



2022 SUSTAINABILITY REPORT



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OUR COMPANY AT A GLANCE

PAN AMERICAN SILVER owns and operates silver and gold mines located in Canada, Mexico, Peru, Bolivia, Argentina, Chile and Brazil. We offer the potential for significant growth in production through the Escobal mine in Guatemala (currently on care and maintenance) and our La Colorada Skarn development stage project.

2022 OPERATING PERFORMANCE

Ag

18.5 Moz

CONSOLIDATED PRODUCTION

\$16.56/oz

SILVER SEGMENT ALL-IN SUSTAINING COSTS

514.9 Moz

PROVEN + PROBABLE RESERVES

Au

552.5 koz

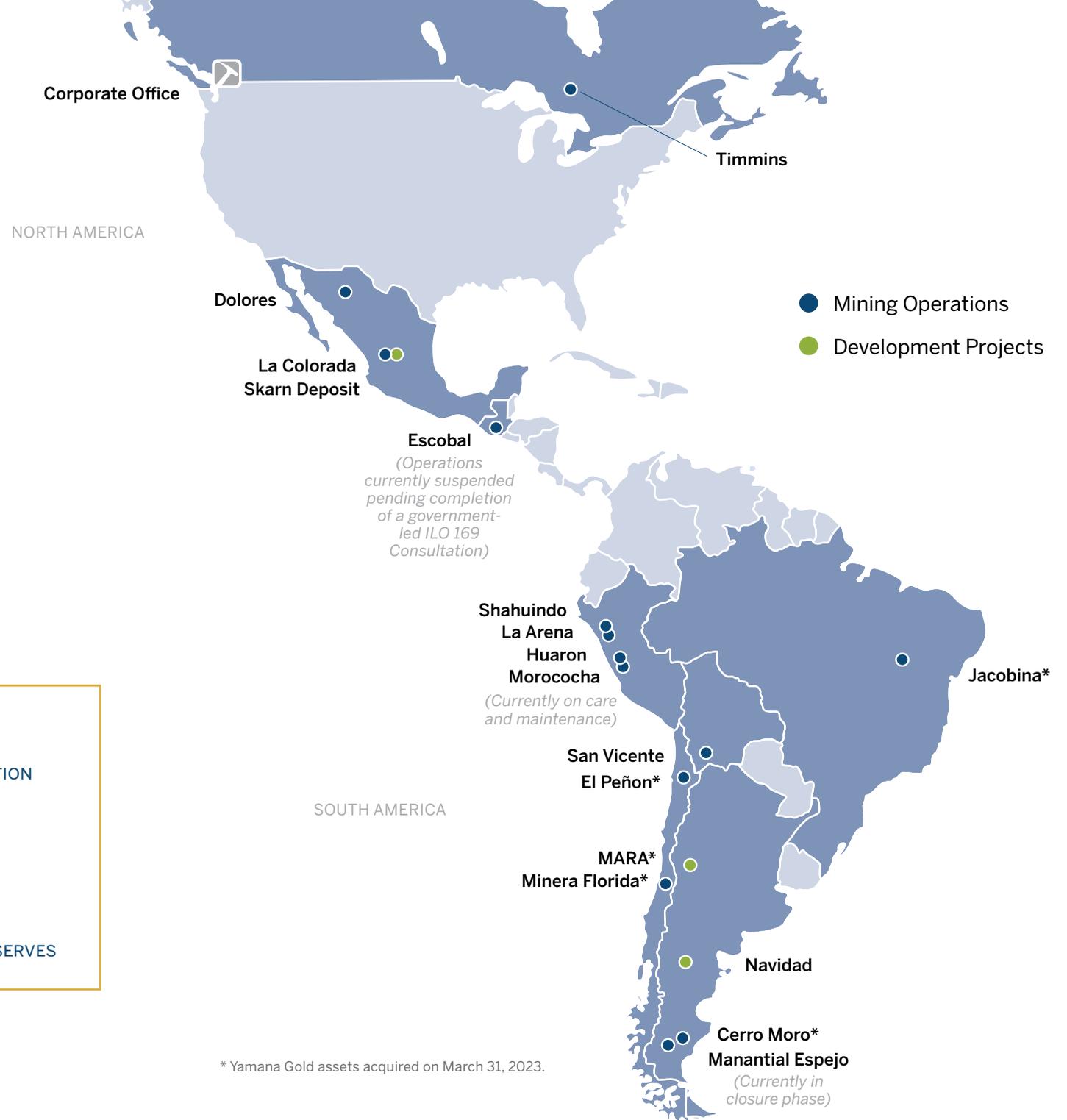
CONSOLIDATED PRODUCTION

\$1,459/oz

GOLD SEGMENT ALL-IN SUSTAINING COSTS

3.6 Moz

PROVEN + PROBABLE RESERVES



ABOUT THIS REPORT

This report articulates Pan American Silver’s vision of sustainability, presents how our Company addresses sustainable development in the context of our business, and documents our progress toward our sustainability goals. We use the three ESG pillars (environmental, social, and governance) to frame the discussion of our 2022 performance.

Throughout this report, we refer to Pan American Silver Corp. as “Pan American Silver”, “Pan American” or the “Company” and use the terms “we”, “us” and “our” to refer to Pan American Silver Corp. and its subsidiaries.

AUDIENCE

The intended audience for this report is our stakeholders, which we refer to as communities of interest, or COIs⁽¹⁾. This group includes shareholders, employees and contractors, unions, local communities, governments, suppliers, industry associations, regulatory agencies, civil society, investors, and environmental, social and governance (ESG)-focused analysts.

CONTENT AND SCOPE

This report covers our management approach and 2022 performance on our material topics. Focusing on those relating to the most significant actual and potential impacts (positive or negative) that Pan American Silver has on the economy, environment, communities, and people, including impacts on their human rights. This report covers our nine mining operations:

Silver Segment:

- La Colorada in Mexico
- Morococha⁽²⁾ in Peru
- Huaron in Peru
- San Vicente in Bolivia
- Manantial Espejo⁽³⁾ in Argentina

Gold Segment:

- Timmins (Timmins West and Bell Creek) in Canada
- Dolores in Mexico
- La Arena in Peru
- Shahuindo in Peru

In addition, this report includes certain information on the Escobal mine in Guatemala that continues to be on care and maintenance, as well as the Alamo Dorado mine in Mexico that has been in the post-closure phase since mining operations were completed in mid-2017. Our development and advanced stage exploration projects – the La Colorada Skarn deposit in Mexico, Navidad in Argentina, and other exploration sites – are excluded from the scope of this report, except for certain information on safety, people, social, security, and human rights management. When applicable, we include information regarding our headquarters in Vancouver and our regional offices.

On March 31, 2023, we completed the transaction (the “Yamana Transaction”) with Yamana Gold Inc. (“Yamana”) and Agnico Eagle Mines Limited (“Agnico Eagle”) whereby Pan American acquired

ADDITIONAL DETAILS

Reporting period	Sustainability Report: January 1 to December 31, 2022 Annual Report: January 1 to December 31, 2022
Reporting framework	Pan American Silver is reporting in accordance with the Global Reporting Initiative (GRI) Standards for the period January 1 to December 31, 2022. Information and data relevant to the GRI Mining & Metals Sector Disclosures are included in this report. The GRI index can be found here . This report was prepared in alignment with the Sustainability Accounting Standards Board (SASB) Standard. The SASB index can be found here . It contains information in consideration of the Taskforce on Climate-related Financial Disclosures (TCFD) reporting framework, which is disclosed in the “Climate Change, Energy and Greenhouse Gas Emissions” section of this report.
Revisions of information	Water withdrawal, water intensity per USD of total revenue, and water intensity per tonne of ore milled are revised for 2020 and 2021. The total waste is revised for 2020 and 2021. See footnotes on the Water Intensity table and the Waste Generated tables for details on the reasons of revision.
Data and assurance	Data was reviewed internally at both on-site and corporate office levels. Certain economic data was extracted from our 2022 audited annual financial statements. Data is reported using the metric system and US dollar currency.
Contact	Any feedback regarding this report is welcome. Please direct your comments or questions to: Brent Bergeron, Senior Vice President, Corporate Affairs and Sustainability; Monica Moretto, Vice President of Social Sustainability, Inclusion and Diversity; or Christian Del Valle, Director Corporate Affairs and ESG Engagement at csr@panamericansilver.com .

all of the issued and outstanding common shares of Yamana, following the sale by Yamana of its Canadian assets, including 50% ownership in the Canadian Malartic mine, to Agnico Eagle. Pan American retained Yamana’s Latin American assets. The Yamana Transaction adds four producing mines to Pan American’s portfolio: the Jacobina mining complex in Brazil, El Peñon and Minera Florida mines in Chile, and Cerro Moro mine in Argentina. It also adds the Minera Agua Rica Alumbreira (“MARA”) development project in

Argentina. This report does not cover the Yamana assets. Pan American plans to report on the ESG performance of Jacobina, El Peñon, Minera Florida and Cerro Moro in its 2023 Sustainability Report.

(1) We use the Mining Association of Canada (MAC)’s definition of Community of Interest (COI), which include all individuals and groups who have an interest in or believe they may be affected by decisions regarding the management of our operations.

(2) Morococha was placed on care and maintenance in February 2022.

(3) Manantial Espejo was placed on care and maintenance in January 2023 and is currently in the closure phase.

2022 HIGHLIGHTS

 **ZERO**
SIGNIFICANT ENVIRONMENTAL INCIDENTS

 **1,185,250**
HOURS OF SAFETY TRAINING IN 2022

 **\$14.7 MILLION**
IN COMMUNITY INVESTMENTS

 **14%**
REDUCTION IN WATER USE COMPARED TO 2022 BASE CASE

 TRAINED
100%
OF OUR WORKFORCE ON MODULE 2 OF OUR “BUILDING RESPECT TOGETHER” PROGRAM

 **19%**
GHG EMISSION REDUCTION COMPARED TO 2022 BASE CASE

 **37.5%**
OF OUR BOARD MEMBERS ARE WOMEN, INCLUDING OUR BOARD CHAIR

 SECURED
RENEWABLE ENERGY
SUPPLY AT BOTH OUR OPERATIONS IN MEXICO

 LAUNCHED
FUTURE PAAS INTERNSHIP PROGRAM

ESG RATINGS & RANKINGS

S&P Global

68 RANKED TOP 7% IN THE METALS & MINING INDUSTRY

Scale 0 (worst) to 100 (best)

MSCI

BBB RATING 45TH PERCENTILE RANK

Scale CCC (worst) to AAA (best)

SUSTAINALYTICS

28.2 (MEDIUM RISK) #8 OUT OF 28 COMPANIES IN THE PRECIOUS METALS MINING SECTOR

Scale 100 (worst) to 0 (best)

ISS ESG

C+ RATING UPGRADED FROM C TO C+ IN MARCH 2023 | RANKED TOP 20%

Scale D- (worst) to A+ (best)

Note: Ratings and rankings can fluctuate throughout the year, either based on Pan American Silver performance or relative to the ranking of other companies in our sector, and/or ratings agency scoring methodology changes. Ratings and rankings shown here are effective as of May 25, 2023.

Note: The 2022 base case is our projected 2022 water use and GHG emissions, as calculated using our life of mine plans adjusted for annual production guidance.

PRESIDENT'S MESSAGE

MICHAEL STEINMANN // PRESIDENT AND CEO

2022 has been an eventful year for Pan American Silver, culminating in the announcement in November 2022 of the Yamana Transaction, which closed on March 31, 2023. In addition, we advanced other strategic initiatives during the year, including making progress on the ILO 169 consultation process for the Escobal mine in Guatemala and completing a resource update for our La Colorada Skarn project. These exciting developments position Pan American as one of the leading silver and gold producers in the Americas, offering long-term growth and value creation for our stakeholders.

The Yamana Transaction adds four producing mines in Latin America to our portfolio, plus a suite of highly promising development projects and exploration properties, with Yamana's Canadian assets being acquired by Agnico Eagle. It also enhances our diversification in Latin America through the addition of low-cost producing mines in Brazil and Chile. We expect a significant increase in silver and gold production, contributing to robust revenue generation, as well as improved operating margins through \$40 million to \$60 million in synergies that can be captured annually. The new Pan American will be a stronger, larger, and more diversified company, better able to internally fund and advance growth projects. This is truly a transformative and strategic transaction that builds on Pan

American's core operating strengths in a region where we have been active for nearly three decades.

The ILO 169 consultation process for the Escobal mine in Guatemala made important advances in 2022. The pre-consultation phase that began in May 2021 concluded in July 2022. In December 2022, the Ministry of Energy and Mines, who are leading the consultation process, and Xinka representatives delivered a progress report on the ILO 169 process to the Guatemalan Supreme Court of Justice. The next phase of the consultation is now underway. We are unable to provide timing for completion of the consultation process, but we believe the comprehensive, inclusive, and good faith consultation that is taking place is the best path to the potential re-opening of this mine. We appreciate that it is important for the local communities to understand the Escobal mining operations, and we have an open-door policy that has welcomed over 1,900 mine visits by local community members during 2022.

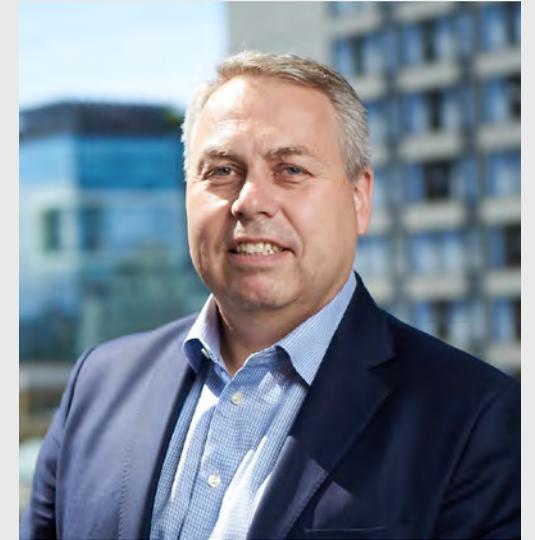
Our operations overcame several challenges in 2022, starting with the surge of the Omicron variant of COVID-19 in early 2022. We recorded high levels of workforce absenteeism across all our mine sites during the first two months of the year, affecting production costs and progress on

capital projects. The situation improved over the year, allowing us to begin easing off the stringent protocols we had implemented at the beginning of the pandemic to protect the health and safety of our workforce and communities.

Despite these challenges, combined with global inflationary cost pressures, we posted solid performance in 2022, producing 18.5 million ounces of silver and 552.5 thousand ounces of gold. Excluding net realizable value inventory adjustments, Silver Segment all-in sustaining costs were \$16.56 per ounce and Gold Segment all-in sustaining costs were \$1,459 per ounce⁽⁴⁾.

As we look forward to 2023 and beyond, our focus continues to be on delivering strong operational and ESG performance. We met most of the goals we had set for 2022, but we did not meet our most important goal of zero fatalities. We are deeply saddened to have suffered three fatalities in 2022, one each at Huaron, Dolores, and La Arena. While we support and provide comfort to the families and co-workers of these individuals, the loss of a loved one is irreparable, and we must take all the actions we can to prevent tragic safety incidents and injuries. Management and the Board

(4) All-in sustaining costs is a non-GAAP measure. Please refer to the "Alternative Performance (Non-GAAP) Measures" section of the Management's Disclosure & Analysis for the year ended December 31, 2022, for a detailed description of these measures and, where appropriate, a reconciliation of the measure to the 2022 Annual Financial Statements.



“As we look forward to 2023 and beyond, our focus continues to be on delivering strong operational and ESG performance.”

are implementing new measures to help protect the safety of every employee and contractor at our sites.

On the environmental front, we exceeded our goals in key metrics, including reduction of greenhouse gas emissions and energy use. We also met all our human capital, inclusion and diversity, and governance goals. We fell short in one –grievance closed– of our four social goals. We remain committed to engaging and working collaboratively with the communities and other stakeholders near our mines.

At our Manantial Espejo operation in Argentina, we completed mining activities at the end of 2022, and we are actioning the closure plan that was developed through a collaborative effort with local stakeholders and community members.

As Pan American approaches 30 years in business, we have never been better positioned for the future. Following the completion of the Yamana Transaction, our portfolio of operating assets and growth projects will make us one of the leading producers of silver and gold in

the Americas. Our operational expertise in this region is further strengthened by the talented team that will be joining us from Yamana. This competitive platform in the Americas will enhance our capacity to deliver on sustainability initiatives, thereby making us a more attractive partner of choice for government and communities. The increase in our market capitalization resulting from the Yamana Transaction will also enhance our investment appeal as a highly liquid, widely held, silver-focused producer.

I am grateful for the efforts and support of our employees and contractors, our communities, our board of directors, and our shareholders. Together with the team joining us from Yamana, we look forward to building an exciting future for the Company and our stakeholders.



Michael Steinmann, President and CEO
May 31, 2023

“This competitive platform in the Americas will enhance our capacity to deliver on sustainability initiatives, thereby making us a more attractive partner of choice for government and communities.”



CHAIR'S MESSAGE

GILLIAN WINCKLER // BOARD CHAIR

The past year marks a transformative point in Pan American's history and reflects the Company's efforts to deliver on its key strategic initiatives. Pan American is well positioned for strong, long-term growth that should benefit our employees, communities, and shareholders. Significant advances have been made in many areas, all the while keeping focused on our values and capital allocation priorities.

Pan American's most important value is the health and safety of our people, and I am deeply saddened to report that in 2022 our performance in this critical area did not reflect our commitment, nor the efforts of the Company. We tragically suffered three fatalities, one each at Dolores, Huaron, and La Arena. On behalf of the Board, I extend my deepest sympathies to the families, friends, and co-workers of our lost colleagues. The Health, Safety and Environment Committee, as well as the full Board, conducted in-depth sessions with management to review these fatalities and the programs focused on safety across all our sites to determine where improvements could be made. We are advancing several additional safety initiatives, including working with a third-party consultant to incorporate the "do safety differently" concept, the expansion of our training and the technical abilities of our workforce, focusing on the development of leadership skills, and raising even greater awareness and prioritization of safety. We are taking the steps necessary to learn from these

tragic events and we are committed to seeing strong improvement in safety performance.

Our values have people at the heart. The Company is committed to attracting and retaining a diverse workforce, having an environment that is welcoming and respectful, and upholding human rights.

I am pleased to report that in 2022, Pan American reaffirmed its support for the 10 United Nations Global Compact Principles, which cover not only the area of human rights, but also labour, environment, and anti-corruption. Our annual Sustainability Report describes our actions to continually improve the integration of these principles into our business, culture, and daily operations.

We have seen the lingering impacts from COVID-19 in the communities where we operate and have noticed that society at large seems to have lost the ability to connect with each other and access the institutions and services to provide the necessary support programs. In the past year, we increased our collaborative engagement with communities and focused our teams on the ground to support and facilitate social and economic opportunities, working with local governments where possible. We focused on environmental concerns, specifically water conservation and management, as well as reforestation efforts.

In 2022, we continued our "Building Respect Together" program that aims to bring conversations around diversity, inclusion, and equity to our workforce at large. We completed the second module of the program, focused on training around harassment for supervisors and management.

While we have seen increased levels of participation in our workforce from both women and underrepresented minorities, we know that more work needs to be done to achieve the representation we are aiming for. I am particularly excited about an initiative underway at La Colorada that aims to familiarize women in local communities with the potential for job opportunities within our operations. The mine has piloted a program under which local women are trained on a mobile equipment simulator to qualify them to operate heavy mining machinery. We see the potential of rolling out similar training to our other sites.

We constantly strive to improve our stewardship of the environment and work towards achieving our short and medium-term climate goals. In 2022, we made progress on reducing our carbon footprint by commencing the use of renewable electricity supply at both our Mexican operations. This important step, combined with energy efficiency improvements across our portfolio, will keep us on track to meet our 2030 goal of a 30% reduction in greenhouse gas emissions compared to our 2019 baseline.



“We constantly strive to improve our stewardship of the environment and work towards achieving our climate goals.”

We successfully completed the year with no significant environmental incidents and achieved six of our nine annual environmental goals, which cover water, waste, biodiversity, energy and emissions, incidents, auditing, and mine closure. These achievements demonstrate the commitment of our team to continual improvement beyond good practice and compliance.

We remain committed to implementing the Mining Association of Canada's Towards Sustainable Mining ("TSM") standard. In 2022, all our operations achieved level A in all TSM protocols, except for the Safety and Health protocol at Dolores, La Arena and Huaron, due to the fatalities at each of those mines.

Pan American was included in the S&P Global Sustainability Yearbook 2023, recognizing our efforts in ESG performance. This Yearbook aims to distinguish individual companies, within their industries, that have demonstrated strengths in corporate sustainability. Pan American was placed in the top 10% in the Metals & Mining industry in 2022.

Pan American's business strategy aims to maintain low debt, invest in growth, and provide returns to shareholders. We entered 2022 with no long-term debt, which enabled us to leverage the strength of our balance sheet to complete the Yamana Transaction. The scale of Pan American's operations in Latin America will expand significantly, silver and gold production and reserves will increase, and we will add numerous growth options for the future.

Looking ahead, Pan American is very well positioned, with a strong balance sheet and several growth projects. We remain committed to our capital allocation approach, our core values, and delivering benefits to all our stakeholders.

Pan American is further strengthened by the team joining us from Yamana. The team contributes operating expertise in two new jurisdictions for Pan American –Brazil and Chile– and a commitment to high standards of ESG performance. The business combination is not just about the integration of new operating assets, it is about bringing together two teams whose efforts and commitment are key to the future success of Pan American. I extend a warm welcome to all employees and contractors joining us from Yamana, as we forge a dynamic future for the Company together.

On behalf of the Board, I would like to thank every employee and contractor for their unwavering efforts and commitment, as well as our communities, suppliers, and shareholders, for their ongoing support.



Gillian Winckler, Chair of the Board of Directors
May 31, 2023

“We remain committed to delivering benefits to all our stakeholders.”



LEADERSHIP VIEWS ON ESG

Q&A with Steve Busby, Chief Operating Officer and Brent Bergeron, Senior Vice President, Corporate Affairs and Sustainability

Q: How is the mining industry advancing ESG priorities?

Brent: In the next five years, the mining industry will play an important role in setting realistic goals for achieving ESG priorities, with innovations in the way we mine and the way we meet stakeholder expectations.

Industry associations are raising the bar for performance, and progressive mining companies, through those associations, are helping to drive advancements in both policy and practice. More companies are adopting leading industry-driven standards, like the International Council on Mining and Metals' principles and performance expectations, the Mining Association of Canada's Towards Sustainable Mining (TSM) protocols, the and the World Gold Council's Responsible Gold Mining Principles. Increasingly, these will become established expectations. We are also seeing other countries adopt TSM or implement their own versions. This widespread implementation is changing the game for the entire industry and it's a testament to the effectiveness of the TSM standard.

