense of USD 6,664) as shown in note 9.

**All amounts in thousands of US dollars, unless otherwise stated**

## 28 Provisions

### Accounting policy

### Provisions for legal claims and judicial deposits

Provisions for legal claims are recognized when there is a combination of the following conditions: (i) the Company has a present legal or constructive obligation as a result of past events; (ii) it is probable (more likely than not) that an outflow of resources will be required to settle the obligation; and (iii) the amount can be reliably estimated. The provisions are periodically estimated, and the likelihood of losses is supported by the Company's legal counsel.

Provisions are measured at the present value of the expenditure expected to be required to settle the obligation using a discount rate that reflects current market assessments of the time value of money and the risks specific to the obligation. The increase in the provision due to the passage of time is recognized as Financial expenses.

When a claim is secured by a judicial deposit, the Company offsets the provision with the judicial deposit amount in the consolidated balance sheet. However, the Company also has judicial deposits for claims for which the likelihood of loss is possible or remote and for which no provision is recognized. In such cases, these amounts are recognized as outstanding judicial deposits in the Company’s assets.

### Critical accounting estimates and assumptions – Provisions for legal claims

The Company is part of ongoing tax, labor, civil and environmental lawsuits which are pending at different court levels. The provisions for potentially unfavorable outcomes of litigation in progress are established and updated based on management evaluation and require a high level of judgment regarding the matters involved, supported by the positions of external legal advisors. Income tax claims are discussed at the current and deferred income tax section (note 11).

### (a) Changes in the year

| | | | | | 2022 | 2021 |
|---|---|---|---|---|---|---|
| | Tax | Labor | Civil | Environmental | Total | Total |
| **Balance at the beginning of the year** | **4,535** | **18,674** | **703** | **12,916** | **36,828** | **30,896** |
| Additions (i) | 4,282 | 5,016 | 724 | 3,126 | 13,148 | 33,305 |
| Derecognition of Nexa’s share of Enercan’s provisions – note 4 (ii) | (311) | - | - | - | (311) | - |
| Reversals | (722) | (3,288) | (409) | (1,065) | (5,484) | (20,132) |
| Interest accrual | 547 | 1,494 | (383) | 96 | 1,754 | 746 |
| Payments | (802) | (1,936) | (1,180) | (666) | (4,584) | (5,327) |
| Foreign exchange effects | 398 | 1,117 | 89 | 662 | 2,266 | (2,385) |
| Other | 232 | (557) | 700 | (95) | 280 | (275) |
| **Balance at the end of the year** | **8,159** | **20,520** | **244** | **14,974** | **43,897** | **36,828** |

(i) Brazillian Court of Justice ruled against the appeal filed by the Company related with a proceeding in which the tax authorities of the State of Minas Gerais charge VAT applied to interstate sales for manufactured goods with imported content. This decision resulted in a new assessment of the likelihood of this proceeding by the Company in 2022, changing from possible to probable, and according with this change in the evaluation a provision in the amount of USD 3,583 was registered. Currently the proceeding awaits decision by Brazillian Supreme Federal Court and Superior Court of Justice.

**All amounts in thousands of US dollars, unless otherwise stated**

### (b) Breakdown of legal claims provisions

The provisions and the corresponding judicial deposits are as follows:

| | | | 2022 | | | 2021 |
|---|---|---|---|---|---|---|
| | Judicial deposits | Provisions | Carrying amount | Judicial deposits | Provisions | Carrying amount |
| Tax | (1,200) | 9,359 | 8,159 | (1,528) | 6,062 | 4,534 |
| Labor | (3,399) | 23,919 | 20,520 | (2,752) | 21,431 | 18,679 |
| Civil | - | 244 | 244 | (751) | 1,451 | 700 |
| Environmental | - | 14,974 | 14,974 | - | 12,915 | 12,915 |
| **Balance at the end of the year** | **(4,599)** | **48,496** | **43,897** | **(5,031)** | **41,859** | **36,828** |

The outstanding judicial deposits of the Company as of December 31, 2022 that are not presented net of the provisions are USD 16,753 (December 31, 2021: USD 5,446).

### (c) Contingent liabilities

Legal claims that have a possible likelihood that an obligation will arise are disclosed in the Company's financial statements. The Company does not recognize a liability because it is not probable that an outflow of resources will be required or because the amount of the liability cannot be reliably calculated. These legal claims are summarized below:

| | 2022 | 2021 |
|---|---|---|
| Tax (i) | 134,637 | 156,779 |
| Labor (ii) | 41,454 | 36,215 |
| Civil (iii) | 16,946 | 14,618 |
| Environmental (iv) | 112,541 | 97,027 |
| | **305,578** | **304,639** |

### (i) Comments on contingent tax liabilities

The main contingent liabilities relating to tax lawsuits are discussed below.

#### Income tax over transfers of shares in Peru

Relates to assessments issued by the SUNAT, where the Company was jointly and severally liable for the payment of income tax by a foreign investor, in a supposed capital gain on transfer of shares. The estimated financial effect of this contingent liability is USD 60,784.

#### Compensation for exploration for mineral resources

Relates to assessments issued by the Brazilian National Department of Mineral Production for the alleged failure to pay or underpayment of financial compensation for the exploration of mineral resources ("CFEM"). The estimated financial effect of this contingent liability is USD 11,219.

#### Indirect taxes on sales

Relates to assessments issued by the Brazilian Internal Revenues Service concerning certain credits taken by the Company when calculating those indirect taxes on sales. The estimated financial effect of this contingent liability is USD 3,802.

#### Value-added tax on sales

Relates to assessments issued by the tax authorities of the State of Minas Gerais concerning the following:

- Incidence of value-added tax on sales of certain energy contracts. The estimated financial effect of this contingent liability is USD 20,439.

- The Company was challenged by the tax authorities regarding certain credits to the purchases of property, plant and equipment. The estimated financial effect of this contingent liability is USD 7,046.

### (ii) Comments on contingent labor liabilities

Include several claims filed by former employees, third parties and labor unions and labor public attorney's office mostly claiming the payment of indemnities related to dismissals, such as overtime, work at night hours, commuting hours, health hazard premiums and hazardous duty premiums, as well as indemnity claims by former employees and third parties based on alleged occupational illnesses, work accidents and payment of social benefits. The individual amount of the claims are not material.

### (iii) Comments on contingent civil liabilities

The main contingent civil liability is related to indemnity lawsuits against the Company alleging property, contractual and general damages/losses. The estimated financial effect of this contingent liability is USD 16,374.

### (iv) Comments on contingent environmental liabilities

The main contingent environmental liabilities in Brazil were filed by fishermen communities against the Company for indemnification, compensation for material and moral damages due to alleged pollution of the São Francisco River close to the Company's Três Marias operation in Brazil. The estimated financial effect of these contingent liabilities is USD 76,386.