Q: What do you see as the mining industry's ESG priorities for the next five years? How does Pan American Silver's ESG strategy support industry objectives?

Steve: Pan American's ESG strategy has long-term objectives in common with the industry as a whole. Reducing CO₂ emissions is top of mind for everyone. Reducing geotechnical risk is a priority, but reducing risks for tailings facilities is an imperative. Inclusion and diversity are important to the industry and are essential to Pan American's long-term success. Another objective is biodiversity impact reductions. We are improving our understanding of biodiversity impacts from our business and enhance our abilities to remediate these impacts. Health and safety in the workplace as well as establishing positive community relations has, and will continue to be, a big focus across the whole industry and a primary objective for the Company.

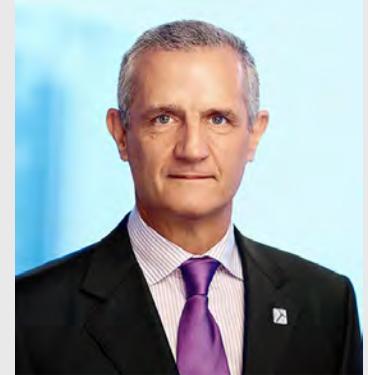
Pan American Silver participates in a number of select industry associations, such as the Mining Association of Canada's and is implementing the Towards Sustainable Mining (TSM) initiative, that focus on the broader industry response to ESG demands. Adopting the TSM initiative is aiding our teams understand the direction in which the industry is moving. A component of our strategy is geared towards helping our leadership and workforce contribute to our ESG objectives by incentivizing their focus, enthusiasm, knowledge and understanding to drive innovations that will help us change and adapt in order to meet industry goals.

Q: What technological requirements does the industry need to meet its ESG objectives, and how is the Company responding to that need?

Steve: The development of new technologies to substantially reduce or eliminate CO₂ emissions is a necessity for industry decarbonization. This will likely require a combination of solutions, such as renewable fuel sources and electrification.

Pan American's leadership and stated ESG objectives promote adoption of new technologies through many of the Company's operating strategies. For example, we are looking to adopting newly developed mobile mining equipment technologies. We regularly turn over older mining equipment for newer, more efficient, lower emissions machinery. Lower emissions mean less diesel particulate matter in the air, which improves air quality for our workers. Using new technologies commonly bring multiple benefits: it can reduce maintenance costs, reduce emissions, and improve workers' health and safety. For example, we are adopting remote and mechanized mining methods to keep our workforce safe and productive.

We will remain focused on deploying the best available proven technologies in our operations through the decisions we make. To do so, we will need to keep all of our technical site teams fully knowledgeable of the industry's best technologies through our people's participation in industry



STEVE BUSBY // CHIEF OPERATING OFFICER



BRENT BERGERON // SENIOR VICE PRESIDENT CORPORATE AFFAIRS AND SUSTAINABILITY

trade organizations, attendance at conferences and trade shows, and by supporting them to advance their technical education. We are consistently on the lookout for ways to change and adapt our methods, systems, and procedures in order to achieve the greater industry objectives.

Q: ESG remains as the top risk and opportunity for mining and metals companies. How is Pan American Silver evolving its approach to better manage ESG risks and opportunities at the operational and corporate levels?

Brent: The creation of the Sustainable Development Committee at the Board level in 2021 was extremely important in terms of improving both our oversight of ESG risks and guidance with respect to the ongoing development of sustainability and social responsibility best practices. Our Sustainability Performance Indicators (SPIs) have elevated the profile of ESG within the Company and provided us with a systematic approach to measuring and monitoring risk. We also continue to link our ESG performance to compensation, which reinforces

“We will remain focused on deploying the best available proven technologies in our operations through the decisions we make.”

– STEVE BUSBY

how important implementing ESG strategy is to our teams. Every year, we gain knowledge that helps us improve performance and set additional quantitative goals.

As we emerge from the pandemic, we are seeing increased political uncertainty in some countries where we operate. This uncertainty places a greater demand on our need to manage social risks and relationships with communities. As a result, our social teams have been front and centre in COI engagement, maintaining positive relationships and delivering on our commitments in order to minimize tensions and prevent work stoppages. We have a successful track record of working in the Americas because we emphasize mining responsibly and build positive relationships with host countries and communities of interest (COIs). We also continue to expand projects that contribute to long-term community well-being and self-reliance.

Another example of our COI-centred approach is the relocation project of our mine camp that we undertook as a result of our expansion at the La Colorada mine in Mexico. We worked proactively with the United Nations Office of the High Commissioner for Human Rights (OHCHR) in Mexico City and representatives of the affected families to understand issues and negotiate resettlement terms. It is also important to note that all our work was done within the framework of international best practice standards. Towards the end of 2022, the UN Human Rights office invited us to present the case at the United Nations.

We are committed to applying industry best practices everywhere we operate. In addition to implementing TSM at all our operations, we

also align with and/or adhere to a range of international best practices. We are proud that, in 2022, Pan American Silver was confirmed as a signatory to the Voluntary Principles on Security and Human Rights initiative. Taking part in global initiatives helps us keep pace with the evolving ESG landscape. It helps us to stay abreast of and implement best practices to elevate our ESG performance and to manage present and emerging risks.

Q: How is Pan American Silver continuing to integrate ESG in its business/operations strategy?

Steve: Despite considerable challenges in 2022, including strong global inflation and supply chain challenges, we met or exceeded our annual ESG goals in most areas including mine closure, and water and energy use. For example, we achieved a nearly 34,000 tonne reduction in GHG emissions, compared to the 2021, due to securing a renewable energy source for purchased electricity for our Mexican operations. We successfully implemented the TSM protocols at all operations and commenced our external TSM verification program. These initiatives continue to drive our ESG performance. Having successfully executed on many short-term projects related to ESG objectives we are looking develop longer-term – 5 years or more – objectives.

Q: Can you give us your view on the Yamana transaction and integration from an ESG perspective?

Steve: Generally, the two companies' ESG initiatives and goals are well aligned, allowing us to maintain our stated ESG goals and objectives. We believe the integration with Yamana will result in increased opportunities for our workforce,

INVESTORS // SAVE THE DATE

Pan American Silver
Annual ESG Update Conference Call
September 28th, 2023

Additional information and
webcast will be made available at
panamericansilver.com

leading to enhanced enthusiasm and improved performance. This is an opportunity to pool our best practices and learn from each other. ESG goal setting is not just top down. It comes from substantial collaboration. Following successful integration, we will create opportunities for these collaborations, working to develop meaningful, longer-term, company-wide goals as well as setting a path to achieving existing objectives, such as our 2030 and 2050 climate goals.

Q: How will Pan American Silver's recent Yamana transaction affect the Company's ESG strategy?

Brent: The Company's long-term ESG strategy is multifaceted. Our priorities encompass a range of areas such as health & safety, emissions reduction, and investment in socio-economic development for local communities. Continued implementation of the TSM protocols, ongoing engagement with COIs, and ESG performance reporting are also components of our approach. The recent transaction with Yamana gives us an excellent opportunity to expand and refine our ESG strategy.

“The acquisition of Yamana is certainly an opportunity to leverage the best of both companies.”

– BRENT BERGERON

We use SPIs and set annual ESG goals to measure and monitor performance on key social and environmental activities. These have improved performance measurement, management, and the quality of our disclosures. We have committed to a 30% GHG emissions reduction by 2030 and net zero emissions by 2050 and are now looking at setting additional medium- and long-term goals.

I believe our climate goals are achievable with the new portfolio of assets from the Yamana Transaction. Success, however, will depend on a number of factors, such as new technologies, optimization of our portfolio, and the sourcing/acquisition of different types of energy for our mine sites. We are working on all of these. Last year, for example, we were successful in reducing

our GHG emissions and significantly increased our purchasing power for operations from sustainable sources. Our Board is highly engaged with ESG performance, and we have a corporate commitment to achieving these goals.

The acquisition of Yamana is certainly an opportunity to leverage the best of both companies. Although strong ESG performance is at the core of our sustainability approach, we also recognize the importance of quality and transparency of ESG disclosures. It is important that we continue to engage with communities, governments, and other stakeholders across all operating jurisdictions so that we can understand their priorities and set long-term ESG strategies that parallel theirs. We also recognize the importance of an open dialogue with our investors to discuss our overall ESG performance and have their opinions incorporated in how we adapt our strategy to meet their own ESG objectives. While we integrate the Yamana assets to a new Pan American Silver, we'll assess ESG standards and performance, identify best practices of both companies, and determine new ways to enhance our goals towards the sustainability of the Company and COIs with a strong focus on the environment in the areas where we operate.



ABOUT PAN AMERICAN SILVER

Pan American is a leading producer of precious metals in the Americas, operating silver and gold mines in Canada, Mexico, Peru, Bolivia, Argentina, Chile, and Brazil. We also own the Escobal mine in Guatemala that is currently not operating. We have been operating in the Americas for nearly three decades, earning an industry-leading reputation for sustainability performance, operational excellence, and prudent financial management. We are headquartered in Vancouver, B.C. and our shares trade on the New York Stock Exchange and the Toronto Stock Exchange under the symbol "PAAS".

VISION

Our vision is to be the world's premier silver producer, with a reputation for excellence in discovery, engineering, innovation, and sustainable development. To achieve this vision, we base our business on the following strategy:

- Generate sustainable profits and superior returns on investments through the safe, efficient and environmentally sound development and operation of our assets.
- Constantly replace and grow our mineral reserves and mineral resources through targeted near-mine exploration and global business development.
- Foster positive long-term relationships with our employees, shareholders, communities and local governments through open and honest communication, and ethical and sustainable business practices.

- Continually search for opportunities to upgrade and improve the quality of our assets, both internally and through acquisition.
- Encourage our employees to be innovative, responsive and entrepreneurial throughout our entire organization.

To execute this strategy, Pan American has assembled a sector-leading team of mining professionals with a depth of knowledge and experience in all aspects of our business, which enables the Company to confidently advance early stage projects through construction and into operation.

VALUES

Pan American Silver's core values are embedded in all aspects of our daily operations. In carrying out our business, we are committed to:

- Operating in a responsible and ethical manner.
- Providing a safe and healthy workplace for all of our employees and contractors.
- Conducting our business affairs free from favoritism, fear, coercion, discrimination, or harassment.
- Providing full, fair, accurate, timely and understandable disclosure to our stakeholders.

MEMBERSHIP & COMMITMENTS

We support initiatives that help advance our sustainability performance and contribute to broader sustainable development.



Note: All trademarks and logos are the property of their respective owners

OUR PRODUCTS

Our main products are silver and gold doré, as well as silver bearing zinc, lead, and copper concentrates. Silver is an essential and versatile metal that plays a crucial role in the transition from the use of fossil fuels to a low-carbon economy. We continue to work with the Silver Institute to improve the general understanding of the unique and vitally important role of silver in low-carbon energy solutions. For more information, visit the Silver Institute website at silverinstitute.org

SILVER (Ag)



SOLAR PANELS

Silver paste is a key component of photovoltaic cells used in solar panels that transform sunlight into electrical energy



ELECTRONICS & BATTERIES

Silver is malleable, resists corrosion and oxidation, and is the best thermal and electrical conductor of all metals



SILVER

Silver is used to create everything from serving trays, to cutlery, to candlesticks



BARS & COINS

Silver is refined into bars and coins for sale to international markets



HEALTH

Silver's antimicrobial and non-toxic qualities are beneficial for human health



JEWELLERY

Silver is used to create beautiful, pieces of jewelry around the world



WATER PURIFICATION

Silver can be found in water purifying systems due to its antibacterial qualities

GOLD (Au)



JEWELLERY

Globally, jewelry is the primary use of gold



ELECTRONICS

Gold is an efficient conductor of electricity and used in most electronic devices



INVESTING

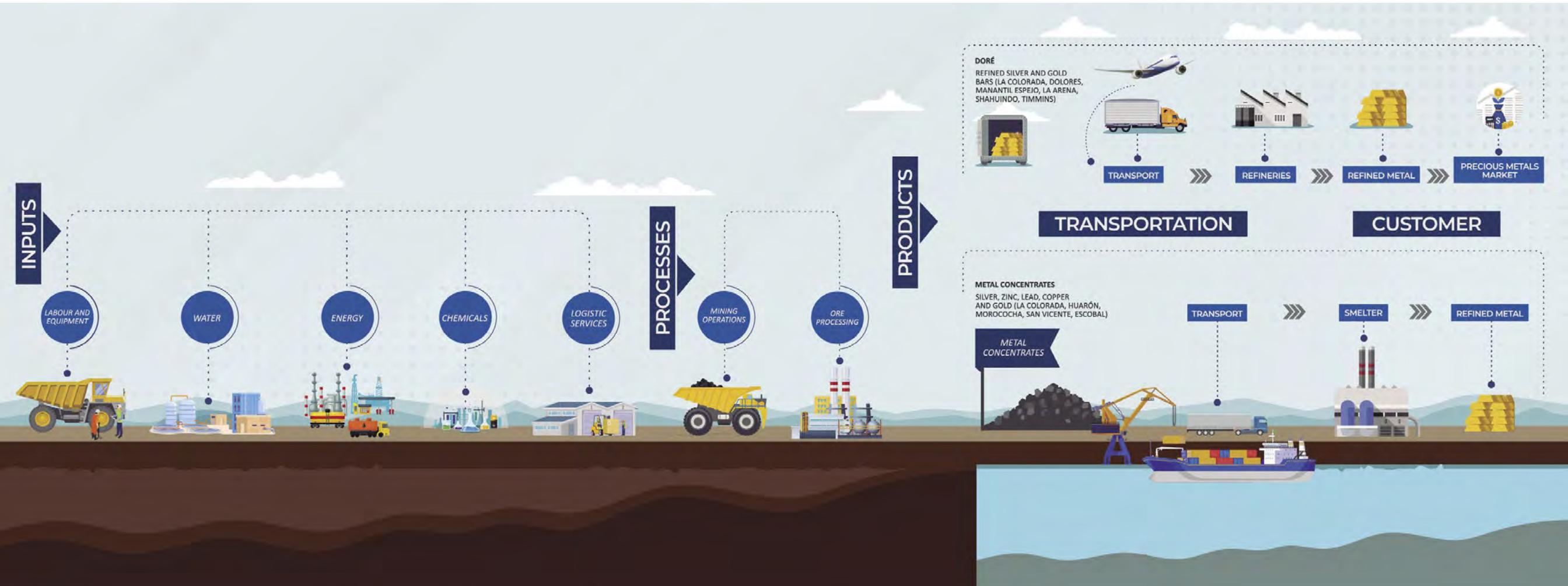
Governments, institutions, or individuals may hold gold coins or bullion as forms of investment

OUR SUPPLY CHAIN

Mining requires a sustainable supply chain and transport logistics for both the supply of materials and the transport of products. Our service providers are primarily locally based companies or local subsidiaries of international service or

consulting groups. Our mines process ore to produce doré bars (an alloy composed primarily of silver and gold) or mineral rich concentrates (a mixture primarily composed of base metals and precious metals). We send our doré to refineries, which further refine it to produce silver and gold bullion, which is then sold to various

bullion banks, traders, and consumers. We sell our concentrates to traders or smelters, which further process and refine it into marketable products. Additional details on our work to build a responsible supply chain can be found under the [risk management section](#) of this report.



ENGAGING WITH COMMUNITIES OF INTEREST

Engagement is an important focus at Pan American Silver, as our success depends on establishing positive relationships and trust with a broad range of communities of interest (COIs), which include employees and contractors, unions, local communities, governments, suppliers, industry associations, regulatory agencies, non-governmental organizations, civil society, analysts, and investors. We have developed and implemented a range of processes, tools and resources based on best practice that support effective engagement and help us understand, respond to, and manage COI expectations.

We welcome and promote open, meaningful, and inclusive engagement with all COIs. This approach is essential to building constructive, long-term relationships with COIs. Through listening, dialogue and collaborative opportunities, we learn about the issues and perceptions that are important to COIs. It helps us understand the impacts of our business on COIs and deepens our understanding of their concerns, which enables us to manage these issues more effectively and to better align our priorities and goals with those of the COIs. COI engagement helps us:

- Align our business strategy with COIs expectations.
- Demonstrate accountability and disclosure
- Identify potential risks and opportunities
- Identify and respond to external trends and shifts.
- Identify relevant non-financial issues to report on.

- Better allocate resources and direct sustainability investment.
- Create economic opportunities with climate change at the core.

Our key COI engagement mechanisms include:

- Ongoing communication with communities and local, regional, and national governments.
- Annual COI survey in all countries where we operate.
- Updated baselines, perception studies and community programming with collaboration from COIs.
- Annual worker wellbeing survey.
- Occasional ESG investor survey.
- Community and worker response and grievance mechanisms at each operation.
- Stakeholder visits to our operations and projects.

COMMUNITIES OF INTEREST SURVEY

We annually survey COIs identified in our stakeholder mapping processes to better understand their sustainability-related interests and concerns. Every year, we place significant emphasis on the participation of individuals who do not have computers and/or internet access. This involves installing computer terminals at our sites to collect worker's feedbacks and collect input directly from individuals in the communities by the social teams.

Our survey process entails having COIs identify and rank their most important sustainability

topics from a list of topics that are based on the GRI Standards. Every year, we adjust our questions and refine the topics to capture relevant and emerging issues. We also include a set of questions on different topics such as inclusion and diversity and community engagement practices and other topics that allow us to understand COIs climate in the regions where we operate.

In 2022, a total of 2,264 individuals, representing seven key COI groups (employees, contractors/suppliers, community and indigenous members, NGOs, government, religious organizations, and human rights observers/affiliate groups), completed the survey compared to 2,214 in 2021. The top priority topics identified in the 2022 survey included:

- Health and safety
- Job security
- Water quality and management
- Discrimination and harassment
- Competitive salaries
- Local biodiversity
- Security management

Like previous years, health and safety and job security remained the top two topics identified, most likely due to concerns still related to the impacts of the COVID-19 pandemic and economic stress in certain jurisdictions. Human capital (i.e. discrimination and harassment and competitive salaries) and environmental (i.e. water and biodiversity)-related topics became

more important to our COIs in 2022. Security management was identified for the first time as a top priority topic in 2022. The annual COI survey results are a key input in our materiality process. For the second year, we facilitated categories for stakeholders to identify themselves as indigenous groups or by their sexual identification, if desired.



TOPICS OF INTEREST

The table below lists our key COIs, their key interests, perceptions and/or concerns raised through the COI survey, and examples of how we engage with them. Our approach to managing these interests/concerns is discussed in the related material topics.

COMMUNITIES OF INTEREST	TYPES OF ENGAGEMENT	KEY INTERESTS / CONCERNS RAISED IN 2022	
Our Employees	<ul style="list-style-type: none"> Meetings and lineouts Face-to-face interactions Email, chats, and internal communications Social media links Lunch and learn sessions Conferences 	<ul style="list-style-type: none"> Training Negotiations with Worker Unions Internal memorandums and communications Grievance mechanisms Engagement surveys Website 	<ol style="list-style-type: none"> Health and safety Economic strength of the Company Water quality and management
Our Contractors	<ul style="list-style-type: none"> Meetings and lineouts Face-to-face interactions Email and internal communications Lunch and learn sessions Conferences 	<ul style="list-style-type: none"> Training Negotiations with Worker Unions Internal memorandums and communications Grievance mechanisms Engagement surveys 	<ol style="list-style-type: none"> Health and safety Security personnel respect for human rights Protection measures against discrimination and harassment
Investors ⁽¹⁾	<ul style="list-style-type: none"> Annual ESG Call Quarterly calls Quarterly and annual reporting Roadshows Conferences 	<ul style="list-style-type: none"> Meetings, phone calls and emails Engagement surveys Website Annual shareholder meeting 	<ol style="list-style-type: none"> Climate change, GHG emissions and energy efficiency Health and safety Tailings and waste management Water management
Community members and Indigenous groups	<ul style="list-style-type: none"> Community offices Face-to-face meetings Response mechanisms Community roundtables Engagement surveys Site visits 	<ul style="list-style-type: none"> Newsletters Radio and other media Grievance mechanisms Consultations Website and annual sustainability report 	<ol style="list-style-type: none"> Local employment opportunities Health and safety Equal opportunity and equal pay Impacts to local biodiversity
Religious groups	<ul style="list-style-type: none"> Community offices or churches Face-to-face meetings Response mechanisms Community roundtables 	<ul style="list-style-type: none"> Engagement surveys Grievance mechanisms Website and annual sustainability report 	<ol style="list-style-type: none"> Emergency response preparedness Economic strength of the Company Environmental impacts Availability of grievance mechanisms and ongoing communications

(1) Key interests and/or concerns raised are based on the ESG Investor Survey conducted in 2021.

COMMUNITIES OF INTEREST	TYPES OF ENGAGEMENT	KEY INTERESTS / CONCERNS RAISED IN 2022
Government	<ul style="list-style-type: none"> • Community partnership meetings • Face-to-face meetings • Conferences • Public meetings • Newsletters 	<ul style="list-style-type: none"> • Consultations • Negotiations with Worker Unions • Audits and inspections • Engagement surveys • Website and annual sustainability report <ol style="list-style-type: none"> 1. Competitive salaries for workers 2. Local employment opportunities 3. Investment in environmental programs and management
NGOs	<ul style="list-style-type: none"> • Public meetings • Response Mechanism • Conferences 	<ul style="list-style-type: none"> • Partnership discussions • Engagement surveys • Website <ol style="list-style-type: none"> 1. Local employment opportunities 2. Environmental impacts 3. Local procurement 4. Health and safety
Human Rights Observers	<ul style="list-style-type: none"> • Meetings • Face-to-face interactions • Engagement surveys • Website 	<ol style="list-style-type: none"> 1. Environmental impacts and mine closure 2. Impacts to local communities or indigenous peoples 3. Security personnel respect for human rights 4. Prevention of child and forced labour

MATERIALITY

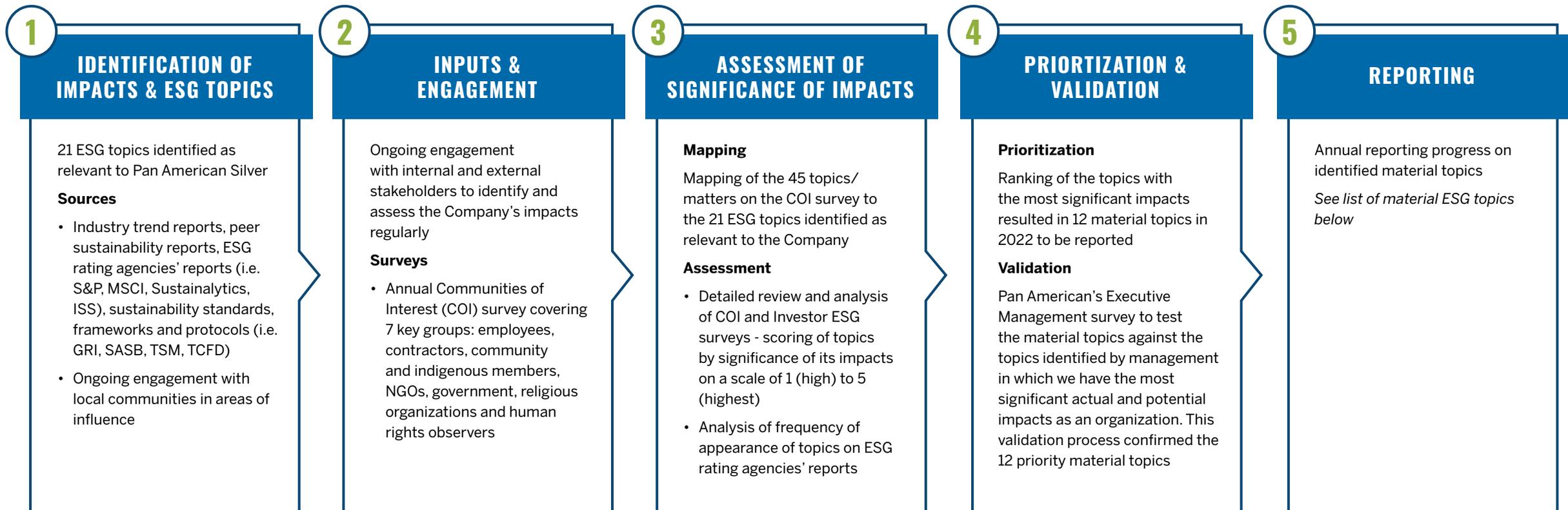
This report covers material topics—those relating to the most significant actual and potential impacts (positive or negative) that Pan American Silver has on the economy, environment, communities, and people, including impacts on human rights. Within each material topic, we discuss related topics that are particularly relevant to us and our industry context. Our process to define report content is guided by

the Global Reporting Initiative (GRI) Standards. We also cover the Sustainability Accounting Standards Board (SASB) material topics for our sector.

Our materiality assessment process entails an ongoing engagement with internal and external COIs, which helps us to identify and assess the actual and potential impacts of our activities. We supplement this engagement with a review

of industry trends, peer sustainability reports, ESG rating reports, and sustainability reporting frameworks. Our annual COI survey also serves as a key input in our process. We assess and rank identified topics to determine those having the most significant impacts, and then survey our executive management to validate and prioritize the Company’s most significant impacts to be reported.

2022 MATERIALITY PROCESS



2022 MATERIAL TOPICS

Other than the addition of Security Management as a stand-alone material topic, the rest of the material topics covered in this report remain the same as 2021. Recognizing the transversality of human rights, in 2022,

we continue to report our overarching management approach to human rights under our overall ESG management approach. Cybersecurity is now included under Security Management, and Business Ethics is once again a stand-alone material topic.

ENVIRONMENTAL

Water Stewardship

Tailings Facilities and Waste Management

Climate Change, Energy, and Greenhouse Gas Emissions

Biodiversity

Mine Closure

SOCIAL

Health and Safety

Relationships with Communities and Indigenous Peoples

Socio-economic Contributions

Security Management

Human Capital Development

Inclusion and Diversity

GOVERNANCE

Business Ethics



GOALS AND PERFORMANCE

We set ESG goals to focus our efforts in key areas and continually improve our performance. We published our 2022 ESG goals in our 2021 Sustainability Report. The table below consolidates these goals and details our performance.

2022 PERFORMANCE

TARGET ACHIEVED: ✓ TARGET NOT MET: ✗

2022 Goals	2022 Performance	Commentary
ENVIRONMENT		
Achieve zero significant environmental incidents (SEIs) at our operations.	✓	No SEIs at our operations.
Improve bi-annual environmental audit performance.	✗	Environmental audits of La Colorada, Shahuindo, and Huaron did not result in an improved performance score. Corrective actions are being implemented.
Reduce water use by 1% compared to the 2022 base case ⁽⁵⁾ .	✓	14% reduction in water use.
Reduce energy use by 3% compared to the 2022 base case ⁽⁵⁾ .	✓	9% reduction in energy use.
Reduce GHG emissions by 3% compared to the 2022 base case ⁽⁵⁾ .	✓	19% reduction in GHG emissions mainly due to renewable electricity supply for Dolores and La Colorada since May 2022.
Continue post-closure activities at Alamo Dorado and conduct interim reclamation projects at our active operations.	✓	Post-closure and reclamation activities on track.
Achieve 100 hectares of reforestation or revegetation across all our sites.	✗	57 hectares were completed. A 40-hectare area planned for revegetation at La Colorada was not completed due to uncertainty over locations of future infrastructure for the La Colorada Skarn project.
Reduce non-rock related waste generation by 4% and increase recycled/reused waste by 11% compared to the 2022 base case ⁽⁵⁾ .	✗	8% reduction in waste generation, 8% increase in waste recycled/reused. The waste generation target was met, but the waste recycling target was not met since there was a lower generation of recyclable waste.
Commence external verification of TSM ⁽⁶⁾ performance at our operations	✓	The Timmins external verification was completed in 2022.

(5) The 2022 base case is our projected 2022 water use, energy use, GHG emissions, and waste generation, as calculated using our life of mine plans adjusted for annual production guidance.

(6) TSM is an initiative of the Mining Association of Canada (MAC) designed to drive operations-level sustainability performance and manage risks.

2022 Goals	2022 Performance	Commentary
SOCIAL		
Achieve zero fatalities.	X	Three fatalities.
Maintain a lost time injury frequency (LTIF) rate of 0.90 or less.	✓	LTIF rate of 0.74 per million hours worked.
Maintain a lost time injury severity (LTIS) rate of 525 or less.	X	LTIS rate of 661.
Achieve zero new social disputes at our operations.	✓	No new social disputes.
Resolve all medium and high-risk grievances received through our community response mechanism within the target timeframe ⁽⁷⁾ .	X	96% of all grievances received were closed. There were 3 medium- and 3 high-risk grievances in Peru that remain open at the end of 2022.
Continue expanding our socio-economic programs and projects in the communities near our mines.	✓	\$14.7 million of community investment budget executed.
Complete the second module "Awareness" of our Building Respect Together program, covering 100% of our workforce.	✓	100% of our workforce was trained.
Implement our Human Capital Development management system at our operations.	✓	Implemented system at our operations in Peru. Rolled out pilot program at our operations in Mexico and Bolivia.
Conduct sustainability audits at the operations in Argentina, Mexico, and Canada.	✓	Performed audits at Manantial Espejo and Timmins. Given that La Colorada and Dolores have completed 100% of the findings of their 2021 audits, sustainability audits will be scheduled for 2023.
GOVERNANCE		
Train 400 key employees on Anti-Corruption policy.	✓	432 key employees were trained.
Assess 150 critical suppliers using our supplier due diligence system.	✓	167 critical suppliers were assessed using our due diligence system.

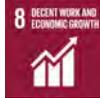
(7) Grievances should be acknowledged within 15 days of receipt and should be resolved within 90 days of receipt.

2023 GOALS⁽⁸⁾

2023 Goals	Related Material Topics	Prioritized UN SDGs	UNGC Principles
ENVIRONMENT			
Achieve zero significant environmental incidents (SEIs) at our operations.	All environmental material topics		 Environment 7,8,9
Achieve 90% of environmental audit corrective actions completed on time.	All environmental material topics		 Environment 7,8
Implement projects and initiatives to reduce water withdrawn for use by 47,000 m ³ which represents approximately 0.3% of the 2023 base case ⁽⁹⁾ .	Water Stewardship; Climate Change, Energy, and Greenhouse Gas Emissions		 Environment 7,8,9
Implement projects and initiatives to reduce energy use by 116,000 GJ which represents approximately 2% of the 2023 base case ⁽⁹⁾ .	Climate Change, Energy, and Greenhouse Gas Emissions	 	 Environment 7,8,9
Implement projects and initiatives to reduce GHG emissions by 73,000 t CO ₂ Eq which represents approximately 19% of the 2023 base case ⁽⁹⁾ .	Climate Change, Energy, and Greenhouse Gas Emissions	 	 Environment 7,8,9
Continue post-closure activities at Alamo Dorado and conduct interim reclamation projects at our active operations.	Biodiversity; Mine Closure		 Environment 7,8,9
Achieve 80 hectares of reforestation or revegetation across all our operations.	Biodiversity; Mine Closure		 Environment 7,8,9
Implement projects and initiatives to reduce non-recycled and/or non-reused non-rock waste by 450 t which represents approximately 4% of the 2023 base case ⁽⁹⁾ .	Tailings Facilities and Waste Management		 Environment 7,8,9

(8) Water, energy, GHG emissions, waste, LTIF, LTIS and socio-economic development programs goals apply to Pan American Silver original operations. All other goals apply to all sites, including the recently acquired Yamana operations.

(9) The 2023 base case is our projected 2023 water use, energy use, GHG emissions, and waste generation, as calculated using our life of mine plans adjusted for annual production guidance.

2023 Goals	Related Material Topics	Prioritized UN SDGs	UNGC Principles
SOCIAL			
Achieve zero fatalities.	Health and Safety	 	 Labour 3,4  Human Rights 1,2
Maintain a LTIF rate of 0.90 or less.	Health and Safety	 	 Labour 3,4  Human Rights 1,2
Maintain a LTIS rate of 525 or less.	Health and Safety	 	 Labour 3,4  Human Rights 1,2
Achieve zero new social disputes ⁽¹⁰⁾ at our operations.	Relationships with Communities and Indigenous Peoples	       	 Labour 3,4,5,6  Human Rights 1,2
Resolve 90% of all medium and high-risk grievances received through our community response mechanism within the target timeframe ⁽¹¹⁾ .	Relationships with Communities and Indigenous Peoples	       	 Labour 3,4,5,6  Human Rights 1,2
Design socio-economic development programs based on risk analysis and track performance with Key Performance Indicators (KPIs).	Socio-economic Contributions	    	 Labour 6  Human Rights 1,2

(10) Grievances that cannot be resolved jointly within a reasonable time frame and/or require significant financial resources to resolve.

(11) Grievances should be acknowledged within 15 days of receipt and should be resolved within 90 days of receipt.

2023 Goals	Related Material Topics	Prioritized UN SDGs	UNGC Principles
SOCIAL			
Achieve 15% hiring of women for all approved and budgeted vacant positions (plus all new eligible positions) and retain 85% women in the workforce (excluding involuntary terminations).	Human Capital Development; Inclusion and Diversity	 	 Labour 3,4,5,6  Human Rights 1,2
Complete the third module “Harassment and Assertiveness” of our Building Respect Together program, covering 100% of our workforce.	Inclusion and Diversity	 	 Labour 3,4,5,6  Human Rights 1,2
Complete 90% of the action plans addressing audit findings (only applicable for Peruvian and Bolivian operations in 2023).	Relationships with Communities and Indigenous Peoples; Human Capital Development; Inclusion and Diversity	  	 Labour 3,4,5,6  Human Rights 1,2
Train all security employees and contractors in human rights and use of force.	Security Management		 Labour 3,4,5,6  Human Rights 1,2
GOVERNANCE			
Train 440 key employees on Anti-Corruption policy.	Business Ethics		 Anti-corruption 10  Human Rights 1,2  Labour 4,5,6
Assess 160 critical suppliers using our supplier due diligence system.	Business Ethics		 Anti-corruption 10  Human Rights 1,2  Labour 4,5,6
ENVIRONMENT, SOCIAL, GOVERNANCE			
Complete TSM external verification of at least two of our operations.	Water Stewardship; Tailings Facilities and Waste Management; Climate Change, Energy, and Greenhouse Gas Emissions; Biodiversity; Health and Safety; Relationships with Communities and Indigenous Peoples; Human Capital Development	       	 Environment 7,8,9  Human Rights 1,2  Labour 3,4,5,6

SUSTAINABILITY GOVERNANCE

BOARD OF DIRECTORS

Good governance is critical for effective corporate performance and plays a major role in protecting COI interests and maximizing stakeholder value. Our Board oversees the direction and strategy of the business, guided by Pan American Silver's values, legislative and other governance standards, stock exchange rules, and industry best practices. The Board executes overall responsibility for corporate governance matters by:

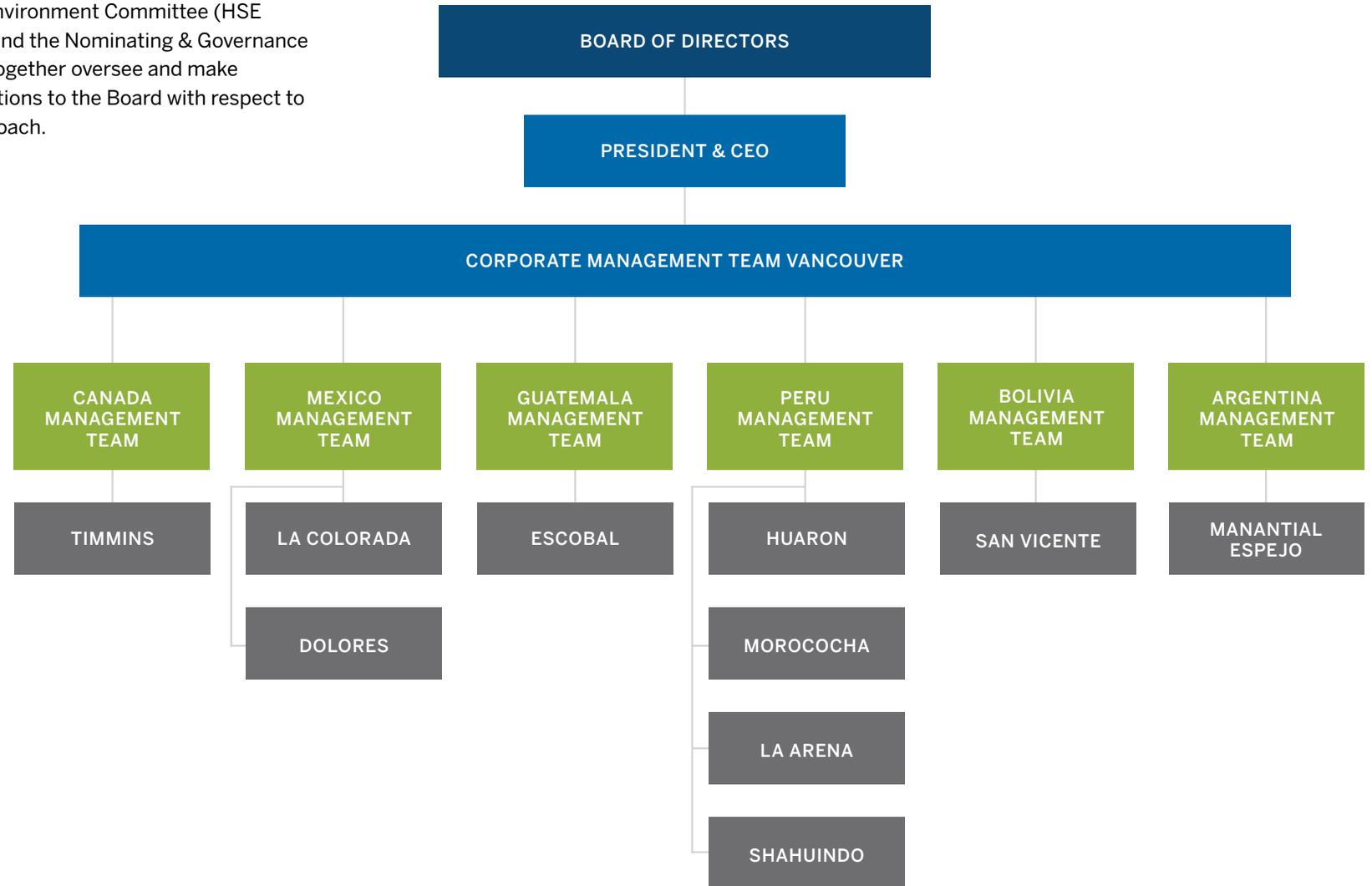
- Approving corporate policies.
- Assisting in the definition of corporate objectives, assessing and approving key plans.
- Evaluating the Company's performance on a regular basis.
- Ensuring that the Company is led by qualified executives and senior managers.

For additional details on our Board's mandate, members, committees, processes, and our corporate policies, see our Management Information Circular or the corporate governance section on our [website](#).

GOVERNANCE STRUCTURE

Sustainability is embedded in our vision, values, and business strategy. Governance and oversight of sustainability at Pan American Silver start at the Board level. From the top level of the

organization, accountability for sustainability cascades down to our sites. The Communities and Sustainable Development Committee (CSD Committee), in conjunction with the Health, Safety, and Environment Committee (HSE Committee) and the Nominating & Governance Committee, together oversee and make recommendations to the Board with respect to our ESG approach.



BOARD COMMITTEES

- The CSD Committee provides oversight and guidance on our approach to community and sustainable development matters. It reviews the Company's sustainability performance on a quarterly basis and reports to the Board.
- The HSE Committee provides policy direction and oversight of safety and environmental matters. It reviews the Company's safety and environmental performance on a quarterly basis and reports to the Board.
- The Nominating and Governance Committee oversees the effective functioning of the Board and the implementation of governance best practices.
- The Audit Committee provides oversight of financial reporting and disclosures, internal controls, and risk management.
- The Human Resources and Compensation Committee oversees human resources, inclusion and diversity initiatives, compensation, and succession planning.

CORPORATE MANAGEMENT TEAM

- The Chief Executive Officer, the Chief Operating Officer, the Senior Vice President, Corporate Affairs and Sustainability and the General Counsel direct and oversee strategy, programs, initiatives, and performance related to communities, health and safety, environment, and human capital. They also monitor ESG indicator performance on a monthly basis.

- Senior management actively leads and manages sustainability and ESG programs, initiatives and performance.
- The ESG Management Committee, consisting of cross-departmental senior and executive management representatives, supports the Company in fulfilling its ESG management responsibilities and enhancing its ESG performance.

COUNTRY MANAGERS

- Oversee and manage sustainability performance in each of the countries where we operate.

MINE MANAGERS

- Implement sustainability programs and initiatives, and supervise teams responsible for community relations, environment, safety, and human resources.
- Additional details on our Board mandate, members, committees, policies, and processes, can be found in our [Management Information Circular](#).



RISK MANAGEMENT

Pan American Silver has several parallel risk management processes and assessments that help us identify and manage operational and non-operational risks. In recent years, sustainability risks have become of greater importance in our industry. We continue to build and strengthen our processes to identify, manage, and mitigate both ongoing and emerging non-technical risks proactively.

RISK ASSESSMENTS

Certain sustainability risks are driven by external factors that affect our industry, including market uncertainties, political and economic instability, security and changing environmental and social contexts. Across all countries in which we operate, we employ a systematic approach to identifying, analyzing, and evaluating external, non-operational risks across 10 categories: health (i.e., COVID-19), security, political and regulatory, economic and taxation, legal and judicial, corruption, extractive industry, environmental, social, and labour.

On a quarterly basis, country-level and operational teams conduct a risk assessment to identify emerging risks, determine their severity and potential impact on operations, and recommend corrective actions and plans to manage and mitigate them. All identified risks are monitored and managed at the operation or country level. Significant risks are reviewed by senior management quarterly; the Board receives quarterly reports.

QUARTERLY RISK MANAGEMENT PROCESS



This process, along with parallel risk assessment processes, has contributed to the identification and mitigation of key risks for the Company, including:

- Climate change
- Community action
- COVID-19 and other pandemics
- Relationships with Indigenous Peoples and communities

- Employee recruitment and retention
- Employee/labour relations
- Environmental legislation and regulations
- Government regulation
- Information and cybersecurity
- Taxation
- Supply chain disruptions
- Compliance

Whenever these risks relate to a material topic, we discuss our management approach within the relevant report section. Risks related to our business are detailed in our [Annual Information Form](#).

There are social and environmental risks involved in opening, operating, and closing mines, and we have in place processes to identify and manage risks directly linked to our activities. Sites use our social risk matrix to identify social risks that could impact our host communities or operations. COI engagement, the results of our baseline assessments, feedback received through our response mechanisms, and findings from our sustainability audits serve as key inputs to the social risk assessments process. Sites develop action plans to manage and mitigate the identified risks. These are reviewed monthly at a country level, while significant risks are reported to the Board on a quarterly basis.

Most environmental risks are common across the industry, while some are specific to a geographic location or to the geology of the orebody of a mine. We identify environmental risks through environmental impact assessments conducted during the project planning and permitting processes, well before any mining activities occur. These risks are systematically managed, and the effectiveness of controls are tested periodically from development and operating, all the way to closure and post-closure stages. Each site maintains an environmental management system that identifies activities presenting risks for adverse environmental impacts and establishes

controls to manage and mitigate those risks. These systems are aligned with the environmental risk management requirements of the relevant TSM protocols. In 2022, we developed a Corporate Environmental Incident Management Standard to support us in the identification and mitigation of environmental risks and impacts related to incidents.

These risk assessment processes help us proactively identify and manage potential risks before serious issues arise, contributing to the achievement of operational plans, which in turn help us to leverage opportunities for growth and value creation.

EMERGENCY PREPAREDNESS AND CRISIS MANAGEMENT

For Pan American Silver, emergency preparedness and crisis management are critical components of our approach to sustainability, risk management, and business continuity. Our emergency preparedness and crisis management response plans are intended to help us identify, prepare for, and manage crises affecting the Company, our workforce, their families, local communities, and/or the surrounding environment.

We classify an emergency as an incident that may result in substantial harm to employees, communities and other stakeholders, the environment, or property. A crisis stems from an internal or external incident that may have strategic or organization-wide impacts. We have identified a range of potential incidents and events that could manifest during an emergency or crisis, including underground fires, spills, security incidents, infrastructure failure, natural disasters, and virus outbreaks.

Our Crisis Management Plan sets standardized, minimum requirements and procedures for sites to identify, prepare for, and manage emergencies and crises. We have established a Crisis and Emergency Management System (CEMS) and associated crisis plans that document our crisis management processes and provide a level of consistency in our approach. Annually, we review our crisis plans and conduct one tabletop and one scenario-based exercise, two communication tests, and an employee alert. This improves the

ability of our teams to respond efficiently and effectively.

In 2022, we implemented a digital crisis platform to provide automated advisories and help us improve the consistency and speed of our communications and response. We further refined our approach by providing additional clarity on individual roles and responsibilities. We are currently working to improve our training to produce a more coordinated response across our operations, regions, and corporate office.

President & CEO – may manage certain crisis events, if required by the Company, and advises the board regarding crisis developments.

Board of Directors – provides direction where appropriate.

The Corporate Crisis Management Team – led by the Chief Operating Officer, oversees crisis management planning and response across the organization.

Local Emergency Management Team – organized in each jurisdiction, manages the overall crisis response and engagement with national governments, affected communities, and other COIs.

Special Crisis Response Team – may be instated to focus on a particular element of a crisis incident or to provide external support for a crisis event that is not directly related to the operation.