## 29 Contractual obligations

### Accounting policy

Contractual obligations consist of advance payments received by the Company under a silver streaming agreement, signed with a counterparty (the "Streamer") and by which referential silver contents found in the ore concentrates produced by the Company's Cerro Lindo mining unit are sold to the Streamer.

Determining the accounting treatment of silver streaming transactions requires the exercise of high degree of judgment.

The Company assesses whether those advances obtained under this agreement should be recognized as contractual obligations (a sale of a non-financial item) or as a financial liability. For that purpose, the Company takes into consideration factors such as which party is exposed to the operational risk, the risk of access to the resources, the price risk, and assesses whether the transaction involves a sale of an own use asset for the counterparty. In those cases, in which the Company concludes that, in essence, the Streamer shares substantially the operational risks, the resource access and price risks, it delivers a non-financial item that qualifies as an "own use" item; any advance payment obtained is recognized as a contractual obligation in the framework of IFRS 15: Revenue from contracts with customers. Otherwise, the Company would recognize a financial liability in the framework of the provisions of IFRS 9: Financial instruments.

When a contractual obligation is recognized, the balance is initially recognized at the amount received, and it is subsequently recognized as revenue when the control of the respective assets is transferred, that is, upon the physical delivery of the nonfinancial item (silver certificate). Contractual obligations are recognized within non-current liabilities, except for the portion of silver certificates that are estimated to be delivered over the 12 months following the balance sheet date.

**All amounts in thousands of US dollars, unless otherwise stated**

The advance payment obtained under the silver streaming transaction entered by the Company in 2016 is recognized as contractual obligation to the extent that the risk assessment conducted by the management indicates the relevant risks are substantially shared with the Streamer and the qualifying conditions of a sale of an "own use" item are met.

### Determination of the transaction price

The transaction price is the amount of consideration to which the Company expects to be entitled in return for transferring the promised goods to its counterparty. The transaction price is allocated to each performance obligation based on the relative standalone selling prices. In the silver streaming transaction, the Company has variable considerations related to the production capacity of the mine linked to its LOM and to the LME. IFRS 15 requires that for contracts containing variable considerations, the transaction price be continually updated and re-allocated to the transferred goods. For this purpose, the contractual obligations require an adjustment to the transaction price per unit each time there is a change in the underlying production profile of a mine or the expected metal prices. The change in the transaction price per unit results in a retroactive adjustment to revenues in the period in which the change is made, reflecting the new production profile expected to be delivered under the streaming agreement or the expected metal prices. A corresponding retroactive adjustment is made to accretion expenses, reflecting the impact of the change in the contractual obligation balance.

### Critical accounting estimates, assumptions and judgments

The recognition of revenues and of the contractual obligation related to the silver transaction require the use of critical accounting estimates and assumptions including, but not limited to: (i) allocation of revenues on relative prices; (ii) estimate prices for determining the upfront payment; (iii) discount rates used to measure the present value of future inflows and outflows; and (iv) estimates of LOM, reserves and mineral production.

### (a) Composition

In 2016, the Company entered a silver streaming arrangement, which consisted of an upfront payment of USD 250,000 for the anticipated sale of a portion of the silver contained in the ore concentrates produced by the Cerro Lindo mining unit. The advance payment was recognized as a Contractual obligation and the corresponding revenues are recognized as the silver is delivered, which is the time that the contractual performance obligations are satisfied.

The changes in the contractual obligation are shown below:

| | 2022 | 2021 |
|---|---|---|
| **Balance at the beginning of the year** | **147,232** | **166,025** |
| Revenues recognition upon ore delivery | (31,438) | (45,309) |
| Remeasurement adjustment (i) | 10,565 | 19,580 |
| Accretion for the year – note 10 | 5,801 | 6,936 |
| **Balance at the end of year** | **132,160** | **147,232** |
| Current | 26,188 | 33,156 |
| Non-current | 105,972 | 114,076 |

(i) In September 2022, the Company recognized a remeasurement adjustment in its contractual obligations of silver streaming with a corresponding reduction in revenues for an amount of USD 10,565 and an increase in accretion for an amount of USD 1,041 (September 30, 2021: USD 19,312 and USD 1,658, respectively), given the higher long-term prices and the updated mine plan for its Cerro Lindo Mining Unit. According to the Company's silver streaming accounting policy, prices and changes in the LOM given an update in mine plans are variable considerations and then, the recognized income under the streaming agreement should be adjusted to reflect the updated variables.

## 30 Shareholders' equity

### Accounting policy

Common shares are classified in shareholders' equity. Each time a share premium is paid to the Company for an issued share, the respective share premium is allocated to the share premium account. Each time the repayment of a share premium is decided, such repayment shall be done pro-rata to the existing shareholders.

The distribution of dividends to the Company's shareholders is recognized as a liability in the Company's consolidated financial statements in the period in which the dividends are approved by the Company's shareholders.

Shares repurchased under buyback programs that are not cancelled, are reported as treasury shares and are deducted from shareholders' equity. These shares are also deducted in the earnings per share calculation.

### (a) Capital

As of December 31, 2022, the outstanding capital of USD 132,439 (2021: USD 132,439) is comprised of 132,439 thousand subscribed and issued common shares (2021: 132,439 thousand), with par value of US$ 1.00 per share. In addition to the subscribed and issued common shares, NEXA also has an authorized, but unissued and unsubscribed share capital set at USD 231,925.

### (b) Treasury shares

On June 4, 2020, at NEXA's Extraordinary General Meeting ("EGM"), the Company's shareholders approved the cancellation of the 881,902 shares held in treasury, purchased based on a share buyback program in prior years. For this reason, after the cancellation that occurred on June 4, 2020, VSA holds 64.68% of NEXA's equity.

### (c) Share premium

The share premium, if any, may be distributed to the shareholders in accordance with Luxembourg Commercial Companies Act by a resolution of the Board of Directors.

### (d) Additional paid in capital

Additional paid in capital arises from transactions recognized in equity that do not qualify as capital or share premium in accordance with Luxembourg Commercial Companies Act and, therefore, cannot be distributed to the shareholders of the Company.