Operation-level emergency response services – local teams, including rescue teams and medical support personnel, manage incidents and engagement with local emergency response teams.



SUPPLY CHAIN RISK MANAGEMENT

Being a responsible business also requires us to identify and mitigate supply chain-related risks. Our Supplier Code of Conduct (the Supplier Code) establishes our requirements for our suppliers. Our Supplier Code is incorporated into contract terms and provided to new suppliers upon engagement. Along with their contractors and subcontractors, they are expected to:

- Comply with applicable laws.
- Comply with Pan American Silver's Global Anti-Corruption Policy and Global Human Rights Policy.
- Conduct business in an ethical and environmentally responsible manner.
- Respect the rights, cultural diversity, and customs of local communities and Indigenous peoples.

Our third-party supplier due diligence system helps us screen and monitor the compliance of both new and existing tier 1 critical suppliers⁽¹²⁾ with our Supplier Code, as well as a range of risks, including corruption, health and safety, environment, social, human rights, and associations with organized crime.

Our process entails gathering and reviewing information related to a supplier's ESG policies and performance. Once suppliers are added to our system, a risk rating is assigned. Based on this rating, our country-level procurement teams may conduct additional due diligence. Annually, we conduct due diligence screening for instances of bribery, and corruption. We also work with an external service provider who conducts ongoing

monitoring of corruption-related risk events and alerts us of any concerns.

We are currently expanding our due diligence scope to assess whether suppliers are upholding their legal obligations to their own employees, including timely payment of salaries and provisions of benefits.

Complying with our Supplier Code and meeting a minimum scoring threshold are pre-conditions to working with Pan American Silver. If a supplier does not meet the threshold or if certain risk factors are triggered, we conduct additional due diligence. In 2022, seven suppliers did not meet our minimum requirements. In one case, the supplier was not accepted. In the other instances, acceptance was conditional on the suppliers eliminating the identified risks. Two of these suppliers have since met our requirements. We have reserved the right in the Supplier Code to terminate contracts with suppliers that pose significant risks or fail to abide by the Supplier Code.

As of end of 2022, we have screened over 70% of our total critical suppliers. In 2022, we screened 167 critical suppliers; an additional 107 critical suppliers were in the process of being screened as at December 31, 2022. These suppliers constitute approximately 80% of our expenditures and/or provide goods critical to our business, such as fuel, cyanide, lime, and explosives. For additional information on supplier screening, see the [Supply Chain Risk Management data table](#).

We have developed minimum screening standards for local suppliers, which supports their participation in bidding processes. Going forward,

we will implement a due diligence screening process for non-critical, non-local suppliers.

Our [sustainability audit process](#) provides additional screening for human rights risks, including child and forced labour, that could be present in our supply chain through certain contractor and subcontractor relationships.

(12) Critical supplier is determined through an assessment of factors including transaction amounts, the nature of goods or services supplied, the contractor's record of compliance, whether the contractor is a local community related entity, and exposure to corruption risks.



ESG MANAGEMENT APPROACH

We operate ethically and apply sustainable business practices throughout the mining lifecycle with the objective of creating value for our COIs. Our aim is to meet or exceed applicable legal requirements and regulations through the application of industry best practices and adherence to recognized international standards for responsible business conduct.

We are members and supporters of industry associations that help us advance our sustainability performance. Our participation provides a forum to learn from and dialogue with our peers, as well as a platform through which we collaborate and contribute to industry best practices. We also take part in initiatives that help address key sustainability challenges of relevance to our Company and COIs.

We participate in the United Nations Global Compact as a means of driving global sustainable development and contributing to the United Nations Sustainable Development Goals. We are one of the few MAC member companies to require TSM implementation at all operations, regardless of location. We have set a corporate goal to achieve level A performance on all protocols at all operations.

A full list of our memberships can be found in the [GRI and SASB data tables](#).

ESG MANAGEMENT FRAMEWORK

Pan American Silver has adopted policies, standards, and guidelines that articulate the way our directors, officers, and employees are

expected to behave and guide our business. Our Global Code of Ethical Conduct provides the foundation for responsible business conduct and defines the key principles for operating ethically and in compliance with the law, for workplace relationships, and working with COIs. Our policy commitments and standards are based on industry best practices, international norms, and performance standards, and respond to COI expectations.

Each of our operations is responsible for the development and implementation of procedures and programs that comply with our policies and standards, and the corporate initiatives such as TSM. Our ESG Management Framework creates a mechanism through which we can operationalize our vision, values, and policy commitments. It provides a level of standardization across our operations by establishing expectations and providing guidance while allowing each mine the flexibility to tailor tools and processes as needed to meet the distinct social and environmental contexts of local communities.

Our ESG Management Framework covers areas where we have the greatest potential to impact our COIs or the environment. This system is designed to help us manage key issues, navigate risk, and deliver value to COIs. At the same time, it provides opportunities to share best practices across our sites.

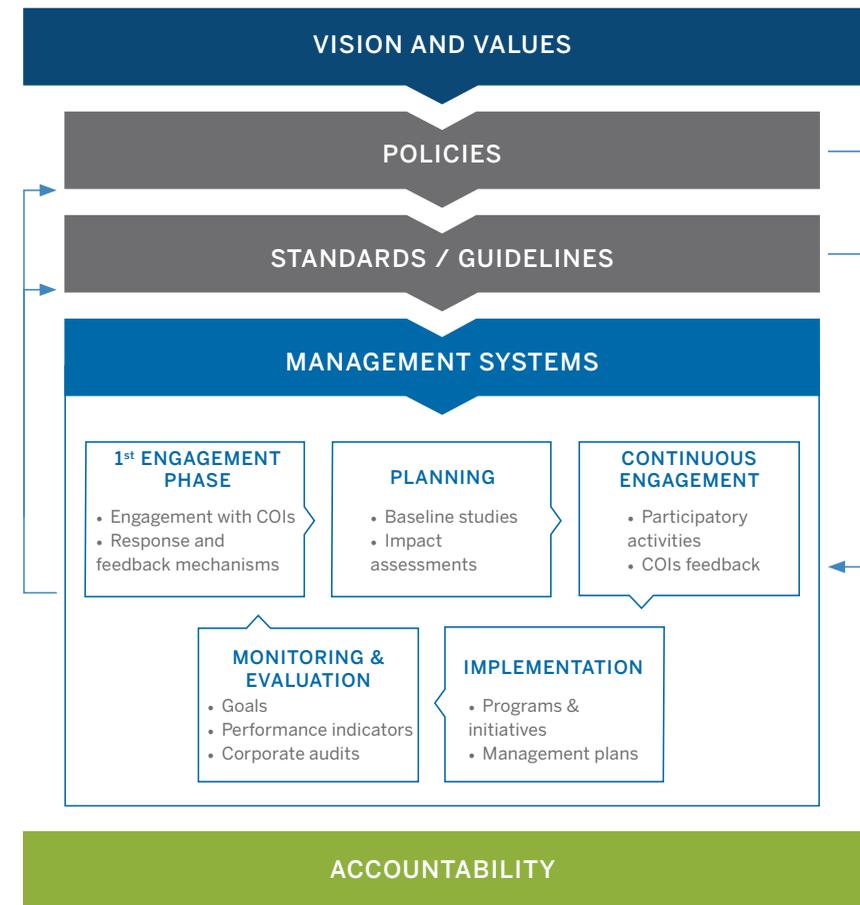
Our engage-plan-implement-monitor-evaluate management approach provides a consistent methodology for identifying and managing the actual and potential impacts of our operations on

the environment, economy, our workforce, and communities, including impacts on human rights. Many of our processes are participatory, which improves our ability to understand COI priorities, manage risk, respond to concerns, and implement

programs that contribute to sustainable development in the areas where we operate.

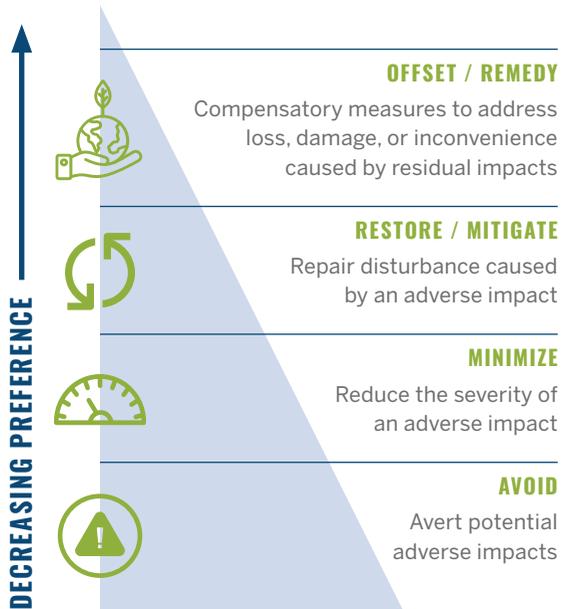
We train our local teams on guidelines and procedures to manage potential impacts and to improve our performance continuously.

ESG MANAGEMENT FRAMEWORK



Environmental and Social Mitigation Hierarchy

At each phase of the mine lifecycle, we strive to avoid or minimize negative environmental and social impacts, including impacts on human rights, and then mitigate, restore, and/or offset to compensate for any unavoidable or unforeseen impacts. Our Environmental, Social Sustainability, and Global Human Rights policies commit ourselves to a precautionary approach. Where appropriate, we take a precautionary approach when systematically assessing and managing environmental risks.



HUMAN RIGHTS MANAGEMENT

Throughout our history of operating in the Americas, respect for human rights has guided our relationships with COIs, particularly our workforce, supply chains, and local communities. The work we do affects people and ecosystems in the areas of influence surrounding our operations. Our management approach is transversal. We comply with laws and regulations, take steps to understand the linkages between the impacts of our activities on both individual and collective human rights (labour and environmental), progressively implement proper measures to respect human rights, and conduct ongoing due diligence. Our focus is on upholding human rights, building a positive human rights culture, respecting the traditions and cultures of local communities and of our workers, and supporting vulnerable groups.

Our [Global Human Rights Policy](#) sets out our commitment to respect human rights and provides guidance on the standards of conduct our directors, officers, and employees must follow. The policy also applies to any third party acting on behalf of or representing Pan American Silver. [Our Social Sustainability Policy](#) explicitly reinforces this commitment to respecting and supporting internationally recognized human rights laws and standards. Collectively, our key [ESG policies and corporate standards](#) compel us to consider human rights in the development of our social, environmental, and labour-related goals and programs and to engage in processes designed to mitigate any adverse human rights impacts from our activities. Accountability for human rights matters lies with the General Counsel and our Human Rights Officer and is overseen by the CSD committee of the Board.

RESPECTING HUMAN RIGHTS

We are committed to respecting national laws and international human rights conventions and implementing recognized best practices, including:

- United Nations Universal Declaration on Human Rights
- United Nations Guiding Principles (UNGPs) on Business and Human Rights
- Organization for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises
- TSM Indigenous and Community Relationships Protocol⁽¹³⁾
- UNICEF Canada's Child Rights and Security Checklist
- UNICEF Convention on the Rights of the Child
- United Nations Global Compact Principles
- Voluntary Principles on Security and Human Rights
- World Gold Council Conflict-Free Gold Standard
- BlackNorth Initiative
- Prosperity Project Canada

Due Diligence

Our due diligence processes help us identify, assess, avoid, mitigate, and account for actual and potential human rights risks and impacts. Our Global Human Rights Policy commits us to conducting reasonable, ongoing human rights due diligence.

Potential human rights issues differ at each of our operations. Ongoing engagement with COIs, along with site-specific processes, helps us identify and assess actual and potential human rights risks and impacts resulting from our activities as well as opportunities for enhancing such rights. Examples include:

- Participatory processes, including social baselines, cultural studies, and perception assessments help us understand the priorities and concerns of host communities, including the local workforce.
- Community and employee response mechanisms enable community members and workers to voice their concerns regarding perceived or actual impacts and receive a response from the Company.

(13) For more information on the Towards Sustainable Mining (TSM) initiative and how this protocol supports mining companies in respecting human rights, please see Towards Sustainable Mining: [Indigenous and Community Relationship Protocol](#).

- Site-level social teams work with local professionals, including social workers, teachers, and health practitioners, to identify and manage potential human rights risks and concerns.
- Labour negotiations and collective bargaining processes help us understand the interests and concerns of unions and workers.
- Health and safety risk assessments identify potential risks to and impacts on worker health and safety.

Certain of our existing risk systems and processes include screening for human rights risks.

- Human resources procedures screen for child and forced labour at our operations.
- Sustainability audits screen for risks to human rights from our operations, including the effects of our social programs on vulnerable groups within the framework of the law
- Country-level risk assessments identify and assess environmental, social/community, and labour risks that present actual or potential impacts to human rights.
- Supplier screening requires suppliers to adhere to our Human Rights policy.
- Through our alignment with the Voluntary Principles on Security and Human Rights a security and human rights risk assessment is produced annually.
- Due diligence for all acquisition and joint venture approvals includes human rights risks.

Where we have caused or contributed to negative impacts, we engage in processes to mitigate those

impacts. Where our due diligence requirement for direct consultation with rights holders cannot be met, we work with civil society groups to evaluate our practices.

Site-specific and company-wide programs and processes help us uphold and support identified salient human rights and provide a safe and healthy workplace that is free from violence, harassment, intimidation, and discrimination on the basis of race, colour, creed, age, gender, language, national or social origin, marital status, sexual orientation, disability, religious, political or other opinion, or union affiliation.

In addition, our social teams support local community groups in providing training and education for women, youth, families, and vulnerable people on locally relevant topics such as access to education and career opportunities; domestic violence and alcohol addiction; gender equality; parenting and healthy households; mother and child's health; hygiene and sanitation practices; sexual health and reproductive rights; and discrimination and sexual harassment.

Through participation or funding, we also support human rights in our industry and in the countries in which we operate. For example, we are implementing the BlackNorth Initiative's CEO pledge by supporting inclusion at the university level in Canada through funding for the Viola Desmond Chair in Social Justice at Cape Breton University and the Pan American Silver Equity and Inclusion Award in Science scholarships at the University of British Columbia.

Programs and processes supporting human rights		
Category	Salient Right	Examples of our programs
Labour	<ul style="list-style-type: none"> • Equality • Non-discrimination 	<p>Specialized training in the prevention of discrimination and harassment in the workplace, including sexual harassment.</p> <p>The Building Respect Together program is helping us build safe, respectful, and inclusive work environments free from discrimination and harassment.</p>
	<ul style="list-style-type: none"> • Safe and healthy working conditions 	<p>Behaviour-based safety programs are designed to encourage workers to take a more active role in their own safety.</p> <p>Human resources procedures that screen for child and forced labour at our operations and supply chains.</p>
	<ul style="list-style-type: none"> • Peaceful assembly and association 	<p>Operation-level engagement programs to promote participation and meaningful dialogues with workers and unions.</p>
Social and Economic	<ul style="list-style-type: none"> • Adequate standard of living • Transparency in local contracting • Open and honest communications 	<p>Socio-economic development programs aim to provide lasting benefits to host communities. Designed in collaboration with local communities and authorities; these programs are focused on education, health, local hiring, and procurement opportunities, taking into account cultural relevance.</p>
	<ul style="list-style-type: none"> • Respecting Indigenous Peoples rights 	<p>For information on the process of Consultation in Guatemala see the Escobal Mine section</p>
	<ul style="list-style-type: none"> • Private property 	<p>Land acquisitions processes to ensure that physical and economic displacement impacts on affected people, if any, are avoided or minimized where possible, and appropriately mitigated when they occur in a manner that fosters trust and mutual respect.</p>
Security	<ul style="list-style-type: none"> • Integrity • Responsible use of force and armed equipment • Anti corruption and transparency 	<p>The Pan American Silver Security and Human Rights Standard helps us implement the Voluntary Principles on Security and Human Rights across our operations and integrate the respect of human rights into our security practices.</p>
Environment	<ul style="list-style-type: none"> • Clean water and sanitation 	<p>Operation-level programs and processes aim to reduce our water use and water use intensity. We manage risks related to water availability and quality at the water catchment-scale, considering interactions with other users, COIs, and ecosystems.</p>

Embedding Human Rights

We are working to build a shared understanding of and common language around human rights across the Company. Our employees, for example, are at the forefront of our engagement with community members. Workers who recognize the actual and potential impacts of their roles on the human rights of others are better able to act to uphold and respect those rights. We educate our workforce on human rights, including our approach to upholding those rights and the expectations we set out in our policies. We incorporate human rights awareness into our employee onboarding and into ongoing employee training. Training on the Voluntary Principles on Security and Human Rights (VPSHR) is compulsory for all Security and External Affairs teams and for all employees who work with security providers.

In Argentina, Perú, and México, countries that have ratified the ILO 190 Violence and Harassment Convention, managers were trained on the expectations and requirements of the convention, which is focused on preventing workplace violence and harassment.

HUMAN RIGHTS INTERNAL REVIEW AT ESCOBAL

In compliance with our Global Human Rights Policy, which incorporates the United Nations Guiding Principles on Business and Human Rights and the Guidelines for Multinational Enterprises of the Organization for Economic Cooperation and Development, we adopt a cross-cutting approach of indivisibility recognizing the interdependence and intersectionality of human rights. **In 2022, at our Escobal mine in Guatemala, we undertook an internal process intended to identify human rights risks.** We examined the project's history and its current status, which made it possible to review past negative impacts, assess their severity, scope and probability of recurrence, and determine the effect of the measures implemented to prevent or mitigate them.

All local management participated in the process. Our objective was to further understand how their management responsibilities and daily work is connected to human rights and how this is aligned with the Global Human Rights Policy.

This process integrated human rights principles to improve our supplier relationship processes and compliance with labor laws, forced labour and child labour, international standards on water use and environmental issues, including a review of our mechanisms for responding to employees, members of neighboring communities and other communities of interest.

We also employed a gender based approach to:

- Ensure women are included in our support programmes for local business development and local procurement
- Assess mining-related impacts on women and track how effectively these impacts are being managed
- Protect women workers from sexual harassment and gender-based violence
- Ensure women workers have fit-for-purpose PPE
- Provide women workers with safe and separate sanitation facilities and gender-appropriate health services



PERFORMANCE MONITORING

We measure and monitor our sustainability performance with the objectives of complying with regulatory requirements, identifying, and managing potential risks, and continuously improving our approach and performance.

SUSTAINABILITY GOALS AND PERFORMANCE INDICATORS

Our annual corporate sustainability goals are developed in collaboration with our operation teams who set site-specific goals. These goals roll up into corporate goals which are reviewed by senior management and the Board on a quarterly basis.

We have aligned our 2023 goals with the 10 Global Compact Principles and our prioritized SDGs to drive positive impact in these areas. This approach furthers our commitment to respect and support human rights, which are embedded in both the Global Compact Principles and the SDGs.

We created Sustainability Performance Indicators (SPIs) to monitor performance on key social and environmental activities at our operations. The SPIs also allow us to track progress towards the achievement of our goals. We have standardized SPI measuring and reporting across all sites. Senior operation management reviews SPI performance on a monthly basis; senior management and the Board receive quarterly performance reports. In 2022, our SPIs covered:

- Environmental incidents
- Environmental audits
- Water use

- Energy use
- GHG emissions
- Biodiversity conservation
- Waste management
- TSM performance
- Social risk management
- Community grievance and request management
- Community investment
- Sustainability Audits

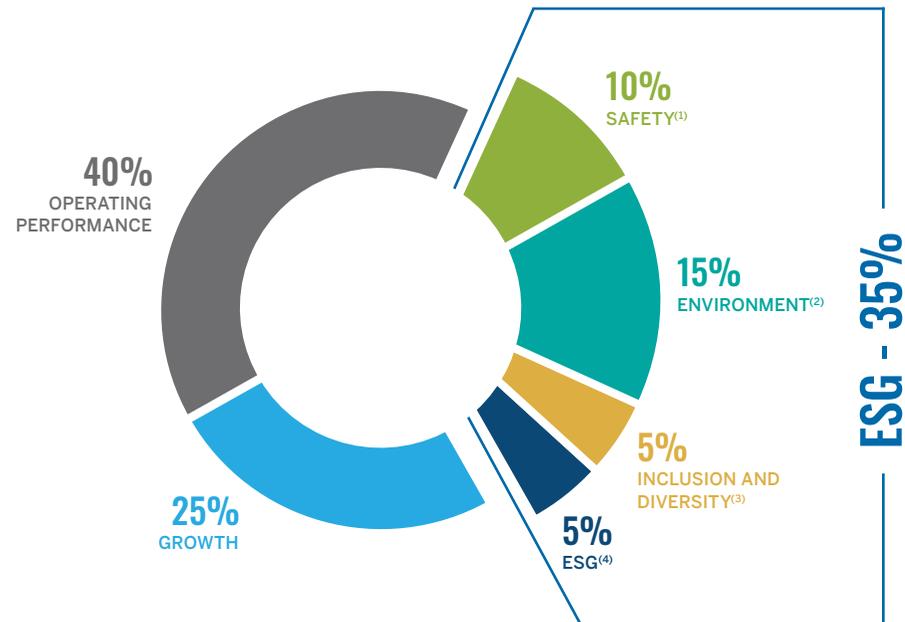
With our decentralized structure, the SPIs are proving particularly important in building a common understanding of our sustainability priorities across the Company. In turn, this helps to focus on the priorities of operations and directing the activities of the operation-level teams. Regular monitoring and reporting have increased corporate oversight. We continue to develop new SPIs to drive performance in key areas.

Performance on our goals and SPIs can be found [here](#).

PERFORMANCE-BASED COMPENSATION

Our 2022 annual incentive plan for senior management – executive officers, vice presidents, country managers, directors, operation and unit managers – provided incentive compensation directly related to achieving short-term objectives, both corporate and operation-specific, which are approved by the Board with 35% of the goals tied to ESG metrics.

SENIOR MANAGEMENT'S 2022 PERFORMANCE-BASED COMPENSATION



(1) Lost time injury frequency (LTIF) and lost time injury severity (LTIS) targets.
 (2) Environment Goals include zero Significant Environmental Incidents ("SEIs").
 (3) Hiring of women target.
 (4) ESG performance rating (MSCI and S&P) linked to credit facility.

TOWARDS SUSTAINABLE MINING

TSM is a world-class performance management standard designed to help mining companies operate responsibly and manage risks. The TSM protocols help sites in developing quality sustainability management systems and to improve their sustainability performance continuously. Sites self-assess their performance against the TSM protocols on an annual basis.

In 2022, all operations achieved level A on every TSM protocol except for the Safety and Health protocol. Fatal accidents at Dolores, La Arena and Huaron prevented these operations from achieving Level A on the safety protocol.

Annual 2022 progress is shown in the table below:

Site	Tailings	Energy and Greenhouse Gas Emissions	Biodiversity Conservation	Water Stewardship	Safety and Health	Crisis Management	Indigenous and Community Relationships	Prevention of Child and Forced Labour	Average ⁽¹⁾
Timmins	100%	100%	100%	100%	100%	100%	100%	100%	100%
Dolores ⁽²⁾	N/A	100%	100%	100%	80%	100%	100%	100%	97%
La Colorada	100%	100%	100%	100%	100%	100%	100%	100%	100%
La Arena ⁽²⁾	N/A	100%	100%	100%	80%	100%	100%	100%	97%
Shahuindo	N/A	100%	100%	100%	100%	100%	100%	100%	100%
Huaron ⁽²⁾	100%	100%	100%	100%	80%	100%	100%	100%	98%
San Vicente	100%	100%	100%	100%	100%	100%	100%	100%	100%
Manantial Espejo	100%	100%	100%	100%	100%	100%	100%	100%	100%
Average	100%	100%	100%	100%	93%	100%	100%	100%	99%

(1) Average percentage completion of all protocols criteria.

(2) Unable to attain level A on Safety and Health protocol due to fatal accident.

In 2022, a third-party consultant completed external verification of TSM performance at our Timmins operations. The external verification ratings confirmed and, in some cases, exceeded our own self-assessment.

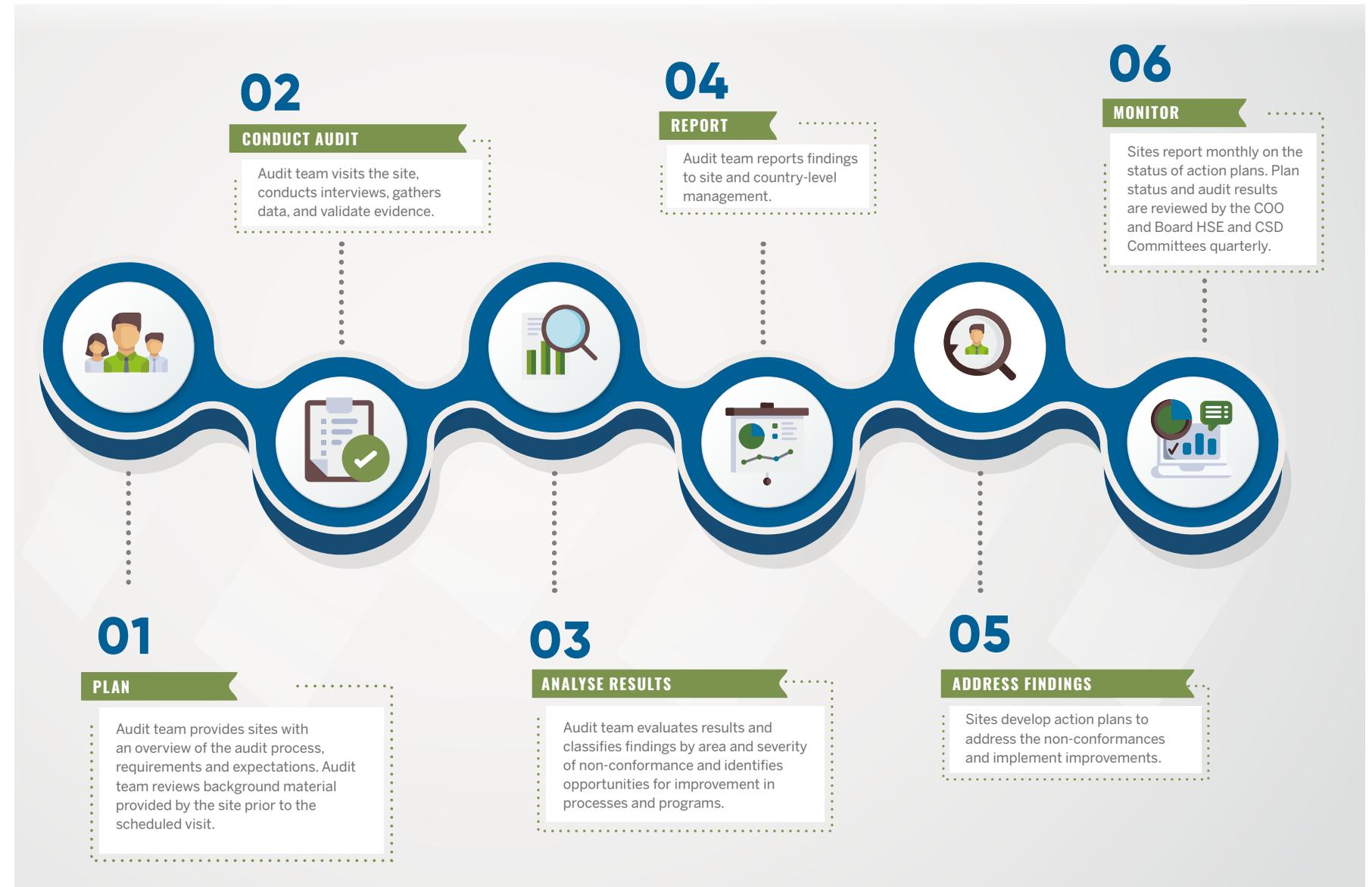
Protocol	Performance	
	Pan American's 2021 self-assessment	Third-party external verification
Tailings	A	A
Energy and Greenhouse Gas Emissions	AAA	AAA
Biodiversity Conservation	A	AAA
Water Stewardship	A	AA
Safety and Health	A	A
Crisis Management	Yes	Yes
Indigenous and Community Relationships	A	A
Prevention of Child and Forced Labour	Yes	Yes

ESG AUDITS

A key component of our management approach includes ESG audits. We conduct biennial sustainability, environmental, and safety audits at each of our operations to evaluate our compliance with relevant policies and standards, the effectiveness of our programs, and to drive continuous improvement. Audit content is based on a selection of international and industrial best practices as well as industry and Company standards. Our audits teams typically consist of internal experts from across the Company and occasionally using third party subject matter experts. This process fosters the integration and sharing of best practices between operations. The audit process commonly employs a hybrid approach of on-site visits, video interviews, and review of documentation, procedures, and management systems.

At the completion of an audit, operations create action plans to address the findings. High-priority findings are reported to the Vice Presidents of relevant departments and executive management and reviewed by the Board on a quarterly basis.

ESG AUDIT PROCESS

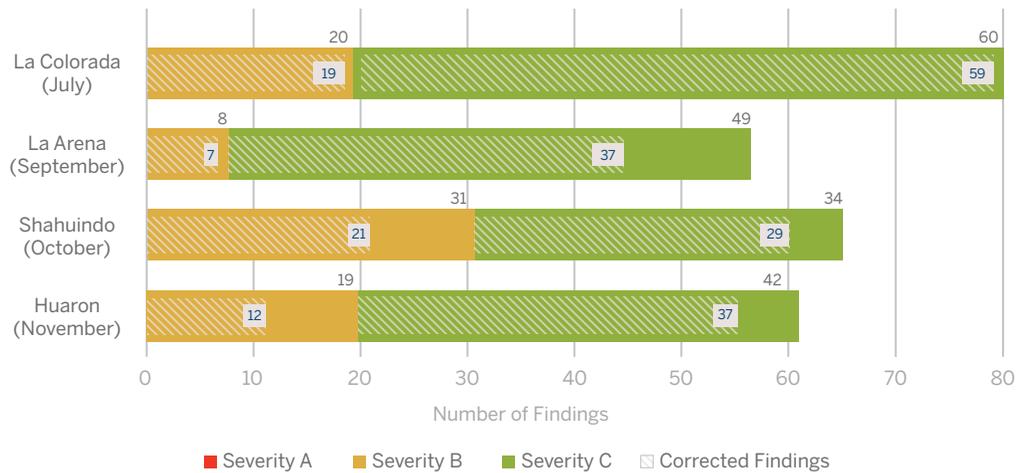


Environmental Audits

Our audits assess each operation’s facilities, operating procedures, and control processes to determine whether potential risks are being managed correctly.

In 2022, we conducted environmental audits at La Colorada, La Arena, Shahuindo and Huaron. No high-severity non-conformances were identified in any of the audits. The low and moderate-severity non-conformances identified relate primarily to waste, reagents, or minor spill management.

ENVIRONMENTAL AUDIT PERFORMANCE 2022



(1) Severity A (high) applies to non-conformance audit findings that, if not corrected, may have impacts outside the mine site that are real or perceived by local communities and government, or may have a critical impact on the Company’s reputation.
 (2) Severity B (moderate) applies to non-conformance audit findings that may not comply with local regulations and practices and/or have negative impacts that can be mitigated or remediated.
 (3) Severity C (low) applies to non-conformance audit findings that may not comply with internal procedures and policies and/or have minor negative impacts that can be mitigated or remediated.

Sustainability Audits

We conduct sustainability audits to evaluate and monitor our social performance by reviewing the capacity of our social teams, the effectiveness of our community programs and processes, and the conditions of our mining camps. Topics covered include labour and human rights, employees living conditions at sites, inclusion and diversity practices, relationships with local contractors, community and Indigenous engagement, implementation of Company’s standards, social impact and risk assessment, community investment, security and human rights, and social mine closure. We also audit performance on our SPIs. The audits are conducted by experienced professionals from our team with formal training on our audit systems, from across the Company.

Our audit framework is based on the ISO 26000 guidance standard⁽¹⁴⁾ on social responsibility and incorporates Pan American Silver’s policy commitments, as well as international best practices from:

- ICMM’s Mining Principles
- TSM - Indigenous and Community Relationships Protocol, Crisis Management and Communications Planning Protocol, Mine Closure Framework, and Prevention of Child and Forced Labour Verification Protocol

- United Nations Guiding Principles (UNGP) on Business and Human Rights
- UNICEF Canada’s Child Rights and Security Checklist
- Voluntary Principles on Security and Human Rights
- International Labour Organization’s Guide for Enterprise Diagnostics

In 2022, we updated our Sustainability Audit Manual, with input from the Social Sustainability, Security, Human Capital, Human Rights functions, and site-level social teams. This document is aligned with ICMM’s principles and performance standards and relevant TSM protocols and serves as a critical component of our social risk management.

In 2022, our internal teams conducted a sustainability audit focused on the mine closure aspect at Manantial Espejo based mainly on the Corporate Social Closure Standard requirements. We also conducted an external TSM verification with a third-party consulting firm in our Timmins mine, which confirmed level A on the TSM Indigenous and Community Relationships Protocol.

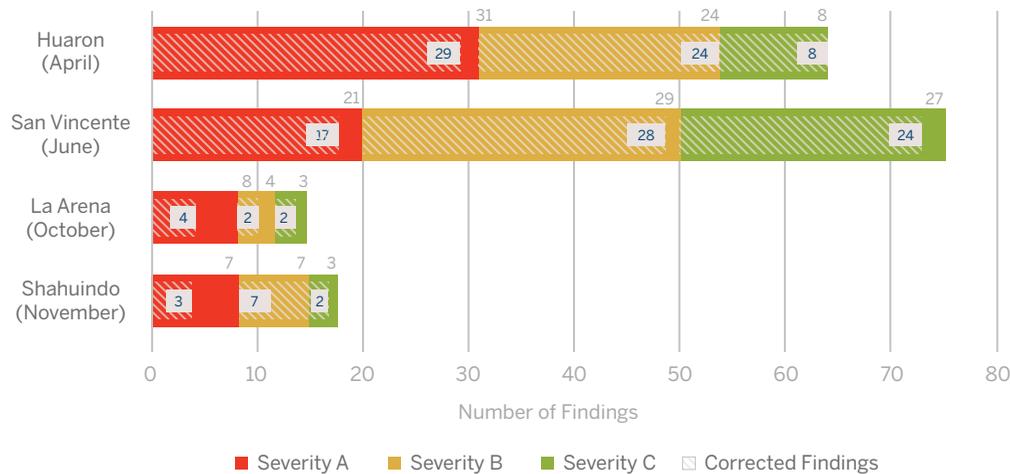
(14) For more information, please visit <https://www.iso.org/iso-26000-social-responsibility.html>

Safety Audits

We conduct annual audits of all health and safety programs, and we remediate all identified health and safety concerns. Audits are led by the Director of Health and Safety and conducted by a Corporate Safety Department team consisting of internal safety personnel and external experts in relevant areas, such as geotechnical or emergency response.

In 2022, we restarted our corporate safety audit program, which had been paused due to COVID-related restrictions. Safety audits were conducted at Huaron, San Vicente, La Arena, and Shahuindo. By the end of the year, operations had remediated 87% of the 172 findings.

SAFETY AUDIT PERFORMANCE 2022



(1) Severity A: High risk finding with the potential, if not corrected, to cause a serious or fatal accident.
 (2) Severity B: Medium risk finding with the potential, if not corrected, to cause a moderate accident. Repetitive B findings are re-categorized as A findings.
 (3) Severity C: Low risk finding.

SUSTAINABLE DEVELOPMENT GOALS

PAN AMERICAN SILVER'S PRIORITIZED SDGS



The 17 Sustainable Development Goals (SDGs) are aimed at focusing and accelerating efforts to address global challenges and foster an inclusive, sustainable future. Meeting the 2030 target year for these goals requires strong, collaborative efforts from governments, private sector entities, and civil society. The mining industry has great potential to drive future progress on the SDGs, as mines are often located in remote and developing regions, where implementing and advancing the SDGs can be challenging but can have important and lasting impacts.

Pan American Silver is committed to the principles of sustainable development and to advancing all 17 SDGs. However, we recognized the need to focus our efforts on the SDGs where we could have the greatest impact through our activities. In 2020, we prioritized eight SDGs based on the following considerations:

- Contribution of the mining industry to the SDGs.
- The SDG independent country assessments⁽¹⁵⁾ for the countries where Pan American Silver operates.
- Pan American Silver's current efforts and initiatives to support the SDGs.
- Linkage between the SDGs and Pan American Silver's material topics.

In 2022, we continue with the practice of aligning the objectives of these prioritized SDGs with our own Company's [Sustainability Goals](#), which will drive our performance and maximize positive impact in these areas.

For more details on how Pan American Silver contributes to the eight prioritized SDGs, please see the SDGs section of our [sustainability section on our website](#).

(15) The Sustainable Development Report conducts an independent assessment of all 193 UN Member States, as a measurement of the country's total progress towards achieving each SDG. Sustainable Development Report 2020 (sdgindex.org).

ENVIRONMENT



ZERO

SIGNIFICANT ENVIRONMENTAL INCIDENTS



19%

REDUCTION IN GHG EMISSIONS COMPARED TO THE 2022 BASE CASE



14%

REDUCTION IN WATER USE COMPARED TO THE 2022 BASE CASE



9%

REDUCTION IN ENERGY USE COMPARED TO THE 2022 BASE CASE



DEVELOPED AN **ENVIRONMENTAL INCIDENT MANAGEMENT** CORPORATE STANDARD



< 30%

OF OUR PURCHASED ELECTRICITY SUPPLY SOURCED FROM FOSSIL FUEL GENERATION



SECURED **RENEWABLE ELECTRICITY** SUPPLY AT BOTH OUR OPERATIONS IN MEXICO



WATER STEWARDSHIP

WHY IS WATER STEWARDSHIP IMPORTANT?

Water is an essential resource for the natural environment, all living beings, and business enterprises. Access to clean water is a fundamental human right, but in many parts of the world, water resources are increasingly under stress due to population growth, economic development, and climate change. Mineral processing and mining activities have the potential to affect the health of local watersheds and ecosystems and limit or improve the availability of water for local communities. The mining industry increasingly sees water management as a cross-sectoral issue, requiring broad collaboration to minimize/mitigate negative impacts and reinforce water's essential role in

sustainable development.

At Pan American Silver, we work to minimize any detrimental effects of our activities on water availability and quality. We are committed to water stewardship across our operations and take a collaborative, catchment-wide approach to water management. This approach is important to our ability to meet challenges related to competing uses, new demand, and climate variability. Managing our impacts and respecting the rights of other water users is essential in building trust and long-term relationships with our host communities.

ANALYST CENTER



Material topic: Water

What's included in this section:

- Water management
- Water quality
- Water use
- Water use intensity

GRI indicators: 3-3; 303-1; 303-2; 303-3; 303-4; 303-5

SASB indicators: SASB EM-MM-140a.1; SASB EM-MM-140a.2

Prioritized SDGs: 6

UNGC Principles: 7; 8; 9

For additional information, see these data tables: GRI 2-27, GRI 303-3/SASB EM-MM-140a.1 (1); Water Intensity; GRI 303-4; 303-5/SASB EM-MM-140a.1 (2); GRI 3-3 (2022 Water Performance and 2023 Water Goals by Operating Mine)

Potential impacts from mining activities: ground and surface water quality degradation through spills, discharges and stormwater runoff, competing uses affecting watersheds and other water users, water access for local communities and community development projects

Potential risks to the company: new water regulations and permit requirements, water scarcity or water scarcity perception in the areas where we operate, more extreme/less predictable weather conditions, potential community conflicts, reputational damage

OUR APPROACH

We strive to optimize water use and avoid potential negative impacts on water resources. Water management considerations are integrated into mine operation and closure plans. Our management of water-related risks includes consideration of and engagement with other users within the catchment area. We also support access to clean, reliable water supplies for communities around our operations. Each mine is responsible for the development and implementation of procedures and programs that comply with corporate policies and initiatives.

Policy

- [Environmental Policy](#)

Plans, Programs and Initiatives

- Water baseline studies are conducted prior to mining to identify catchment or district-level water availability and quality.
- Water management plans help sites manage contact and non-contact water discharge from our operations to comply with permit requirements and mitigate potential negative downstream water impacts.
- Water balances track site-level water use, reuse, and discharge quantities.
- Water commitments are established by each mine and may be embodied in environmental permits or set through voluntary agreements with communities and other third parties.
- Participatory water monitoring programs at

our Peruvian operations involve community representatives from around our mine sites.

- Training is provided to employees and contractors involved in water management.

Monitoring and Evaluation

- The TSM Water Stewardship Protocol is used by sites to self-assess performance and implement action plans for continuous improvement.
- Monitoring the quality and quantity of water withdrawal and water discharged from our sites ensures permit and regulatory compliance, monitoring water quality upstream and downstream helps us identify water-related impacts, risks, and opportunities.

Accountability

- The General Manager at each operation is responsible for the development and implementation of procedures and programs that comply with corporate water-related policies and initiatives.
- The Vice President of Environment is responsible for the water management strategy, water use, managing risks posed by water scarcity, and overseeing projects and initiatives related to water.
- The Board HSE and CSD committees have oversight of matters related to water policies and practices.



OUR PERFORMANCE

Water Management

Effective water stewardship requires engagement and collaboration with other watershed users, and COI engagement is a core component of our approach. All operations have implemented the TSM Water Stewardship protocol. Site-level environment and social teams work together in engaging with local communities to better understand our operational impacts on local water catchment and the relevance of water to communities and other water users from socio-economic, cultural, and traditional use perspectives. Learnings inform our site-level water management systems and help us better respond and contribute to the objectives of other watershed users.

Our operations in Peru are part of independent participatory water monitoring committees, presided by and including community representatives. Additional to monitoring water quality, these committees maintain opened dialogue spaces between our operations and the community. Also, our Timmins operation participates in the Mattagami Region Watershed Committee (see [Biodiversity section](#) for more information on the initiative of this Committee). Information on the participation of our Escobal mine in its local watershed committee can be found in the [Escobal Mine section](#) of this report.

Our new Corporate Environmental Incident Management Standard, which establishes a framework for incident reporting and response, will support our efforts to identify water related

risks and implement timely prevention or mitigation measures.

We continue our work to develop a Water Management Corporate Standard, which will include our improvements in the quality and consistency of our water reporting and outline water management requirements for all operations.

Water Quality

We manage water runoff and discharge in accordance with local regulations and have processes in place to avoid and/or manage spills. In 2022, we had no significant spills. Timmins had four reportable spills, all of which were contained and cleaned up without impacting water quality. We also had a minor instance of non-compliance at Huaron. Additional details are included in [GRI & SASB data tables](#).

We invest in improvements to water and wastewater treatment facilities and work to improve our management practices so that we can provide additional treatment capacity, improve efficiency, and increase the amount of recycled water available used in our operations. In 2022, we expanded our domestic water treatment plant at La Colorada and continued with the construction of the new water treatment plant at Shahuindo for runoff from the South waste rock dump in the Merinos water catchment. We are currently planning new water treatment plants for waste rock dumps at Shahuindo and La Arena.

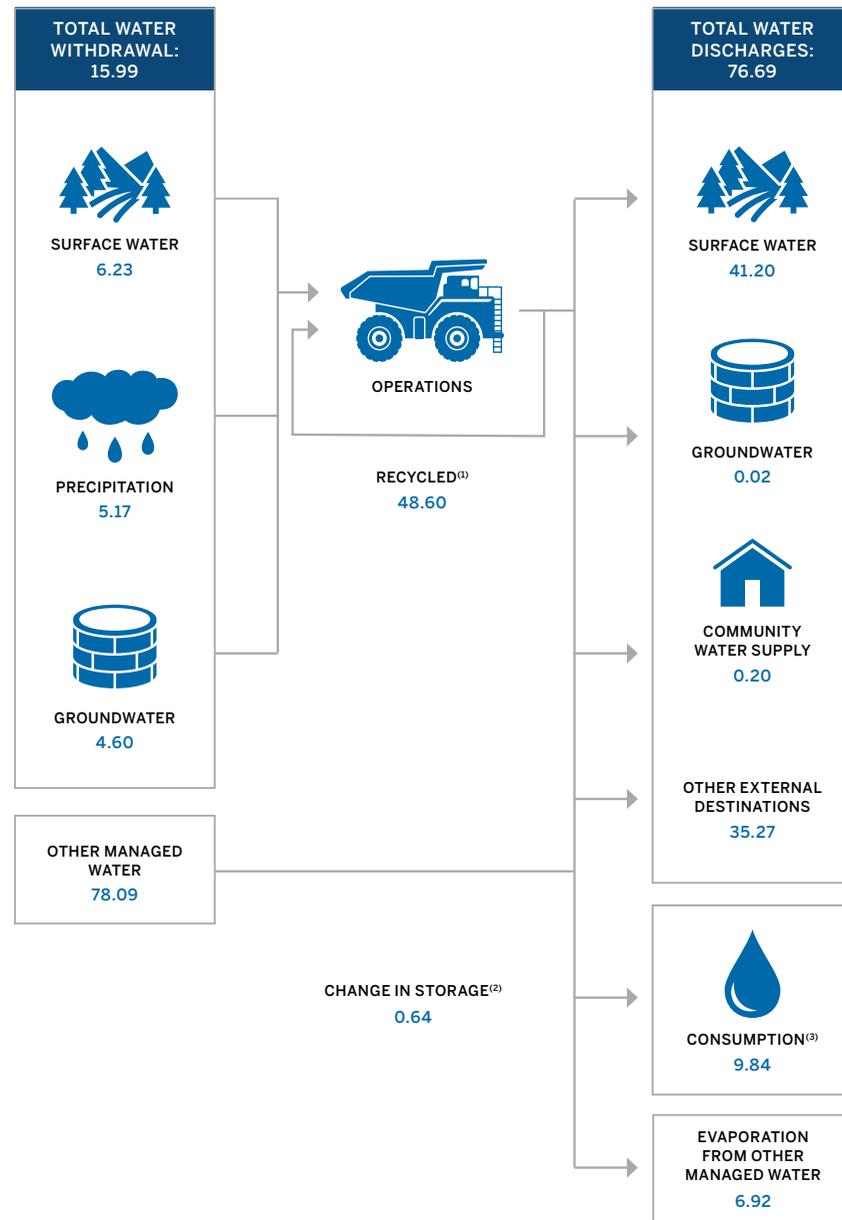
LA ARENA AND SHAHUINDO RECEIVE BLUE CERTIFICATE AWARD IN PERU

In 2022, our La Arena and Shahuindo mines received the Blue Certificate from the Peruvian National Water Authority for their projects to reduce water use and support for water-related community projects. La Arena reduced water use by optimizing a pumping system for mine dewatering while Shahuindo used a molasses-based additive to reduce water used for dust control.