### (e) Accumulated other comprehensive income

The changes in the accumulated other comprehensive income are as follows:

| | Cumulative translation adjustment | Hedge accounting | Changes in fair value of financial instruments | Total |
|---|---|---|---|---|
| **At January 01, 2020** | **(130,903)** | **1,263** | **-** | **(129,640)** |
| Translation adjustment on foreign subsidiaries | (138,840) | - | - | (138,840) |
| Cash flow hedge accounting | - | 3 | - | 3 |
| Changes in fair value of financial liabilities related to changes in the Company's own credit risk | - | - | (875) | (875) |
| **At December 31, 2020** | **(269,743)** | **1,266** | **(875)** | **(269,352)** |
| Translation adjustment on foreign subsidiaries | (64,575) | - | - | (64,575) |
| Cash flow hedge accounting | - | 327 | - | 327 |
| Changes in fair value of financial liabilities related to changes in the Company's own credit risk | - | - | (7,441) | (7,441) |
| Changes in fair value of investments in equity instruments | - | - | (2,632) | (2,632) |
| **At December 31, 2021** | **(334,318)** | **1,593** | **(10,948)** | **(343,673)** |
| Translation adjustment on foreign subsidiaries | 65,243 | - | - | 65,243 |
| Cash flow hedge accounting | - | (331) | - | (331) |
| Changes in fair value of financial liabilities related to changes in the Company's own credit risk | - | - | 343 | 343 |
| Changes in fair value of investments in equity instruments | - | - | (3,608) | (3,608) |
| **At December 31, 2022** | **(269,075)** | **1,262** | **(14,213)** | **(282,026)** |
| Attributable to NEXA's shareholders | | | | (243,124) |
| Attributable to non-controlling interests | | | | (38,902) |

### (f) Earnings per share

Basic earnings per share are computed by dividing the net income attributable to NEXA's shareholders by the average number of outstanding shares for the year. Diluted earnings per share is computed in a similar way, but with the adjustment in the denominator when assuming the conversion of all shares that may be dilutive. The Company does not have any potentially dilutive shares and consequently the basic and diluted earnings per share are the same.

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Net income (loss) for the year attributable to NEXA's shareholders | 49,101 | 114,332 | (559,247) |
| Weighted average number of outstanding shares – in thousands | 132,439 | 132,439 | 132,439 |
| **Earnings (losses) per share - USD** | **0.37** | **0.86** | **(4.22)** |

### (g) Dividend distribution

On February 15, 2022, the Company's Board of Directors approved, subject to ratification by the Company's shareholders at the 2023 annual shareholders' meeting in accordance with Luxembourg laws, a cash distribution to the Company's shareholders of USD 50,000. From this amount, USD 43,874 were distributed as dividends (cash dividend) and USD 6,126, as share premium (special cash dividend). This cash distribution was paid on March 25, 2022.

Additionally, the Company's subsidiary, Pollarix, declared dividends to non-controlling interests, owned by Auren Energia S.A. (formerly Votorantim Geração de Energia S.A.), which is a related party, in the amounts of (i) USD 14,951 (BRL 73,515), on April 29, 2022; (ii) USD 3,163 (BRL 16,622), on December 27, 2022; and (iii) USD 4,961 (BRL 25,883), on December 31, 2022. From these amounts and from dividends declared in previous periods, payments of USD 9,449 (BRL 46,458), USD 2,996 (BRL 15,714) and USD 12,147 (BRL 63,825) were made in May, September and December of 2022, respectively.

**All amounts in thousands of US dollars, unless otherwise stated**

### (h) Non-controlling interests

| Summarized balance sheet | NEXA PERU | | Pollarix S.A. | |
|---|---|---|---|---|
| | 2022 | 2021 | 2022 | 2021 |
| Current assets | 658,099 | 680,609 | 9,822 | 23,070 |
| Current liabilities | 260,980 | 288,736 | 8,820 | 13,279 |
| **Current net assets** | **397,119** | **391,873** | **1,002** | **9,791** |
| | | | | |
| Non-current assets | 1,282,556 | 1,345,420 | 68,984 | 53,516 |
| Non-current liabilities | 409,106 | 566,059 | - | - |
| **Non-current net assets** | **873,449** | **779,361** | **68,984** | **53,516** |
| | | | | |
| **Net assets** | **1,270,568** | **1,171,234** | **69,985** | **63,307** |
| | | | | |
| Accumulated non-controlling interests | 217,167 | 213,997 | 50,842 | 44,011 |

| Summarized income statement | NEXA PERU | | Pollarix S.A. | |
|---|---|---|---|---|
| | 2022 | 2021 | 2022 | 2021 |
| Net revenues | 892,389 | 828,571 | 6,906 | 20,996 |
| Net income for the year | 106,501 | 94,706 | 29,635 | 39,136 |
| Other comprehensive income (loss) | 7,308 | (940) | 9,686 | (2,977) |
| **Total comprehensive income for the year** | **113,809** | **93,766** | **39,321** | **36,159** |
| | | | | |
| Comprehensive income attributable to non-controlling interests | 1,199 | 12,991 | 30,870 | 24,947 |
| **Dividends paid to non-controlling interests** | **-** | **-** | **24,592** | **23,730** |

| Summarized statement of cash flows | NEXA PERU | | Pollarix S.A. | |
|---|---|---|---|---|
| | 2022 | 2021 | 2022 | 2021 |
| Net cash provided by (used in) operating activities | 196,850 | 179,842 | 4,474 | (8,522) |
| Net cash used in investing activities | (86,969) | (93,632) | - | - |
| Net cash (used in) provided by financing activities | (137,426) | (92,905) | (6,945) | 8,997 |
| **(Decrease) increase in cash and cash equivalents** | **(28,582)** | **(8,542)** | **(2,471)** | **475** |

## 31 Impairment of long-lived assets

### Accounting policy

### Impairment of goodwill

As part of the impairment testing procedures, the goodwill arising from a business combination is allocated to a CGU or groups of CGUs that are expected to benefit from the related business combination and is tested at the lowest level that goodwill is monitored by management. Goodwill is tested annually for impairment during the third quarter, regardless of whether there has been an impairment indicator or, more frequently, if circumstances indicate that the carrying amount may not be recovered.

### Impairment of long-lived assets

The Company assesses at each reporting date, whether there are indicators that the carrying amount of an asset or CGU, including goodwill balance, may not be recovered. If any indicator exists, such as a change in forecasted commodity prices, a significant increase in operational costs, a significant decrease in production volumes, a reduction in LOM, the cancelation or significant reduction in the scope of a project, market conditions or unusual events that can affect the business, the Company estimates the recoverable amount of the assets or CGUs.

The recoverable amount is estimated by reference to the higher of an asset's or CGU's fair value less cost of disposal ("FVLCD") and its value in use ("VIU"). The recoverable amount is determined for an individual asset unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets, in which case, the asset is tested as part of a larger CGU to which it belongs.

If the carrying amount of an asset or CGU exceeds its recoverable amount, the asset or CGU is considered impaired and is reduced to its recoverable amount. Non-financial assets other than goodwill that were adjusted due to impairment are subsequently reviewed for possible reversal of the impairment at each reporting date. Generally, the opposite of indicators that gave rise to an impairment loss would be considered indicators that impairment losses might have to be reversed. If the underlying reasons for the original impairment have been removed or the service potential of the asset or CGU has increased, an assessment of impairment reversals is performed by the Company. Reversals of impairment losses that arise simply from the passage of time or related with prior goodwill impairments are not recognized.

For individual assets, if there is any indicator that an asset become unusable by damage or a decision that would lead the asset to not contribute economically to the Company, it is impaired. In addition, greenfields, projects for which the Company decides to quit exploration and there is no expectation that in the future will bring cash inflows are also impaired.

## Impairment of exploration and evaluation costs and development projects costs

Exploration assets representing mineral rights acquired in business combinations, mineral rights, and other capitalized exploration and evaluation costs, as well as development projects costs capitalized included in Property, plant and equipment are tested for impairment in aggregation with CGU or groups of CGUs that include producing assets or tested individually through FVLCD when there are indicators that capitalized costs might not be recoverable. The allocation of exploration and evaluation costs, and development project costs to CGUs or group of CGUs is based on 1) expected synergies or share of producing assets infrastructure, 2) legal entity level, and 3) country level. When testing a CGU or a group of CGUs that include exploration and evaluation costs and development project costs, the Company performs the impairment test in two steps. In the first step, producing assets or group of producing assets are tested for impairment on an individual basis. In the second step, exploration and evaluation costs and development project costs are allocated to a CGU or a group of CGUs and tested for impairment on a combined basis.

## Valuation methods and assumptions for recoverable amount based on FVLCD

FVLCD

FVLCD is an estimate of the price that the Company would receive to sell an asset, CGU or group of CGUs in an orderly transaction between market participants at the measurement date, less the cost of disposal. FVLCD is not an entity-specific measurement but is focused on market participants' assumptions for a particular asset when pricing the asset. FVLCD is estimated by the Company using discounted cash flows techniques (using a post-tax discount rate) and market past transaction multiples (amount paid per ton of minerals for projects in similar stages) for greenfield projects for which resources allocation is under review, although the Company considers observable inputs, a substantial portion of the assumptions used in the calculations are unobservable. These cash flows are classified as level 3 in the fair value hierarchy. No CGUs are currently assessed for impairment by reference to a recoverable amount based on FVLCD classified as level 1 or level 2.

VIU

VIU is determined as the present value of the estimated future cash flows expected to arise from the continued use of the asset in its current condition and its residual value. VIU is determined by applying assumptions specific to the Company's continued use and does not consider enhancements or future developments. These assumptions are different from those used in calculating FVLCD and consequently the VIU calculation is likely to give a different result (usually lower) than a FVLCD calculation. Additionally, it is applied to the estimated future cash flows a pre-tax discount rate.

Forecast assumptions

The cash flow forecasts are based on management's best estimates of expected future revenues and costs, including the future cash costs of production, capital expenditure, and closure, restoration, and environmental costs. The resulting estimates are based on detailed LOM and long-term production plans. When calculating FVLCD, these forecasts include capital and operating expenditures related to expansions and restructurings of both brownfield and greenfield projects that a market participant would consider in seeking to obtain the highest and best use of the asset, considering their evaluation, eventual changes in their scope or feasibility, and their development stage.

The cash flow forecasts may include net cash flows expected to be realized from the extraction, processing and sale of material that does not currently qualify for inclusion in ore reserves. Such non-reserve material is only included when the Company has confidence it will be converted to reserves. This expectation is usually based on preliminary drilling and sampling of areas of mineralization that are contiguous with existing ore reserves, as well as on the historical internal conversion ratio. Typically, the additional evaluation required for conversion to reserves of such material has not yet been done because this would involve incurring evaluation costs earlier than is required for the efficient planning and operation of the producing mine.

For purposes of determining FVLCD from a market participant's perspective, the cash flows incorporate management's internal price forecasts that also reflects the view of market participants. The internal price forecasts are developed using a robust model that incorporates market-based supply, demand and cost data. The internal price forecasts used for ore reserve estimation testing and the Company's strategic planning are generally consistent with those used for the impairment testing.

Cost levels incorporated in the cash flow forecasts are based on the current LOM plan and long-term production plan for the CGU, which are based on detailed research, analysis and iterative modeling to optimize the level of return from investment, output and sequence of extraction. The mine plan considers all relevant characteristics of the orebody, including waste-to-ore ratios, ore grades, haul distances, chemical and metallurgical properties of the ore, process recoveries and capacities of processing equipment that can be used. The LOM plan and long-term production plans are, therefore, the basis for forecasting production output and production costs in each future year.

The discount rates applied to the future cash flow forecasts represent the Company's estimate of the rate that a market participant would apply to the time value of money and the risks specific to the asset for which the future cash flow estimates have not been adjusted. The Company's weighted average cost of capital is generally used for determining the discount rates, with appropriate adjustments for the risk profile of the countries in which the individual CGUs operate.

With respect to the estimated future cash flows of capitalized exploration assets and development projects, for some assets the Company applies a price to net assets value ratio discount in order to reflect the inherent risk of such projects and that are neither adjusted in the discount rate nor in the future cash flows. The discount is based on the stage of the project and the type of metal.

### Critical accounting estimates, assumptions and judgments - Impairment of long-lived assets

Impairment is assessed at the CGU level. A CGU is the smallest identifiable asset or group of assets that generates independent cash inflows. Judgment is applied to identify the Company's CGUs, particularly when assets belong to integrated operations, and changes in CGUs could impact impairment charges and reversals.

External and internal factors are quarterly monitored for impairment indicators. Judgment is required to determine, for example, whether the impact of adverse spot commodity price movements is significant and structural in nature. Also, the Company's assessment of whether internal factors, such as an increase in production costs and delays in projects, result in impairment indicators require significant judgment. Among others, the long-term zinc price and the discount rate may have a significant impact in the Company's' impairment estimations.

The process of estimating the recoverable amount involves the use of assumptions, judgment and projections for future cash flows. These calculations use cash flow projections based on financial and operational budgets for a five-year period. After the five-year period, the cash flows are extended until the end of the useful LOM or indefinitely for the smelters. The smelters cash flows do not use growth rates in the cash flow projections of the terminal value. Management's assumptions and estimates of future cash flows used for the Company's impairment testing of goodwill and long-lived assets are subject to risk and uncertainties, including metal prices and macroeconomic conditions, which are particularly volatile and partially or totally outside the Company's control. Future changes in these variables may differ from management's expectations and may materially change the recoverable amounts of the CGUs.

### Impairment test analysis

During September 2022, the Company performed its annual impairment test for the CGUs to which goodwill has been previously allocated (Mining Peru group of CGUs: Cerro Pasco and Cerro Lindo; and Cajamarquilla), considering available key assumptions included in the strategic planning process which is performed during the third quarter of every year, as well as other variables discussed in such process, and did not identify any net material impairment loss or reversal to be recognized. For Brazillian CGUs (Três Marias System and Juiz de Fora), no impairment indicators were identified, and no impairment test was required for these CGUs.