To support nearby communities, Shahuindo installed 23 chlorination systems to provide safe drinking water to over 16,000 people in the districts of Condebamba and Cachachi. Between 2018 and 2022, La Arena carried out a reforestation project, that included the construction of tree nurseries and irrigation systems to reduce runoff and promote groundwater recharge.



COMPANY-WIDE WATER BALANCE (MILLION M³)



1) Volume of recycled water is different from data provided as “recycled process water”, as it includes other activities for which water supply came from recycling.
 (2) Reflects additional accumulated/collected in water reservoirs.
 (3) Water used but not discharged back to the water environment or other external destinations, such as evaporation, water retained long-term in our tailings and heap leach facilities, water used for shotcrete preparation or paste backfill, dust suppression.
 (4) Includes ore moisture.

Water Use

All operations set annual goals to reduce water use through site-based projects and initiatives that increase water recycling and reduce water usage. Our 2022 goal was to reduce water use by 1% as compared to the 2022 base case⁽¹⁶⁾. A combination of factors, including our reduction initiatives, changes in operations, weather conditions, and project delays, resulted in a reduction of 14% compared to the base case, substantially exceeding our goal.

Our sites reduced water use through initiatives such as Dolores’s reuse of treated effluent from a water treatment plant for operations. Shahuindo also reused treated water for operations, including processing and dust control. The mine also reduced water use for dust control by using locally available molasses (from local sugar production) as an additive for road watering, subsequently reducing the amount of water used.

Timmins continues to use only precipitation on the Bell Creek tailings facility and associated ponds for mineral processing, which it has done since the start of operations. No external water source is used for mineral processing.

Site performance on annual water goals can be found in the [GRI & SASB Data Tables](#).

Our company-wide water balance shows how much water we withdraw, recycle, and discharge. Our water inputs are groundwater, including from mine dewatering, water from precipitation, and surface water sources such as lakes or rivers. In 2022, 83% of our company-wide water balance was other managed water, that is water managed by our sites without the intent to supply our operations. This water is released to the environment without use and becomes available in the watersheds where we operate. Some of the water that we discharge helps local communities meet their water needs and can support local agriculture.

For ore processing, we use water recycled from our process plants, water treatment plants, tailings facilities, and heap leach pads. Where necessary, this recycled water is supplemented with new water from mine dewatering or external sources. In 2022, 81% of all water used for ore processing was recycled water. Water retained long term in our tailings and heap leach facilities, used for shotcrete and paste backfill, and evaporated water is counted as water consumption.

(16) The 2022 base case is our projected 2022 water use, as calculated using our life of mine plans adjusted for annual production.

Our Dolores mine in Mexico, located in the Yaqui River catchment, is our only operation in a catchment with high or extremely high baseline water stress⁽¹⁷⁾. Water withdrawal at Dolores constitutes 16% of total corporate water withdrawal and 14% of total corporate new water use for mineral processing. Dolores' water use intensity in 2022 was 0.21 m³/tonne of ore processed. The impact of the Dolores mine on local water availability is negligible as the mine's water usage is less than 0.2% of the natural water recharge at the Yaqui River catchment⁽¹⁸⁾. Nevertheless, we continue to implement initiatives to reduce our reliance on water at the mine.

As part of our efforts to support communities, Dolores, La Colorada, and San Vicente continued to facilitate the water supply for local communities, and Dolores and San Vicente continued to treat the waste water effluent of nearby communities.

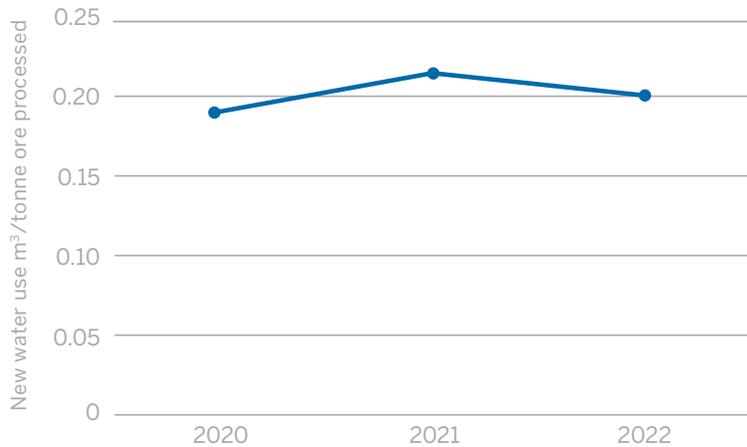
Water Use Intensity

Water use intensity is a measure of how much new water we use in our mines on a unit basis of cubic metres of water per tonne of ore processed. In 2022, the combined water use intensity of our operations, excluding Huaron and Morococha, was 0.20 m³/tonne of ore processed, a slight decrease from the 0.22 m³/tonne of the previous

year, mainly driven by the decreased rainfall in the pad at Shahuindo. Water use intensity at Huaron and Morococha was 3.80 m³/tonne of ore processed, a slight increase from 3.78 m³/tonne in 2021.

We report the water intensity of Huaron and Morococha separately since their data would otherwise mask trends at our other operations. These two mines have high calculated water intensity because they are designed with gravity-driven water supply systems wherein water flows from large lakes through the mineral processing plant, is treated, and is then discharged downstream. Both mines are in areas with high precipitation, low evaporation, and abundant surface water. The gravity-driven designs reduce energy use and greenhouse gas emissions at both sites by eliminating pumping for water recycling.

WATER INTENSITY⁽¹⁾



(1) Water intensity per tonne of ore milled are revised for 2020 and 2021. Ore moisture was included for both years at all operations, and La Colorada and La Arena values were revised for accuracy.

(17) As identified by the World Resources Institute, the Yaqui river catchment is identified as having extremely high baseline water stress.

(18) Annual average water availability agreement for the 757 water catchments in Mexico published on September 21, 2020, in the Mexican Official Federal Journal.

NEXT STEPS

- Continue to update water balances and physical climate change risk assessments at each site.
- Advance the development of medium to long-term water use reduction projects and targets.
- Finalize and roll out the Water Management Corporate Standard.



TAILINGS FACILITIES AND WASTE MANAGEMENT

WHY ARE TAILINGS FACILITIES AND WASTE MANAGEMENT IMPORTANT?

The generation of both mineral and non-mineral waste is part of the mining lifecycle. Mineral waste includes waste rock, processed ore, and sludges or tailings. These are the by-products of precious and base metal ore processing and mineral and metal extracting, which involves crushing, milling, and processing ore into a wet slurry in order to extract the minerals or metals. Tailings are generally stored in above-ground, engineered impoundment facilities, which allow the separation of water for recycling or discharge. Metal can also be extracted by stacking processed ore on heap leach pads. Recent catastrophic failures of tailings dam facilities in the world have demonstrated the potential magnitude of damage to communities, workers, and the environment that can result. Therefore, safe management of tailings facilities has become a global priority for

the mining industry, governments, communities, insurers, and investors.

Non-mineral waste produced through mining activities includes domestic and industrial hazardous and non-hazardous wastes. The proper management of these waste products is also necessary to avoid harm to the environment, workers, and communities.

At Pan American Silver, our aim is to minimize such impacts. Responsible management of our tailings facilities, heap leach pads, and mineral and non-mineral waste is a priority. Best practices management systems, critical controls, and on-going monitoring reduces potential negative impacts on workers, local communities, and ecosystems, and helps us deliver positive impacts, including jobs, local development, and minerals, to meet societal needs.

ANALYST CENTER



Material topic: Tailings and Waste Management

What's included in this section:

- Tailings and heap leach facilities management framework
- Emergency preparedness and response
- Technological innovation
- Waste rock
- Non-mineral waste

GRI indicator: 3-3; 306-1; 306-2; 306-3; MM3

SASB indicators: EM-MM-540a.1; EM-MM-540a.2; EM-MM-540a.3; EM-MM-150a.4; EM-MM-150a.5; EM-MM-150a.6; EM-MM-150a.7; EM-MM-150a.8; EM-MM-150a.9; EM-MM-150a.10; SASB EM-MM-160a.2

Prioritized SDGs: 12

UNGC Principles 7; 8; 9

For additional information, see these data tables: GRI 306-3/SASB EM-MM-150a.4/SASB EM-MM-150a.7/SASB EM-MM-150a.8; GRI G4 MM3/ SASB EM-MM-150a.5/ SASB EM-MM-150a.6; Reportable Spills; SASB EM-MM-540a.1

Potential impacts from mining activities: human and ecosystem health, damage to property and infrastructure, community livelihoods, water and soil contamination, alteration of natural drainage patterns, compromise to physical stability of mine workings

Potential risks to the company: delayed production, fines, penalties and sanctions, loss of social acceptance

OUR APPROACH

We manage mineral waste by designing, building, operating, maintaining, and closing tailings storage facilities, water dams, heap leach pads, and waste stockpiles. We conduct routinely geotechnical and environmental monitoring, Engineer of Record (EoR) safety inspections, risk assessments, internal audits, and independent safety reviews of our facilities to improve our management systems continually and minimize the chance of an incident occurring at our facilities.

All sites measure and monitor the generation and disposal of industrial and domestic waste and have established operational procedures and commitments to manage and reduce waste.

Policy

- [Environmental Policy](#)

Standards and Guidelines

- The Tailings, Water Dam, and Heap Leach Facilities Corporate Standard incorporates the TSM Protocol and CDA Guidelines and sets out responsibilities and a management framework for the planning, implementation, monitoring and surveillance, and review of critical facilities.

Plans, Programs, and Initiatives

- Site-specific tailings management systems guide the approach for each site to incorporate and manage the TSM Tailings

Management Protocol and CDA Dam Safety Guidelines while complying with local regulations.

- Operational, maintenance, and surveillance manuals serve as a critical component in meeting performance objectives and managing potential risks.
- Predictive modelling is conducted prior to operations and right through closure to identify the potential for long-term acid drainage and metal leaching from tailings, waste rock, and heap leach facilities.
- Site-specific emergency preparedness and response plans help minimize consequences of a tailings storage facility spill or failure. Plans are aligned with facility risk assessments and linked to the Corporate Crisis and Communications Plan. Drills and emergency simulations are conducted periodically. The Engineer of Record (EoR) forum convenes EoRs on as needed bases to discuss specific technical matters and share best practices.

Monitoring and Evaluation

- Site inspections to assess facility conditions are conducted regularly by technical staff.
- Dam safety inspections (or Safety Inspections for heap leach facilities) to assess the stability and safety of facilities are conducted at least annually by the external Engineer of Record (EoR).

- Independent dam safety reviews (or Independent Safety Reviews for heap leach facilities) to assess facility risk and identify improvements are conducted every five years by an independent reviewer.
- Management system reviews to identify opportunities for improvement are conducted annually by internal teams in coordination with the VP of Mineral Processing, Tailings & Dams.
- TSM Tailings Management Protocol self-assessments to ensure the compliance of its tailings management system with the TSM protocol are conducted annually by each site. Internal or external TSM tailings audits are conducted every 3 years.
- Risk assessment and dam breach analyses are conducted for each tailings and water storage facility; key risks are identified and risk management plans developed accordingly.
- The monitoring of downstream water, sediments, and soil quality helps ensure our compliance with predictive models and water quality regulations.

Accountability

- The Process Manager at each site oversees and implements all aspects of tailings management.
- The Vice President of Mineral Processing, Tailings & Dams oversees performance of

tailings, water dam and heap leach facilities and is the accountable executive officer.

- The Board HSE Committee has oversight of matters related to tailings management and mineral waste management and receives quarterly basis.
- The Engineer of Record provides technical direction on behalf of Pan American Silver and verifies whether the tailings facility (or its components) has been designed, constructed, and performs in accordance with performance objectives and indicators, applicable guidelines, standards and regulatory requirements.
- The independent reviewer, a third-party provider who is not and has not been directly involved in the design or operation of a given tailings or water storage facility, provides objective, expert advice and recommendations to help the Company identify and manage risks associated with tailings facilities as well to implement the tailings management system.

OUR PERFORMANCE

Tailings and Heap Leach Facilities Management

We store tailings and ore in specialized, engineered facilities using construction methods that vary according to the context and local conditions of each operation. Our tailings and heap leach facilities are designed for stability and have the capacity to withstand credible extreme weather, floods, or seismic events. These are

operated with the intention of reducing risk to people and the environment. As of December 2022, Pan American Silver managed seven tailings facilities, five heap leach pads, two filtered tailings facility, and one water storage reservoir. Additional information on Pan American Silver's facilities can be found in the [GRI & SASB Data Tables](#).

PAN AMERICAN SILVER TAILINGS STORAGE FACILITIES

#	Facility name	Location	Operational status	Construction method	Consequence classification ⁽¹⁾
1	Timmins (Bell Creek)	Canada	Operational	Downstream/Centerline	Significant to High ⁽²⁾
2	La Colorada (Presa #7)	Mexico	Operational	Downstream	Significant
3	La Colorada (Presa #6)	Mexico	Operational	Downstream/Modified Upstream/Centerline	Significant
4	Huaron (Presa #5)	Peru	Operational	Centerline	High to Very High ⁽³⁾
5	Morococha (Huascacocha) ⁽⁴⁾	Peru	On care and maintenance	Downstream	Extreme
6	San Vicente	Bolivia	Operational	Centerline	Significant
7	Manantial Espejo	Argentina	Operational	Downstream	Significant
8	Escobal	Guatemala	On care and maintenance	N/A - Filtered Tailings stack	N/A
9	Alamo Dorado	Mexico	Closed	N/A - Filtered Tailings stack	N/A

(1) CDA Dam Consequence Classification system.

(2) Significant for fair weather scenario and High for flood induced scenario.

(3) High for fair weather scenario and Very High for flood induced scenario.

(4) Morococha was place on care and maintenance in February 2022.

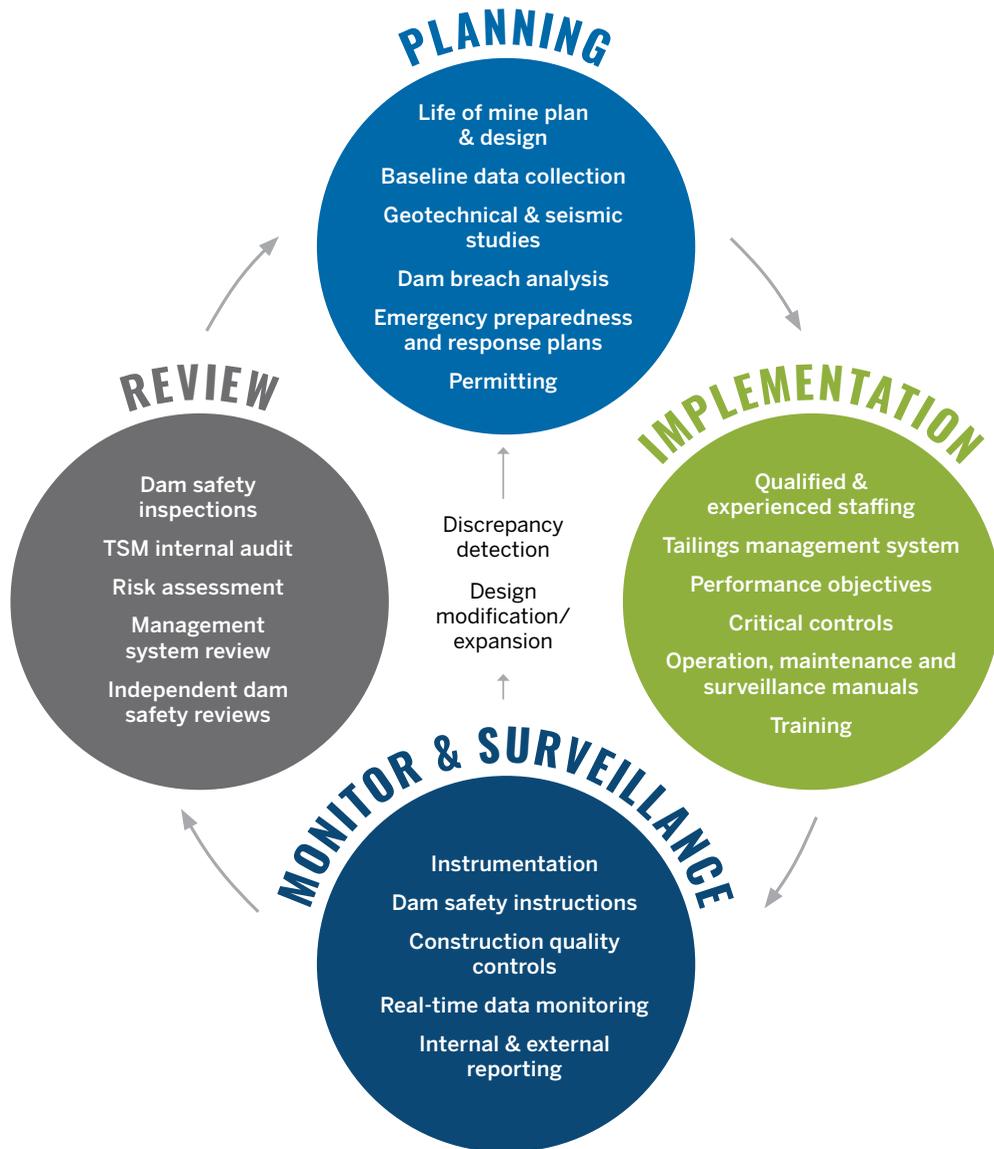
TAILING FACILITIES CONSTRUCTION METHODS

Tailings facilities are commonly designed as dam structures intended to store both tailings and water. Tailings dams are constructed using upstream, centerline, or downstream methods, or a combination thereof. A tailings dam begins with a starter dam, which is raised over time as additional tailings are deposited in the storage facility. The construction method depends on the direction in which the embankment crest moves in relation to the original starter dam.

- Upstream construction – the dam is raised with the crest moving upstream over the deposited tailings.
- Centerline construction – the dam is raised vertically from the starter dam.
- Downstream construction – the dam is raised by shifting the crest downstream using structural fill on the downstream face.

TAILINGS MANAGEMENT FRAMEWORK

Our management framework consists of four phases: planning, implementation, monitoring and surveillance, and reviews and assurance.



LINES OF DEFENSE

We have a series of successive lines of defence intended to prevent significant incidents:

LINE OF DEFENSE	RISK CONTROLS	RESPONSIBLE
1 ST	Automated instrumentation and management systems focused on routine and real-time monitoring	Site personnel, automated instrumentation and management systems
2 ND	Corporate revisions and technical support	External consultants and Senior Tailings Engineer
3 RD	Annual facility and dam safety inspections	Engineer of Record
4 TH	Dam safety reviews conducted every five years	External third-party
5 TH	EoR Forum convened on as needed basis	Engineers of Record Forum
6 TH	Accountable executive members	VP of Mineral Processing, Tailings and Dams, VP of Environment, VP of Sustainability, Diversity & Inclusion
7 TH	Quarterly status reports provided	Senior VP Technical Services & Process Optimization, COO, CEO, HSE Board Committee, and Board of Directors

In 2022, we continued to strengthen our management systems and achieved our objective of attaining Level A on the TSM Tailings Management Protocol at all active tailings facilities. The TSM Tailings protocols do not apply directly to heap leach operations or water reservoirs; however, we have adopted the principles of TSM Tailings protocols for the

Dolores, Shahuindo and La Arena heap leach facilities as well as the Dolores water reservoir. In 2022, we conducted tailings management system reviews at all seven tailings storage facilities and TSM Tailings Management Protocol internal audits and follow-ups at Timmins and Huaron. The independent EoRs conducted dam safety inspections at all tailings facilities and

safety inspection at all heap leach facilities and Dolores' water dam. We also held independent safety reviews of the filtered tailings storage facility at Alamo Dorado and the heap leach facility at Dolores.

We recognize the relevance of and interest in the Global Industry Standard for Tailings Management (GISTM), which was released in 2020 as an initiative from the International Council on Mining and Metals, the United Nations Environment Programme, and the Principles for Responsible Investment. Pan American Silver has assessed this standard against the MAC's TSM Tailings Management Protocol and the CDA Guidelines, both of which we apply. We identified minor gaps, as well as areas where TSM and CDA requirements combined exceed those of the GISTM. MAC has updated elements of its Tailings Management Protocol to address identified gaps. Through active participation in MAC's Tailings Working Group, we continue to support MAC's efforts to align its protocol more closely with the GISTM.

Emergency preparedness and response

Each site has emergency preparedness and response plans with preventative measures and procedures and actions in the event of an emergency. Site-specific emergency plans are based on dam breach analysis and flood inundation mapping based on credible failure modes which have been identified through risk assessments. For all operational tailings facilities, sites have conducted emergency simulations and drills, and both internal or external COIs who have responsibility in the emergency preparedness and response plans have reviewed them or have been notified.

Technological Innovation

Our real-time monitoring systems at our La Colorada, Timmins and Huaron operations integrate systems for the monitoring of geotechnical instrumentation such as piezometers, inclinometers, drain flows, settlement plates, and survey control points (by means of an Automatic Mechanical Total Station AMTS). Remote access to real-time data and visualization of variables, trends allow responsible engineers and EoRs to monitor facilities at any time and from anywhere. This technology enhances our ability to ensure geotechnical stability, reduces the potential for catastrophic failures and can provide early warning, allowing us to take actions and avoid major incidents. We are currently implementing similar instrumentation automation systems at Dolores, Escobal, La Arena, and Shahuindo.

In addition, in 2022, we commenced a technological improvement permitting process to enable the construction of a pressure filtration plant and filtered tailings storage facility at Huaron mine. Pressure filtration and filtered tailings storage facilities are considered one of the best technologies available and one of the best available practices in the industry. This technological improvement will allow Huaron to continue and extend the life of the mine while providing acceptable geotechnical conditions.