As of December 31, 2022, the Company identified impairment indicators mainly related to: (i) a CAPEX and costs increase in the Cerro Pasco CGU given the review process started by management in October; and (ii) the Company's decision not to maintain in its portfolio two of its greenfields projects (Shalipayco and Pukaqaqa) which are included in the Cerro Lindo CGU which is also part of the Mining Peru group of CGUs. The Company also identified impairment reversal indicators related to the performance of metal prices during the fourth quarter of 2022 which led the Company' sensitivities over the estimated metal price to increase.

**All amounts in thousands of US dollars, unless otherwise stated**

The impairment assessment as of December 31, 2022, resulted in the recognition of an impairment reversal of USD 79,529 in the Cerro Pasco CGU, and of an impairment loss of USD 61,856 in the Mining Peru Group of CGUs (goodwill) identified for year 2022. In addition to these economic impairments, the Company recognized individual assets impairments in the amount of USD 10,275, mainly within Assets and projects under construction, and in the amount of USD 39,910, within Mining projects and in relation to the greenfields (Shalipayco and Pukaqaqa) mentioned above. As a result, a net impairment loss of USD 32,512 (after-tax USD 30,971) was registered for the year.

For the year ended on December 31, 2021, the Company performed its annual impairment test, and did not identify impairment provisions or reversals for the period.

For the year ended on December 31, 2020, the Company recognized an impairment loss of USD 557,497.

## (a) Key assumptions used in impairment test

The recoverable amounts for each CGU were determined based on the FVLCD method, which were higher than those determined based on the VIU method.

The Company identified long-term metal prices, discount rate and LOM as key assumptions for the recoverable amounts determination, due to the material impact such assumptions may cause on the recoverable value. Part of these assumptions are summarized below:

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| Long-term zinc price (USD/t) | 2,787 | 2,724 | 2,449 |
| Discount rate (Peru) | 6.93% | 6.22% | 7.22% |
| Brownfield projects - LOM (years) (i) | From 5 to 14 | from 4 to 13 | From 5 to 14 |

(i) As part of the Cerro Lindo CGU recoverable amount, the Company has included the value of its greenfield projects based on market multiples as disclosed above in the FVLCD section. No impairment indicator was identified for these greenfield projects, other than for Shalipayco and Pukaqaqa.

## (b) Impairment reversal – Cerro Pasco CGU

As mentioned above, the impairment reversal was identified at the CGU level, not being directly related to a single asset. Then, the gain was allocated on a pro rata basis to the following assets:

| | Carrying amount prior to impairment reversal | Impairment reversal | Carrying amount after impairment reversal |
|---|---|---|---|
| Property, plant and equipment | 124,576 | 31,258 | 155,834 |
| Intangible assets | 167,913 | 48,272 | 216,185 |
| Other net liabilities | (100,379) | - | (100,379) |
| | **192,110** | **79,529** | **271,640** |

**All amounts in thousands of US dollars, unless otherwise stated**

The Company performed a stress test on the key assumptions used for the calculation of the recoverable amount of the CGU Cerro Pasco. A decrease of 5% in the long-term LME zinc price to USD 2,648 per ton compared to management´s estimation as of December 31, 2022, would have resulted in an impairment reversal of USD 31,061 (or a decrease in the impairment reversal of USD 48,468). Also, an increase of 5% in the discount rate compared to management´s estimation as of December 31, 2022, would have resulted in an impairment reversal of USD 70,010 (or a decrease in the impairment reversal of USD 9,519).

### (c) Impairment loss - Mining Peru group of CGUs Goodwill

Before the impairment test performed on December 31, 2022, the Mining Peru group of CGU’s included a goodwill of USD 310,938. After the impairment loss mentioned above, the goodwill, included in Intangible assets, has a balance of USD 249,082.

| | Carrying amount prior to impairment | Impairment | Carrying amount after impairment |
|---|---|---|---|
| Goodwill- Mining Peru | 310,938 | (61,856) | 249,082 |

The Company performed a stress test on the key assumptions used for the calculation of the recoverable amount of the Mining Peru group of CGUs. A decrease of 10% in the long-term LME zinc price to USD 2,508 per ton compared to management´s estimation as of December 31, 2022, would have resulted in an impairment loss of USD 88,437 (or an additional impairment loss of USD 26,581).

### (d) Impairment results – Other CGUs

The impairment reversal indicator, identified during the year, also led to an increase in the recoverable amount of the other CGUs included in the Mining Peru group of CGUs.

The Company estimated the amount by which the value assigned to the key assumptions must change in order for the assessed CGUs recoverable amount to be equal to their carrying amount:

| CGU | Excess over recoverable amount | Decrease in Long term Zinc (USD/t) | | Increase in WACC | |
|---|---|---|---|---|---|
| | | Change | Price | Change | Rate |
| Cerro Lindo | 179,440 | (28.1%) | 2,003 | 175.5% | 19.1% |
| Cajamarquilla | 407,027 | (15.2%) | 2,246 | 41.9% | 9.8% |

## 32 Long-term commitments

### Projects evaluation

As part of NEXA’s activities for the execution of certain greenfield projects, the Company has agreed, with the Peruvian Government, to minimum investments levels in the Magistral Project, that if the Company does not meet by September 2024, would require additional disbursements of USD 102,900 as a penalty for the non-execution of certain levels.

## 33 Events after the reporting period

On February 15, 2023, the Company's Board of Directors approved, subject to ratification by the Company's shareholders at the 2024 annual shareholders' meeting in accordance with Luxembourg laws, a cash distribution to the Company's shareholders of approximately USD 25,000 to be paid on March 24, 2023 as share premium (special cash dividend).

**Management’s report on internal control over financial reporting**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting and for assessing its effectiveness.

Our internal control over financial reporting is a process designed by, or under the supervision of, our chief executive officer and our chief financial officer, and effected by our board of directors, management and other employees, and is designed to provide reasonable assurance regarding the reliability of financial reporting and of preparation of our consolidated financial statements, in accordance with IFRS as issued by the IASB.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, projections of any evaluation of effectiveness of internal control over financial reporting to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with our policies or procedures may deteriorate.

Our management has assessed the effectiveness of internal control over financial reporting as of December 31, 2022, based upon the criteria established in Internal Controls – Integrated Framework (2013), issued by the Committee of Sponsoring Organizations of Treadway Commission (COSO). Based on this assessment and criteria, our management has concluded that our internal control over financial reporting was effective as of December 31, 2022.

**Audit of the effectiveness of internal control over financial reporting**

Our independent registered public accounting firm, PricewaterhouseCoopers Auditores Independentes Ltda has audited the effectiveness of internal control over financial reporting, as stated in their report as of December 31, 2022.

**Changes in internal control over financial reporting**

There were no changes in our internal control over financial reporting during 2022, which have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Sincerely,

**Nexa Resources S.A.**

| /s/ Juan Ignacio Rosado Gomez de La Torre | /s/ José Carlos del Valle |
|---|---|
| Juan Ignacio Rosado Gomez de La Torre | José Carlos del Valle |
| President and Chief Executive Officer | Senior VP Finance and Group CFO |

## Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of
Nexa Resources SA

***Opinions on the Financial Statements and Internal Control over Financial Reporting***

We have audited the accompanying consolidated balance sheets of Nexa Resources S.A. and its subsidiaries (the "Company") as of December 31, 2022 and 2021, and the related consolidated income statement, consolidated statement of comprehensive income, consolidated statement of changes in shareholders' equity and consolidated statement of cash flows for each of the three years in the period ended December 31, 2022, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022 in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

***Basis for Opinions***

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 15. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

***Definition and Limitations of Internal Control over Financial Reporting***

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

***Critical Audit Matters***

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

***Impairment Assessment – Long-lived assets***

As described in Note 31 to the consolidated financial statements, management assesses at the end of each reporting period whether there is any indication that long-lived assets may be impaired or there is an indicator that an impairment loss recognized in prior period (for a long-lived asset other than goodwill) may no longer exist or may have decreased. Additionally, management conducts an annual impairment test of goodwill during the third quarter of each year. Management tests long-lived assets for impairment at the individual asset level, or when it is not possible to estimate the recoverable amount of the individual asset, at the level of the cash generating unit (CGU) and tests goodwill for impairment at the level of the CGU or group of CGU to which the goodwill is allocated. An impairment loss is identified when carrying amounts, including goodwill where applicable, exceed the recoverable value of the CGUs or an individual assets carrying amount exceeds its recoverable amount. Impairment reversal is applicable to CGUs where impairment losses on long-lived assets have been recorded in previous periods, except for goodwill for which impairment is never reverted, and it is identified when the recoverable value of these CGUs exceed their carrying amounts. The recoverable value is the higher of fair value less costs of disposal and value in use. Management estimated the fair value less cost of disposal using discounted cash flow techniques. Management's cash flow projections for each CGU tested for impairment included significant judgments and assumptions relating to long-term metal prices and discount rate. In addition to the annual impairment test performed in the third quarter, during the fourth quarter of 2022 the Company identified both impairment loss indicators mainly related to increase in forecasted capital expenditures and impairment reversal indicators mainly related to the good performance of metal prices resulting in an update impairment test for the Cerro Pasco CGU and for Mining Peru Group of CGUs prepared by management through the 2022 year end. Management also recognizes impairment loss for other individual assets within Assets and Projects under Construction account and for greenfield projects when facts and circumstances indicate that their carrying amounts are no longer recoverable. Impairment tests conducted for the year ended December 31, 2022 resulted in the recognition of a net impairment loss of US$ 32,512 thousand (US$ 30,971 thousand, net of taxes), which is presented net of recognized impairment reversal, comprised of an impairment loss of US$ 61,856 thousand in the Mining Peru Group of CGUs where goodwill is allocated, an impairment reversal of US$ 79,529 thousand in the Cerro Pasco CGU and impairment losses of certain individual assets and discontinued greenfield projects totaling US$ 50,185 thousand. The performing procedures relating to impairment assessment at the level of CGUs is determined to be a critical audit matter.

The principal consideration for our determination that performing procedures relating to impairment assessment at the level of CGUs is a critical audit matter is there was significant judgment by management when developing the recoverable values of the CGUs. This in turn led to a high degree of auditor judgment, subjectivity, and effort in performing procedures to evaluate management's cash flow projections and significant assumptions, including long-term metal prices and discount rate. In addition, the audit effort involved the use of professionals with specialized skill and knowledge to assist in performing these procedures and evaluating the audit evidence obtained.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing design and the effectiveness of controls relating to management's impairment assessment, including controls over the valuation of the Company's CGUs. These procedures also included, among others, testing management's process for developing the recoverable value; evaluating the appropriateness of the discounted cash flow model; testing the completeness and accuracy of underlying data used in the model; and evaluating the significant assumptions used by management, related to the long-term metal prices and discount rate. Evaluating management's assumptions related to long-term metal prices and discount rate involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the CGUs, (ii) the consistency with external market and industry data, and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in the evaluation of the Company's discounted cash flow model and certain significant assumptions, including the discount rate.

/s/PricewaterhouseCoopers Auditores Independentes Ltda.
Curitiba, Brazil, February 15, 2023

We have served as the Company's auditor since 2001.

**Exhibit 2.4**

**DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934**

As of December 31, 2022, Nexa Resources S.A. ("Nexa Resources," "we," "us," and "our") had one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended: our common shares.

**Description of Common Shares**

The following description of our common shares is a summary and does not purport to be complete. It is subject to and qualified in its entirety by reference to our amended and restated articles of association, which is incorporated as an exhibit to our most recent Annual Report on Form 20-F, the Luxembourg law of August 10, 1915, on commercial companies, as amended (the "1915 Law"), and by any other applicable Luxembourg corporate law. We encourage you to read our articles of association, the 1915 Law, and applicable provisions of Luxembourg law for additional information.

**Share capital**

As of December 31, 2022, our issued share capital was US$132,438,611 represented by 132,438,611 common shares fully paid, with par value of US$1.00 per share. In addition to our issued share capital, we have an authorized share capital of US$231,924,819, represented by 231,924,819 common shares. Our common shares are publicly traded in the United States on the New York Stock Exchange (or NYSE), under the ticker symbol NEXA.

Changes to our share capital are decided by our shareholders or, pursuant to our articles of association, by our board of directors within the limits of the authorized share capital. Our shareholders may at any time at a shareholders' meeting decide to increase or decrease our share capital. Such resolution must satisfy the quorum and majority requirements that apply to an amendment of the articles of association, as described below. No shareholder is liable to make any further contribution to our share capital other than with respect to shares held by such shareholder that are not fully paid-up.

**Distributions**

Pursuant to our articles of association, the general meeting of shareholders may approve dividends and the board of directors may declare interim dividends, in each case to the extent permitted by Luxembourg law. Under Luxembourg law, dividends are determined by a simple majority vote at a general shareholders' meeting based on the recommendation of our board of directors. Pursuant to our articles of association, the board of directors may also declare distributions to our shareholders in the form of reimbursement of share premium to the extent permitted by Luxembourg law.

Each common share entitles the holder to participate equally in any distributions, if and when declared by the general meeting of shareholders or, in the case of interim dividends or reimbursements of share premium, the board of directors, out of funds legally available for such purposes. Dividends and other distributions on our common shares will be declared and paid in U.S. dollars. Declared and unpaid distributions held by us for the account of the shareholders shall not bear interest. Under Luxembourg law, claims for unpaid distributions will lapse in our favor five years after the date such distribution has been declared.