Waste rock

The main waste products generated by our mines are non-economic waste rock and tailings residue created by the extraction of metal and concentrates from the ore we mine. Seven of our nine operating mines (78%) are predicted to have

the potential for acid rock drainage (ARD). To prevent the formation of ARD at these sites, we actively manage risks through the design of our facilities and, where necessary, by using active or passive water treatment systems that neutralize acid drainage and prevent downstream water impacts.

We have several key initiatives to predict and manage ARD:

- At Alamo Dorado, which is in post closure, we continue to implement mitigation measures and operate active and passive water treatment systems. We are advancing projects to improve surface water management infrastructure and minimize the erosion and infiltration of the waste rock dump. Additional information can be found in the [Mine Closure section](#).
- At Dolores, we continued testing to characterize and model potential acid-generating rock during and post closure. This information will contribute to detailed closure planning, which is currently underway.
- At La Arena, where the first phase oxides mine is in the later stage of its lifecycle, we are in the process of designing a new water treatment plant to add capacity and improve treatment efficiency to better manage water quality until the La Arena sulfides project (La Arena II) commences.

We often reuse waste rock as backfill in our underground operations, or as construction material for surface infrastructure, such as tailings storage facilities, roads, and platforms for buildings and equipment. In 2022, we generated

70 million tonnes of waste rock and 4.9 million tonnes of tailings and were able to reuse 47% of the waste rock, mainly backfilling the Dolores open pit, and 14% of tailings for backfill and other on-site construction projects.



Non-mineral Waste

Some mining activities, such as drilling, blasting, mine equipment operation and maintenance, mineral processing, the use of reagents and fuels and construction projects, generate hazardous and non-hazardous industrial waste materials that require end-of-life recycling or disposal. Each operation has waste management plans and implements measures to reduce waste generation and manage potential waste-related impacts. When possible, operations recycle or reuse these products. For non-recyclable waste, operations follow local regulations for disposal, either on site or at certified disposal facilities. In cases where waste disposal is managed by a third

party, operations require that these companies adhere to permit and legal requirements. In 2022, we had no significant incidents associated with hazardous materials or waste management.

Our four Peruvian mines continue to partner with ANIQUEM (Asociacion de Ayuda al Niño Quemado), which, through its Recycle to Help program, provides rehabilitation to children suffering from serious burn injuries. The mines donate recyclable waste, such as cardboard and electronic equipment, which is then sold, and the profits are used to support the children. In 2022, Pan American Silver Peru donated 33 tonnes of recyclable waste, which supported the recovery of 35 children.

Our 2022 waste-related goals were a 4% reduction in waste generation and a 11% increase in waste recycling/reuse as compared to the base case⁽¹⁹⁾. We surpassed our waste generation reduction goal, achieving an 8% reduction. This reduction was in part due to the suspension of some activities and projects, and the success of several site-level waste reduction projects. For example:

- Both Dolores and La Colorada launched initiatives to recycle empty hazardous waste containers and batteries.
- La Arena and Shahuindo increased their waste composting and relaunched the plate and silverware service in the cafeteria, which was paused due to COVID.

We did not meet our waste recycling and reuse goal due to the suspension of some activities, which decreased the amount of recyclable/reusable waste produced, and due to regulatory changes in certain countries that reduced the types of products allowed to be recycled. For example, our Peruvian operations are no longer able to recycle truck tires due to new local regulations.

For 2023 we have re-formulated our waste management goal to focus our efforts on reducing non-recyclable and non-reusable waste.

(19) The 2022 base case is our projected 2022 waste generation, as calculated using our life of mine plans adjusted for annual production.

TYPES OF WASTE AND DISPOSAL METHODS 2022

(tonnes)	Typical Waste Types	2022	2021	2020
Hazardous waste to landfill ⁽¹⁾	Used oils and solvents, batteries, reagent packaging	2,014	2,448	1,574
Domestic waste to landfill	Food waste, soiled paper, plastics	4,410	5,409	3,221
Industrial waste to landfill ⁽²⁾	Concrete, brick, tires, and wood	664	289	363
Reuse ⁽³⁾	Scrap metal, wood, used containers	1,088	700	843
Recycling and composting ⁽⁴⁾	Waste oil and lubricants, plastic, glass, paper, food waste	5,028	5,759	2,463
Total		13,205	14,605	8,464

(1) Landfill for hazardous waste refers to secured landfills engineered to prevent any leaching to the surrounding environment. This also includes special treatment and disposal as per applicable local regulations.

(2) Waste categorization was revised this year, recategorizing inert waste as industrial waste, leading to the recalculation of the annual totals.

(3) In 2022, Shahuindo disposed stored scrap metal generated from 2019-2022, these amounts have now been included in the corresponding years of generation.

(4) Waste oil used as fuel is included in the recycling and composting category and constituted 386 tonnes in 2022.

NEXT STEPS

- Achieve level A in TSM Tailings Protocol for tailings facilities currently on care and maintenance and implement facility management systems at heap leach pad facilities.
- Conduct independent tailings facility reviews at San Vicente, Escobal, and Manantial Espejo.
- Reduce waste generation through contaminated soil remediation, awareness training, and increased waste reuse and recycling.



CLIMATE, ENERGY AND GREENHOUSE GAS EMISSIONS REPORTING

WHY ARE CLIMATE, ENERGY AND GREENHOUSE GAS EMISSIONS IMPORTANT?

The impact of global warming is an issue that affects society, the environment, and economic development. We recognize that climate change is a potential threat to our business and many of our COIs, and we are committed to action to reduce climate risks through innovative and practical solutions to reduce emissions, transform energy supply, and optimize our resources.

Mining is an energy-intensive industry, consuming energy for extraction, processing, and transportation of products. Energy use, particularly through fuel combustion and electricity consumption, causes direct (Scope 1) and indirect (Scope 2) GHG emissions, which contribute to climate change. COI expectations

around climate action in the mining industry include reducing the carbon footprint and responding to potential climate-related risks. For Pan American Silver, reducing emissions and energy use provides us with cost savings and environmental benefits beyond our operating boundaries, and contributes to the global response to climate change.

We have been gradually improving our climate-related disclosure since our Scope 1 and Scope 2 emissions were first publicly reported in 2010. We believe that the adoption of the climate-related recommendations of the Financial Stability Board is an efficient way to gauge our business strategy relating to climate change and

respond to our stakeholders' expectations. In 2022, we further enhanced our climate-related disclosure by setting our first long-term GHG emissions reduction target of at least 30% by 2030 from our 2019 baseline emissions. We continue to incorporate the Task Force on Climate Related Financial Disclosure's (TCFD) reporting recommendations in our 2022 Sustainability Report with an aim to progressively improve the quality and transparency of our climate-related disclosures.

ANALYST CENTER



Material topic: Climate, Energy and Greenhouse Gas Emissions

This section is structured to follow TCFD recommendations and includes:

- Climate Change Policy Statement
- Governance
- Climate Change Strategy
- Climate Risks and Opportunities
- Initiatives
- Metrics and Targets
- Next Steps

GRI indicators: 201-2; 302-1; 305-1; 305-2; 305-3; 305-4; 305

SASB indicators: SASB EM-MM-130a.1; SASB EM-MM-110a.1; SASB EM-MM-110a.2

Prioritized SDGs: 7; 13

UNGC Principles: 7; 8; 9

For additional information, see these data tables: TCFD Physical Risks Table, GRI 302-1/ SASB EM-MM-130a.1; GRI 305-1; GRI 305-2; GRI 305-3; SASB EM-MM-110a.1; GRI 3-3 (2022 Energy and Emissions Performance and 2023 Energy and Emissions Goals by Operating Mine)

CLIMATE CHANGE POLICY STATEMENT

Pan American Silver recognizes that climate change caused by anthropogenic greenhouse gas emissions (GHG) is a threat to the global environment, society, our stakeholders and our business, and that globally coordinated actions are required to address this threat. We believe Pan American Silver has a responsibility to help address this global challenge, and we're committed to taking actions that will help us achieve our aspirational objective of net zero carbon dioxide equivalent emissions by 2050.

Pan American Silver is one of the largest primary silver producers in the world. The silver we produce, together with by-product base metal production, play an important role in mitigating the climate change threat because these metals are key materials in solar energy technology and other carbon-efficient energy solutions. We expect the transition to renewable energy will result in significant growth in demand for silver and base metal bearing products in the coming years.

We recognize that mining is an energy-intensive activity, and we are committed to taking actions that will reduce our GHG emissions. Our objective is to reduce our global GHG emissions by at least 30% by 2030 from our 2019 baseline emissions. This objective is based on long-term energy and emission profiles that we have developed for each of our assets prior to the Yamana Transaction, combined with the expected increased adoption of electrification and the outlook for lower emission intensity electricity generation. Over the next two years, we will build long-term energy and emissions profiles for the Yamana assets that we acquired in 2023 to commit to an updated objective with a reset baseline. Achieving this objective will require further investments in electrification and electric equipment technologies, and will also depend on the expansion of renewable energy generation of the local electricity grids we use.

Our senior management team, together with our Board of Directors, are assessing

climate-related risks and opportunities in order to develop, implement, monitor, and revise our climate action strategies. The primary objectives of our strategy are:

- Reducing GHG emissions.
- Improving our climate-change readiness.
- Enhancing our timely and transparent climate-related public disclosures.

Our senior corporate and operations management teams are responsible for executing this strategy and achieving our objectives by:

- Integrating climate-related risks and opportunities, including physical and transition risks, into our strategic long-term plans and projects.
- Striving to meet targeted emissions reductions objectives and developing additional targets to further reduce our current long-term energy consumption estimates.
- Incorporating the TCFD framework by adopting TCFD's approach within our climate-related public disclosures.

- Continuing to report on our emission estimates, reduction targets, climate risks, climate-change scenario analysis and climate action in our annual Sustainability Reports.
- Increasing our use of renewable energy and supporting climate action near our operations.
- Continuing to adapt our climate-change strategy appropriately and effectively according to best practices and understandings.
- Adhering to this Climate Change Policy Statement



Michael Steinmann, President and CEO
May 31, 2023

GOVERNANCE

Board Level

The structure of our Board of Directors and Board committees is described in the [Sustainability Governance section](#) of this report. Our Board of Directors is advised on climate-related matters quarterly, primarily by its Health, Safety, and Environment (HSE) Committee, its Communities and Sustainable Development (CSD) Committee, and directly by management. The Board of Directors is accountable for directing the Company's strategies and reviews and considers climate-related issues when advising on plans of action such as major capital expenditures, acquisitions, or divestitures. The Board of Directors, largely through its Committees, oversees and monitors and, if applicable, provides guidance with respect to the development of Pan American Silver's goals, annual targets, policies and programs as they relate to climate change and GHG emissions, among others. In addition, the Board, reviews and monitors management's reports and activities to ensure that the main risks and opportunities to the Company related to climate change are identified by management and that appropriate resources are allocated by management to address these risks and opportunities.

Management Level

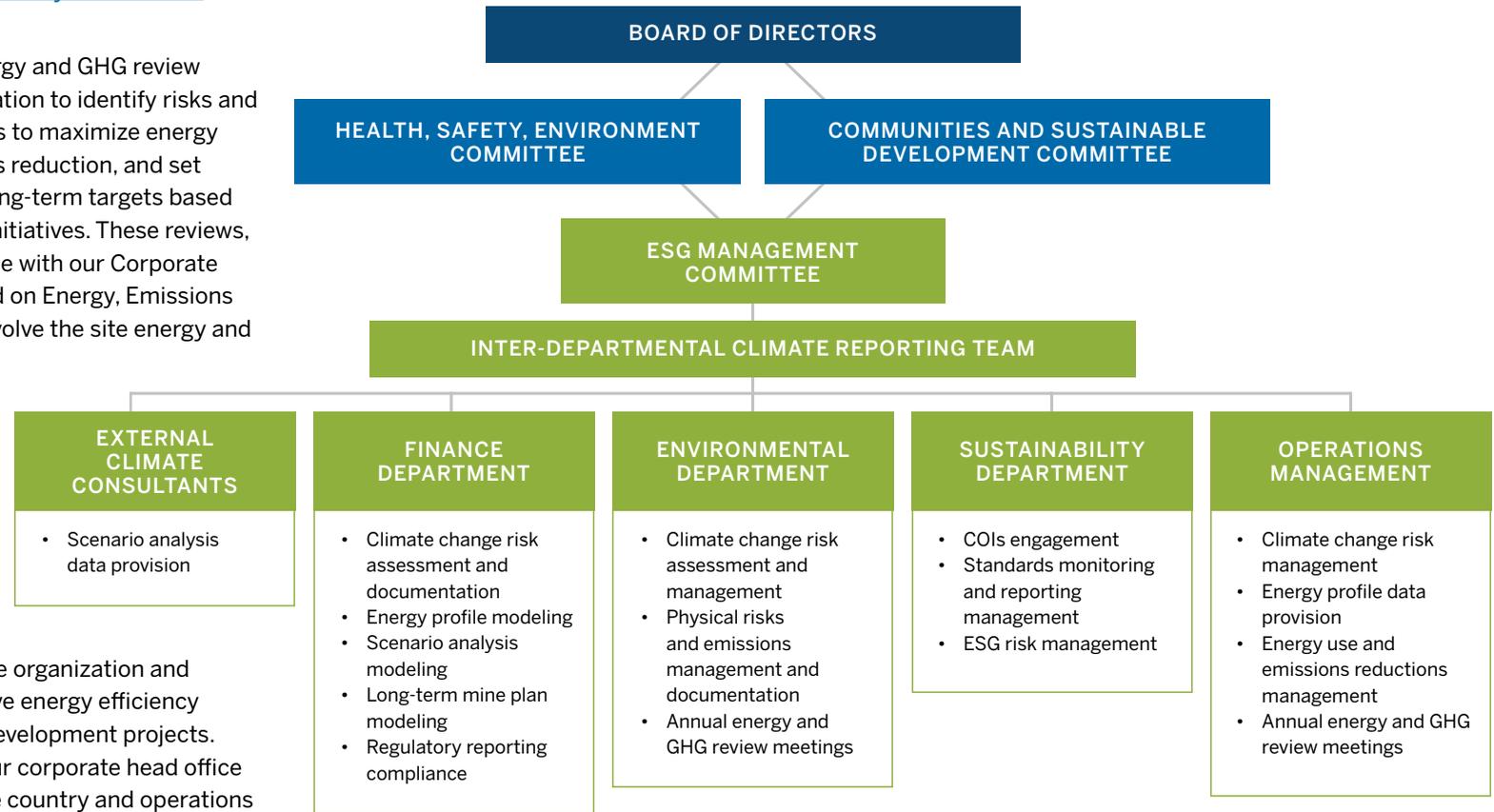
The senior management ESG Committee develops climate change policy and provides standard recommendations to our Board committees, reviews the results of our current performance, evaluates climate-related risks and strategies, and agrees on reporting metrics and targets. The ESG Committee is comprised of

interdepartmental senior management, as further described in the [Sustainability Governance section](#) of this report.

We conduct annual energy and GHG review meetings for each operation to identify risks and opportunities, strategies to maximize energy efficiency and emissions reduction, and set meaningful short and long-term targets based on viable projects and initiatives. These reviews, conducted in accordance with our Corporate Environmental Standard on Energy, Emissions and Climate Change, involve the site energy and GHG management committee, energy and operations managers, and the corporate environmental team.

Our approach encourages involvement from several areas of the organization and looks for ways to improve energy efficiency at our operations and development projects. Interactions between our corporate head office team and the respective country and operations leadership teams at each site, help identify and define climate related risks and opportunities such as priority projects to maximize energy efficiency and reduce GHG emissions. Projects and initiatives are evaluated through our annual budget preparation process or capital allocation framework and are reviewed by senior management, the ESG Committee or the Board and CSD and HSE Committees.

PAN AMERICAN SILVER CLIMATE-RELATED GOVERNANCE STRUCTURE



Affiliations and Memberships

We strive to align our climate strategies with globally recognized frameworks and associations with other companies in our sector. Our governance around climate issues is guided through the following affiliations and memberships:

- Supporter of TCFD
- Member of UN Global Compact
- Member of Mining Association of Canada
- Participant in Peru Carbon Footprint program

CLIMATE CHANGE STRATEGY

We believe that the mining sector can have an important role in helping society achieve the global GHG emission reduction goals by supplying the raw materials necessary for the energy transition. Our approach to climate change is to analyze potential transitional impacts to our long-term business plans and to embed carbon dioxide equivalent (“CO₂Eq”) emission reduction initiatives into our governance and operational decision-making process to establish informed and realistic targets that are aligned with climate science and commitments by the countries where we operate. Our approach will be achieved by:

- **Integrating** CO₂Eq emission reduction strategies into our operational risk and opportunities assessments and strategic planning.
- **Planning** that ensures our long-term plans, corporate development strategies, and capital and operational budgets are aligned with our goals, including those related to CO₂Eq emissions reductions.
- **Developing** informed decision making to ensure meaningful contributions to a low carbon future.
- **Adapting** our operating and non-operating mines to align with global efforts to reduce CO₂Eq emissions and mitigate or prepare for the potential physical risks of climate change.
- **Informing** stakeholders in a timely and transparent manner regarding our CO₂Eq emission reduction strategies and results as

well as the potential transitional impacts to our long-term business plans.

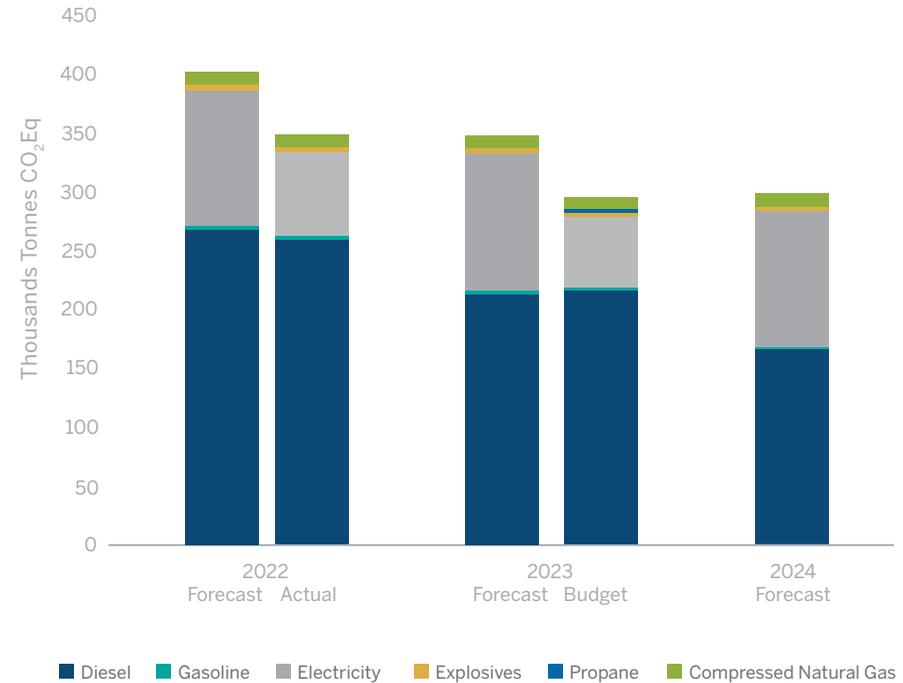
Over the past year, we have continued to integrate climate change into our business objectives and decision-making through our planning and budgeting processes and our emissions reductions initiatives further described below.

Pan American Silver Energy Profiles

In 2021, we completed the first estimated short- and medium-term energy demand and CO₂Eq emissions estimates for all our original Pan American Silver operations based on current life of mine plans. These profiles provided a forecast of our future annual energy use, including diesel consumption, in a base case scenario, which assumed no benefits obtained from further efforts to reduce emissions than those already in place. In 2023, we intend to update our short and medium-term energy demand and CO₂Eq emissions profiles for all Pan American Silver operations, including providing profiles for the assets we have acquired from Yamana.

Our 2022-2024 base case forecast, excluding Yamana assets, is presented in the graph below in comparison to our 2022 actual and 2023 budgeted CO₂Eq emissions.

PAN AMERICAN SILVER'S 2022-2024 CARBON EMISSIONS FORECAST COMPARED TO 2022 ACTUAL AND 2023 BUDGET⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾



(1) 2022-2024 base case forecasts were based on current mine life expectations (excluding Yamana assets), along with planned and approved development projects and excluded emissions that may result from extensions of mine life due to successful exploration, emissions related to our major growth and development projects beyond 2022, and assumed continued care and maintenance activities at our Escobal project.
 (2) Pan American Silver used National Inventory Report Canada to calculate Direct (Scope 1) GHG emissions.
 (3) 2022 Actual and 2023 Budget Emissions from purchased electricity calculated according to GHG protocol using the International Energy Agency (IEA) 2022 tool for all the mines except Timmins.
 (4) Emission factor for Timmins provided by the Independent Electricity System Operator (IESO) in Ontario.

Relative to our 2021 Carbon Emissions Forecast, our 2022 actual and 2023 budget CO₂Eq emissions are lower, largely due to the commencement of renewable electricity supply contracts in Mexico in late May 2022. In addition, our diesel consumption at Shahuindo was lower than projected in 2022 due to projects that reduced haulage distances.

The various electricity grid emissions factors calculated for 2022 for each of the jurisdictions where we operate are shown below, and demonstrate the variability in estimated CO₂Eq emissions generated per gigajoule of electricity used. These values reflect the varying contribution of fossil fuel power generation to the various national electricity grids. These are

national or provincial averages and do not reflect Pan American Silver’s ability to procure clean energy contracts directly from renewable power suppliers. We support the equitable distribution of the benefits from the reduction of fossil fuel electricity generation to all those connected to an electricity transmission network. It is expected that significant reduction of fossil fuel-based electricity generation across national transmission grids will take some time and require cooperation and coordination amongst individuals, industries and governments. We aim to make informed decisions when it comes to direct renewable electricity supply contracts and try to avoid situations that result in a zero-sum gain for all those connected to electricity

transmission networks. We hope to achieve this by engaging with local commerce groups and transmission network stakeholders.

Updating our energy and CO₂Eq emissions profile forecasts in 2023 and 2024 will enable us to continue monitoring our medium-term CO₂Eq emissions reduction goal and continue incorporating and evaluating the financial impact to our business of different climate change scenarios.