We and our subsidiaries are subject to certain legal requirements that may affect our ability to pay dividends or other distributions. Distributions to shareholders (including in the form of dividends or reimbursement of share premium) may only be made from amounts available for distribution in accordance with Luxembourg law, determined based on our standalone statutory accounts prepared under Luxembourg GAAP. Under Luxembourg law, the amount of a distribution paid to shareholders (including in the form of dividends or reimbursement of share premium) may not exceed the amount of the profits at the end of the last financial year plus any profits carried forward and any amounts drawn from reserves that are available for that purpose, less any losses carried forward and sums to be placed in reserve in accordance with Luxembourg law or our articles of association. Furthermore, no distributions (including in the form of dividends or reimbursement of share premium) may be made if at the end of the last financial year the net assets as set out in the standalone statutory accounts prepared under Luxembourg GAAP are, or following such a distribution would become, less than the amount of the subscribed share capital plus the non-distributable reserves. Distributions in the form of dividends may only be made from net profits and profits carried forward, whereas distributions in the form of share premium reimbursements may only be made from available share premium.

Luxembourg law also requires at least 5.0% of our net profits per year to be allocated to the creation of a legal reserve until such reserve has reached an amount equal to 10.0% of our issued share capital. If the legal reserve subsequently falls below the 10.0% threshold, at least 5.0% of net profits again must be allocated toward the reserve. The legal reserve is not available for distribution.

**Voting rights**

There are no restrictions on the rights of Luxembourg or non-Luxembourg residents to vote our shares. All of our shareholders, including our public shareholders, hold common shares with identical voting rights, preferences and privileges. Each common share entitles the shareholder to attend a general meeting of shareholders in person or by proxy, to address the general meeting of shareholders and to vote. Each common share entitles the holder to one vote at the general meeting of shareholders.

***General meeting of shareholders***

In accordance with Luxembourg law and our articles of association, any regularly constituted general meeting of our shareholders has the power to order, carry out or ratify acts relating to our operations to the extent that such decisions are the domain of the shareholders and not the board of directors.

Our annual general meeting of shareholders shall be held at our registered office, or at such other place in Luxembourg as may be specified in the notice of the meeting, within six months after the end of the relevant financial year. Except as otherwise specified in our articles of association, resolutions at a general meeting of shareholders are adopted by a simple majority of shares present or represented and voting at such meeting.

A shareholder entitled to vote may act at any general meeting of shareholders by appointing another person (who need not be a shareholder) as his proxy, which proxy shall be in writing and comply with such requirements as determined by our board with respect to the attendance to the general meeting, and proxy forms in order to enable shareholders to exercise their right to vote. All proxies must be received by us (or our agents) no later than the day determined by our board of directors.

The board of directors may also decide to allow shareholders to vote by correspondence by means of a proxy form providing for a positive or negative vote or an abstention on each agenda item. The conditions for voting by correspondence are set out in the articles of association and in the convening notice.

The board of directors may decide to arrange for shareholders to be able to participate in the general meeting by conference call, video conference or similar means of communication, whereby (i) the shareholders attending the meeting can be identified, (ii) all persons participating in the meeting can hear and speak to each other, (iii) the transmission of the meeting is performed on an ongoing basis and (iv) the shareholders can properly deliberate without the need for them to appoint a proxyholder who would be physically present at the meeting.

***Appointment and term limits of members of our board of directors***

In accordance with our articles of association and the 1915 Law, the members of our board of directors are elected by a resolution of a general meeting of shareholders adopted with a simple majority of the votes validly cast, regardless of the portion of capital represented at such general meeting. Votes are cast for or against each nominee proposed for election to the board and cast votes shall not include votes attaching to shares for which the shareholder has not participated in the vote, has abstained or has returned a blank or invalid vote.

Our directors are appointed for a mandate of a two-years term and may be reelected. Members of our board of directors may be removed at any time, with or without cause, by a resolution adopted at a general meeting of our shareholders. Under Luxembourg law, in the case of a vacancy of the office of a director appointed by the general meeting of shareholders, the remaining directors may fill the vacancy on a provisional basis. In these circumstances, the following general meeting of shareholders shall make the final appointment of the director.

**Issuance of shares and preferential subscription rights**

Our shares may be issued pursuant to a resolution of the general meeting of shareholders. The general meeting of shareholders may also delegate the authority to issue shares to the board of directors for a renewable period of five years. The board of directors has been authorized to issue up to 231,924,819 common shares. Such authorization will expire five years after the date of publication in the Luxembourg legal gazette *(Recueil Electronique des Sociétés et Associations)* of the minutes of the general meeting of shareholders held on June 4, 2020 (unless amended or extended by the general meeting of shareholders).

Each holder of shares has preferential subscription rights to subscribe for any issue of shares pro rata to the aggregate amount of such holder's existing holding of the shares. Each shareholder shall, however, have no preferential subscription right on shares issued for a contribution in kind.

Preferential subscription rights may be restricted or excluded by a resolution of the general meeting of shareholders, or by the board of directors if the shareholders so delegate. The general meeting of shareholders has delegated to the board of directors the power to cancel or limit the preferential subscription rights of the shareholders when issuing new shares, so long as the issuance of new shares is carried out through a public offering.

If we decide to issue new shares in the future and do not exclude the preferential subscription rights of existing shareholders, we will publish the decision by placing an announcement in the Luxembourg official journal *Recueil Electronique des Sociétés et Associations* and in a newspaper published in Luxembourg. The announcement will specify the period in which the preferential subscription rights may be exercised. Such period may not be shorter than 14 days from the publication of the offer. The announcement will also specify details regarding the procedure for exercise of the preferential subscription rights. Under Luxembourg law preferential subscription rights are transferable and tradable property rights.

**Repurchase of shares**

Nexa Resources is prohibited by the 1915 Law from subscribing for its own shares. Nexa Resources may, however, repurchase its own shares or have another person repurchase shares on its behalf, subject to certain conditions, including:

- prior authorization of the general meeting of shareholders setting out the terms and conditions of the proposed repurchase, including the maximum number of shares to be repurchased, the duration of the period for which the authorization is given (which may not exceed five years) and the minimum and maximum consideration per share;
- the repurchase may not reduce the net assets of Nexa Resources on a non-consolidated basis to a level below the aggregate of the issued share capital and the reserves that Nexa Resources must maintain pursuant to the 1915 Law or our articles of association;
- only fully paid-up shares may be repurchased; and
- the acquisition offer is made on the same terms and conditions to all the shareholders who are in the same position; however, listed companies may repurchase their own shares on the stock exchange without making an acquisition offer to the shareholders.

On September 13, 2018, our shareholders authorized us to purchase, acquire, receive or hold and sell shares of Nexa Resources in accordance with the 1915 Law and any other applicable laws and regulations. The authorization was effective immediately after the general meeting and valid for a period of three years. As of December 31, 2022, there were no authorized share buyback programs.

**Form and transfer of shares**

Our shares are issued in registered form only and are freely transferable. Luxembourg law does not impose any limitations on the rights of Luxembourg or non-Luxembourg residents to hold or vote our shares.

Under Luxembourg law, the ownership of registered shares is generally evidenced by the inscription of the name of the shareholder, the number of shares held by him or her in the shareholders' register, which is maintained at our registered office. Each transfer of shares is made by a written declaration of transfer recorded in our shareholders' register, dated and signed by the transferor and the transferee or by their duly appointed agent. We may accept and enter into its shareholders' register any transfer based on an agreement between the transferor and the transferee provided a true and complete copy of the agreement is provided to us.

Our articles of association provide that, in case our shares are recorded in the register of shareholders on behalf of one or more persons in the name of a securities settlement system or the operator of such a system, or in the name of a professional depositary of securities or any other depositary or of a sub-depositary designated by one or more depositaries, NEXA—subject to a confirmation in proper form received from the depositary—will permit those persons to exercise the rights attaching to those shares, including admission to and voting at general meetings of shareholders. The board of directors may determine the requirements with which such confirmations must comply. Shares held in such manner generally have the same rights and obligations as any other shares recorded in our shareholder register(s).

**Liquidation rights**

The liquidation of Nexa Resources shall be decided by a general meeting of shareholders fulfilling the conditions as to attendance and majority required for the amendments of the articles of association. The method of liquidation shall be determined, and the liquidators shall be appointed by the general meeting of shareholders. In accordance with the 1915 Law, the assets that remain after payment of all debts and liabilities are distributed to the shareholders, on a pro rata basis.

**Other Provisions**

Holders of our common shares have no sinking fund, redemption or conversion rights.

**Limitations on the right to own securities**

Neither Luxembourg law nor our articles of association impose any general limitation on the right of nonresidents or foreign persons to hold our common shares or exercise voting rights on our common shares other than those limitations that would generally apply to all shareholders.

There is no law, governmental decree or regulation in Luxembourg that would affect the remittance of dividends or other distributions by Nexa Resources to nonresident holders of its common shares, other than withholding tax requirements. In certain limited circumstances, the implementation and administration of international financial sanctions may affect the remittance of dividends or other distributions. There are no specified procedures for nonresident holders to claim dividends or other distributions.

**Transfer Agent**

Computershare Trust Company, N.A. is the paying agent for shareholders who hold common shares listed on the NYSE.

Exhibit 8

**List of Subsidiaries of Nexa Resources S.A.**

| Name of Subsidiary | Jurisdiction of Incorporation or Organization |
|---|---|
| Campos Novos Energia S.A. | Brazil |
| Compañía Minera Shalipayco S.A.C. | Peru |
| Compañía Magistral S.A.C. | Peru |
| Compañía Minera Doña Isabel Ltda. | Chile |
| Compañía Minera Gaico S.A. | Peru |
| Consórcio Capim Branco Energia | Brazil |
| Consórcio UHE Igarapava | Brazil |
| Exploraciones Chimborazo Metals & Mining S.A. | Ecuador |
| IncPac Holding Limited | British Virgin Islands |
| Inversiones Garza Azul S.A.C. | Peru |
| Karmin Holdings Ltda. | Brazil |
| L.D.O.S.P.E. Empreendimentos e Participações Ltda. | Brazil |
| L.D.Q.S.P.E. Empreendimentos e Participações Ltda. | Brazil |
| L.D.R.S.P.E. Empreendimentos e Participações Ltda. | Brazil |
| Minera Bongará S.A. | Peru |
| Minera Cerro Colorado S.A.C. | Peru |
| Minera Chambará S.A.C. | Peru |
| Minera Pampa de Cobre S.A.C. | Peru |
| Mineração Colina Ltda. | Brazil |
| Mineração Dardanelos Ltda. | Brazil |
| Mineração Parnamirim Ltda. | Brazil |
| Mineração Rio Aripuanã Ltda. | Brazil |
| Mineração Santa Maria Ltda. | Brazil |

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|---|---|
| Mineração Soledade Ltda. | Brazil |
| Nexa Resources Atacocha S.A.A. | Peru |
| Nexa Resources Cajamarquilla S.A. | Peru |
| Nexa Resources El Porvenir S.A.C. | Peru |

| | |
|---|---|
| Nexa Recursos Minerais S.A. | Brazil |
| Nexa Resources Peru S.A.A. | Peru |
| Nexa Resources UK Limited | United Kingdom |
| Nexa Resources US Inc. | United States |
| Nexa Solar Três Marias 1 Ltda | Brazil |
| Nexa Solar Vazante 1 Ltda | Brazil |
| Nexa Solar Vazante 2 Ltda. | Brazil |
| Otavi Mining Investments (Proprietary) Ltd. | Namibia |
| Otjitombo Mining (Proprietary) Ltd. | Namibia |
| Pollarix S.A. | Brazil |
| Rayrock Antofagasta S.A.C. | Peru |
| SMRL Ltda. Pepita 1 | Peru |
| SMRL CMA nº 54 | Peru |
| Tinka Resources Limited | Canada |
| Votorantim Andina S.A. | Chile |
| Votorantim Metals Canada Inc. | Canada |
| Votorantim Metals Namibia (Proprietary) Ltd. | Namibia |

**Exhibit 12.1**

I, Ignacio Rosado, certify that:

1. I have reviewed this annual report on Form 20-F (as amended) of Nexa Resources S.A.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;

4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15-d-15(f)) for the company and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

/s/ Ignacio Rosado

| | |
|---|---|
| Name: | Ignacio Rosado |
| Title: | President and Chief Executive Officer |
| Date: | October 27, 2023 |

**Exhibit 12.2**

I, José Carlos del Valle, certify that:

1. I have reviewed this annual report on Form 20-F (as amended) of Nexa Resources S.A.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;

4. The company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15-d-15(f)) for the company and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and

5. The company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of the company's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

/s/ José Carlos del Valle

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|---|---|
| Name: | José Carlos del Valle |
| Title: | Senior Vice President of Finance and Group Chief Financial Officer |
| Date: | October 27, 2023 |

**Exhibit 13.1**

Certification

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Subsections (a) and (b) of Section 1350, Chapter 63 of Title 18, United States Code)

Pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of Title 18, United States Code), each of the undersigned officers of Nexa Resources S.A. (the "Company"), does hereby certify, to such officer's knowledge, that:

The Annual Report on Form 20-F (as amended) for the year ended December 31, 2022 (the "Form 20-F") of the Company fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 and information contained in the Form 20-F fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Ignacio Rosado

| | |
|---|---|
| Name: | Ignacio Rosado |
| Title: | President and Chief Executive Officer |
| Date: | October 27, 2023 |

/s/ José Carlos del Valle

| | |
|---|---|
| Name: | José Carlos del Valle |
| Title: | Senior Vice President of Finance and Group Chief Financial Officer |
| Date: | October 27, 2023 |

A signed original of this written statement required by Section 906 of the Sarbanes-Oxley Act of 2002 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.