Climate Scenario Analysis

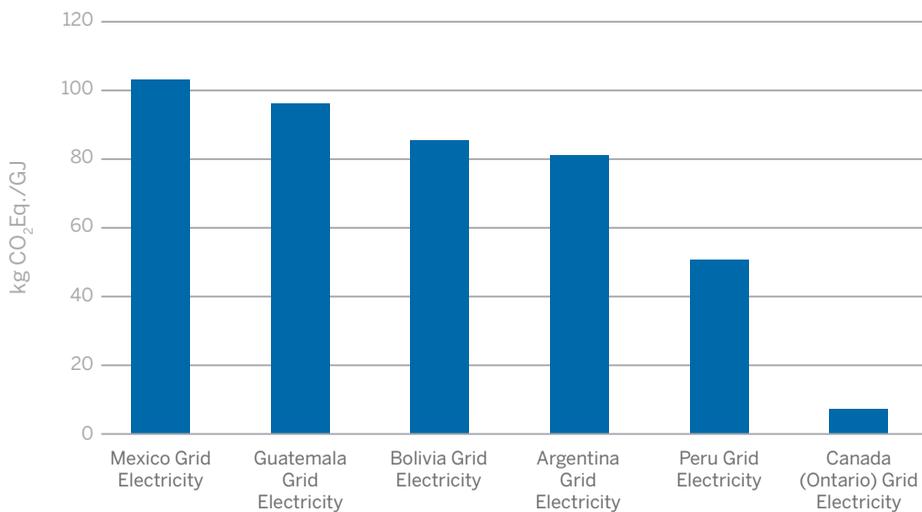
In 2021, with support and analysis from Vivid Economics, we selected three potential scenarios from the Network for Greening the Financial System (NGFS) to analyze potential transitional impacts to our long-term business plan. These three scenarios are substantively consistent with those used for our physical risk assessments described in our prior Sustainability Reports and are as follows:

Scenario	Description	Target
1 Current Policies	Only currently implemented policies are preserved	3.0°C
2 Nationally Determined Contributions (NDC)	The moderate and heterogeneous climate ambition reflected in the NDCs at the beginning of 2021 continues.	2.5°C
3 Divergent Net Zero	Higher costs due to divergent policies introduced across sectors and a quicker phase out of fossil fuels.	1.5°C

In our analysis, we have focused on the transition impacts to silver, copper, lead and zinc demand, given these metals are expected to be most impacted by the transition to a low carbon economy. We have excluded gold from our analysis given its limited use in low-carbon technologies and its primary demand being related to investment, jewellery, and bank reserve requirements.

Highlights from the results of the three scenarios considered are outlined in the following chart. We will continue to assess the resilience of our business to climate change as we manage our business through the transition.

GRID EMISSIONS⁽¹⁾⁽²⁾ FACTOR BY JURISDICTION



(1) Emissions from purchased electricity calculated according to GHG protocol using the IEA 2022 tool for all the mines except Timmins and does not reflect Pan American Silver’s renewable electricity supply contracts.

(2) Emission factor for Timmins provided by the Independent Electricity System Operator (IESO) in Ontario.



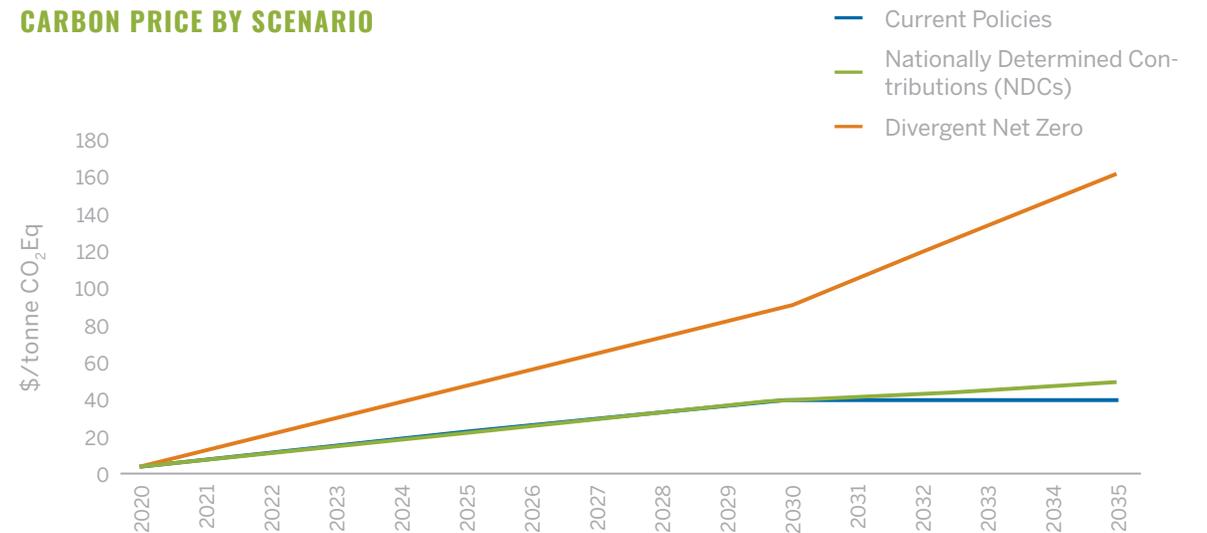
SCENARIO ANALYSIS RESULT

Commodity	Scenario	Outlook	Main Differential Drivers
Silver	Current Policies	↑	Increased demand for solar photovoltaic and electric passenger vehicles with higher demand to achieve NDC and divergent net zero scenarios.
	Nationally Determined Contributions	↑↑	
	Divergent Net Zero	↑↑	
Copper	Current Policies	↑↑	Increased demand for Electricity Transmission and Distribution and Electric Vehicles and Trucks with higher demand to achieve NDC and divergent net zero scenarios.
	Nationally Determined Contributions	↑↑↑	
	Divergent Net Zero	↑↑↑	
Zinc	Current Policies	↑	Increased demand for Wind Energy and Electric Vehicles and Trucks with higher demand to achieve NDC and divergent net zero scenarios.
	Nationally Determined Contributions	↑	
	Divergent Net Zero	↑	
Lead	Current Policies	↑↑↑	Lead consumption is tied to internal combustion engine vehicle demand, and as such is inversely related to demand for Electric Vehicles.
	Nationally Determined Contributions	↑↑	
	Divergent Net Zero	↓	
Gold	Current Policies	→	Demand for gold is not expected to be materially affected as its demand is not driven by technologies related to greenhouse gas emissions reductions.
	Nationally Determined Contributions	→	
	Divergent Net Zero	→	
Oil	Current Policies	↑	Demand for oil is dependent on speed of transition. In the current policies and NDCs scenarios, the price pressure is supply driven with more expensive extraction.
	Nationally Determined Contributions	↑↑	
	Divergent Net Zero	↓	

Additionally, we have analyzed the direct impact of higher fuel and carbon pricing on our cost structure in the transition scenarios, and have evaluated the impact these additional costs would have on our business; however, our limited scenario analysis does not include the impact of these additional costs throughout our entire supply chain, which would be necessary to conduct a full sensitivity analysis on our future cash flows.

We will continue to refine and enhance how we incorporate scenario analysis in our business planning and decision making processes, as greater clarity is obtained for the transitional impacts; however, we view this as a medium - to long - term objective, as we continue to develop a better understanding of how to assess climate-related impacts from physical and transition risks to our production, cost structure and supply chain.

CARBON PRICE BY SCENARIO



Source: Vivid Economics

CLIMATE RISKS AND OPPORTUNITIES

Pan American Silver's approach to risk management is constantly evolving in order to adapt to a dynamic environment. At the core, we view each manager, whether in operations or at the corporate office, to be a risk manager. This process has served us well over the years, empowering our employees and providing the basis for our success. We have clear lines of communication whereby risks and opportunities are identified and properly reported up the chain to the attention of our Board of Directors. Climate-related risks are analyzed and summarized at the management's ESG Committee for presentation to the Board.

We annually assess our framework to identify, quantify, and manage risks and opportunities, as well as to determine mitigation strategies in order to improve our ability to sustain the business over the long-term with our sites that face potential climate change related impacts. This includes physical and transitional risks and opportunities with their associated potential impacts to the financial results of our business.

Physical Risks and Opportunities

In 2019 and 2020, we conducted a study to evaluate the potential physical risks of climate change on our operations due to extreme weather events, impacts on water availability, and changes in rainfall and temperature patterns. The study was completed in-line with TCFD scenario analysis recommendations and considered

a range of scenarios aligned with the Paris Agreement⁽²⁰⁾ for each of our current operations and projects. The scenarios concluded that temperatures have been generally increasing at all of our sites, except for the San Vicente operation, where temperatures have shown no trend over the last 80 years, and the Timmins operation (Timmins West and Bell Creek), where temperatures have been historically high over the last 20 years but show a decreasing trend. Climate change projections based on modelling indicate that temperature increases are expected in the future at all operations. Such increases will likely result in an increase in evaporation and a net reduction of future water availability, although this will depend on future precipitation conditions, which are highly uncertain. Given this uncertainty, the projections of future water decreases, and their quantification, are highly indeterminate. Only our San Vicente operation in Bolivia and Dolores operation in Mexico currently operate with any reliance on external water supply and are therefore potentially exposed to water supply risks. All our other operations are supplied from mine dewatering or secure, adaptable water supplies within our operations.

Extreme precipitation events are a potentially growing risk in many of the countries where we operate and we continue to incorporate sensitivity analysis into planning at the rest of our operations with a focus on those nearer to closure, including Dolores and La Arena. The performance of

surface water management structures and the site water balance will be evaluated and updated for the mines vulnerable to extreme precipitation events throughout the operating, closure, and post-closure period, utilizing the lessons learned from our impacted operations to adapt to these extreme events.

In 2022, our Northern Peruvian operations received an [extreme precipitation event](#) that exceeded the 100-year design storm considered for water management infrastructure. At La Arena, this caused erosion and damage to process ponds and water diversion channels. An action plan was developed with the site water management committee to better prepare for and manage these risks. This included an update to the operational water balance, which considers greater variations in precipitation magnitudes and intensities, and an evaluation of the site infrastructure based on the results of the water balance update. These actions were completed, resulting in replacement and upgrade of piping and pumping systems, construction of additional contingency ponds, and improved site preparation and planning for extreme weather events. The lessons learned were shared and considered with our other operations exposed to similar risks.

We commenced an update to our company-wide physical risk assessment in 2022. However, the acquisition of Yamana led to this work being extended into 2023. We plan to complete the update, including our new operations and sites,

to consider if changes in the scenarios and models from the IPCC sixth assessment report (AR6) require deeper analysis at our locations. We plan to include a risk screening methodology to identify and prioritize material risks across all operations, advanced projects, and supply chains.

(20) The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. For more information please visit: <https://unfccc.int/process-and-meetings/the-paris-agreement>



The following table summarizes the physical risks to our mines and the regions where we operate. The full table of modelling results is included in the [Appendix](#) of this report.

PHYSICAL RISKS

Country	Climate Hazard						Potential Physical Risks in Post-Closure	
								
	Increase	Increase	No Change	Decrease	Decrease	No Change or Decrease	Drought	Flooding due to Extreme Precipitation Events
Canada	X	X			X			X
Mexico	X		X		X		X	X
Guatemala	X			X		X	X	X
Peru	X			X		X	X	X
Bolivia	X			X	X		X	X
Argentina	X	X			X		X	X

Mitigation



Conduct a sensitivity analysis of plus 10 to 20% on the design flood magnitude for mine closure planning



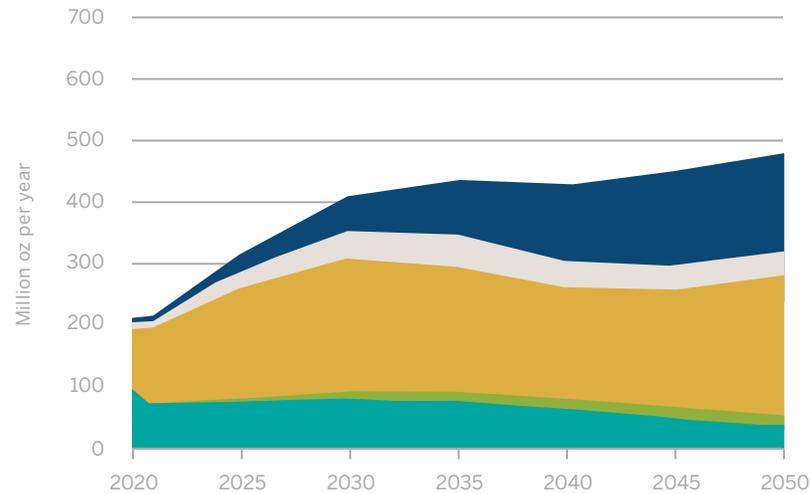
Constantly monitor water availability and water use reduction and recycling opportunities where drought is an issue

Transition Risks and Exposures

As defined by the TCFD, transitional risks arise from policy, regulatory, legal, technological, reputational, and market changes to address mitigation and adaptation requirements to transition to a reduced GHG emission economy. These may have varying levels of financial and reputational risks and exposures to Pan American Silver and are summarized in the following table:

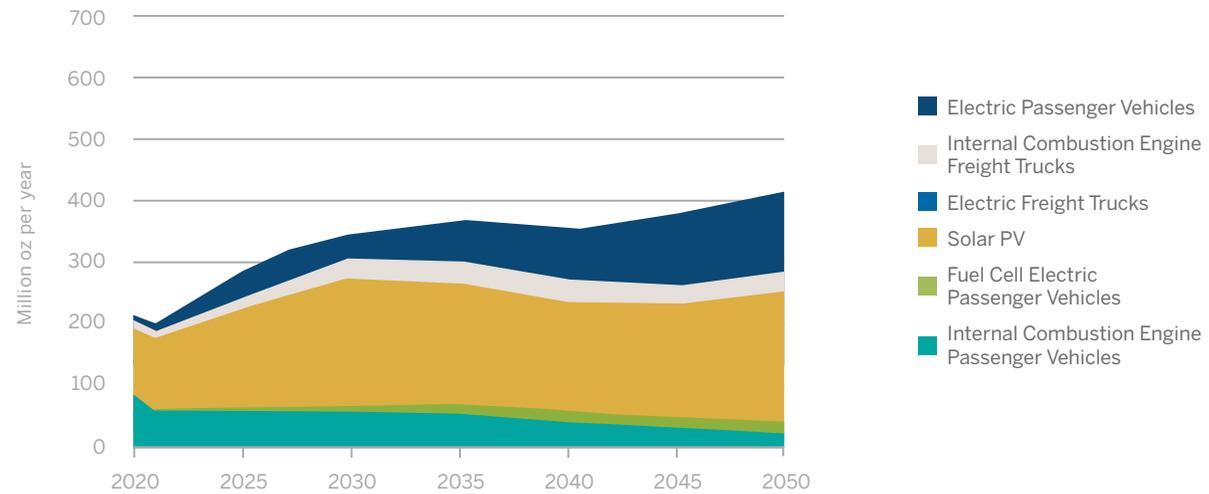
Category	Risks	Exposure
Regulatory	<ul style="list-style-type: none"> Regulatory change that results in increased costs and/or constrains our operating activities Climate-related legal claims against us or our COIs Difficulty obtaining required permitting and licenses as regulations and/or COI expectations around extractive industries become more onerous Changes in regulations that impact past and future closure and reclamation activities 	<ul style="list-style-type: none"> Increasing costs due to the introduction of carbon pricing Compensation claims for damages Progression of our exploration and development stage properties Increased closure and decommissioning liabilities
Market	<ul style="list-style-type: none"> Ability to procure renewable energy due to competition and availability Reduced access to finance investment, and insurance services Access to supply of labour from changing demographics related to climate conditions Supply chain challenges due to physical impacts on transportation infrastructure and downstream smelting and refining facilities 	<ul style="list-style-type: none"> Changes to the supply and demand for goods and services that the Company depends on for its production processes, as well as for the commodities that we produce, which may have material impacts to: <ul style="list-style-type: none"> The Company's cost structure Procurement of financing and insurance Labour supply Renewable power supply access The value or recoverability of its Reserves Revenue potential
Reputational	<ul style="list-style-type: none"> Negative COIs opinions of the mining industry and/or Pan American Silver as a result of perceived underperformance in: <ul style="list-style-type: none"> Contributing to a low carbon economy Climate-change risk management Timely and transparent related disclosures Negative perceptions of mining could result in difficulties in obtaining and maintaining the support of our COIs at existing sites or in developing new projects, as well as a reduced talent pool from which to recruit 	<ul style="list-style-type: none"> Reputational harm could result in Pan American Silver having difficulty: <ul style="list-style-type: none"> Obtaining capital at favorable prices Obtaining and maintaining support from COIs for operations or projects Ability to attract and retain top-talent Maintaining and improving investor confidence
Technological	<ul style="list-style-type: none"> Competitive demand for advanced technology products Current technology rendered operationally inefficient, cost ineffective, or unacceptable to COIs Technological advancements could affect the demand for our products, as technologies using silver, zinc, lead and copper, become more efficient, or are replaced 	<ul style="list-style-type: none"> Asset write-offs or impairment, equipment unavailability or increased procurement costs

SILVER TRANSITION DEMAND BY DRIVER – NATIONALLY DETERMINED CONTRIBUTIONS (NDCS)



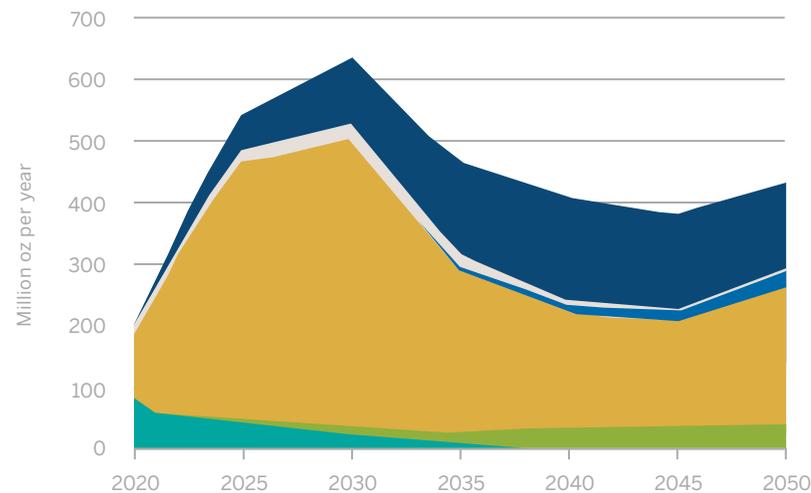
Source: Vivid Economics

SILVER TRANSITION DEMAND BY DRIVER – CURRENT POLICIES



Source: Vivid Economics

SILVER TRANSITION DEMAND BY DRIVER – DIVERGENT NET ZERO



Source: Vivid Economics

TRANSITION OPPORTUNITIES

Opportunity	Category	Description
Critical Metals Regulation	Regulatory, Market and Reputational	As the world transitions away from carbon intensive energy sources, metals used in green technologies may draw more favorable regulatory and permitting conditions, as well as improved funding for growth and development projects in these critical commodities.
Increasing Demand for our Products	Market and Technological	Increased prices for the metals that the Company produces that are used in low-carbon technologies including silver, zinc, and copper.
Increasing Investment Demand	Market and Reputational	COIs perceiving Pan American as a responsible mining company with reduced risk due to exemplary performance in climate-change management and related disclosures.
Technology Advancements	Technological	Energy is one of our most significant input costs, so improvements in renewable energy generation and storage could drive lower input costs long-term. Also, investments to reduce energy consumption have historically shown to be cost-efficient.

INITIATIVES

To establish appropriate and realistic medium and long-term climate-related strategic objectives, we have estimated our water, energy, and carbon footprints under various strategic business scenarios. We will continue to advance the integration of material ESG and climate-related risks into our business planning to facilitate our ability to quantify the longer-term climate change impacts on each of our assets.

Highlights of this integration includes incorporating climate-related considerations into our:

- Ongoing **risk assessments**.
- **Annual budget** target setting.
- **Capital allocation** process.

Climate-related Risk and Opportunity Assessments

We are establishing, and reporting on our climate-related risk and opportunity assessments and strive for transparent disclosures of these through our annual TCFD report. Material physical risk assessments will be updated as new climate models become available. We will monitor the continual evolution of transition risks and opportunities and we will adjust our assessments in each of the jurisdictions where we operate for material changes to support our climate-related risk disclosures.

We have developed the following initiatives based on our assessments of physical and transition related risks:

Regulatory strategic initiative

- Set goals to reduce our CO₂Eq emissions by:

- Optimizing energy use at our operations
- Potentially replacing direct fuel consuming activities with electric grid-connected systems
- Potentially transitioning energy supply to renewable sources where appropriate and available
- Our diversified portfolio and decentralized organizational structure enable us to make well-informed decisions and efficiently manage legal and policy risks.
- Engage with local and federal governments in all jurisdictions, monitor for regulatory or policy changes and evaluate their impacts to our business.

Market strategic initiative

- Proactively support the development of renewable power generation, whether through energy supply contracts or otherwise. We have secured power contracts from renewable energy providers at four of our sites.
- Monitor global markets and engage with stakeholders.
- Calculate and disclose our annual Scope 1, 2 and 3 CO₂Eq emission estimates for our direct and indirect supply chain emissions and identify opportunities for significant reductions.
- Incorporate an assessment of climate-related impacts in our capital allocation strategy.

Reputational strategic initiative

- Improve our meaningful and transparent climate-change-related disclosures.

- Continue to value and prioritize dialogue and participation with our COIs on ESG matters, including climate change.

Technological and physical risk strategic initiative

- Foster creativity and innovation in our corporate and operations teams to develop projects and initiatives that improve energy efficiency and reduce GHGs in line with our goal of reducing CO₂Eq emissions by 30% by 2030, from a 2019 baseline.
- Monitor and evaluate improvements and availability of low emission or electric equipment, particularly mobile mining equipment, for implementation at our operations.
- Monitor changes in the physical risks of climate change and improvements in climate science. Regularly update physical risks assessments and implement adaptation plans at our operations when material changes occur.

Planning, Budgeting and Capital Allocation Tools

We strive to incorporate ESG goals into our corporate financial and strategic planning activities. Our annual budgeting process identifies targets for energy use, CO₂Eq emissions, water use, biodiversity, and waste management.

We also take ESG considerations, including climate change, into our capital budgeting process. Our internal process to prepare requests for funding, approve such requests and monitor the approved spending regularly, has been designed to incorporate our ESG initiatives. The approval process for new projects includes

estimates for their potential short- and long-term impacts on energy use, CO₂Eq emissions, water use, and biodiversity. We maintain financial flexibility to reposition capital as necessary to address emerging climate risks.

In addition to our planning and budgeting, we strive to incorporate climate change in our corporate strategy by, defining long term projects and development activities that are aligned with our goals of reducing CO₂Eq emissions and producing some of the valuable metals that are useful for the global GHG reduction initiatives.

Fundamentally, we operate mines that trend, over time, towards getting deeper at our underground mines, or expanding in surface footprints at our open pit mines, which require longer haulage distances or increased pumping and ventilation circuitry. We have multiple long-term assets where careful consideration and planning is necessary for minimizing life-of-mine CO₂Eq emissions during the life of mine. Some of the CO₂Eq emission reduction projects we define also target direct cost-savings, since as previously described, energy is one of our most significant input costs.

In addition to our current operations, we are advancing significant long-term development projects that are targeting energy efficiency. In particular, we are conducting assessments on the La Colorada Skarn that will consider optimization for efficient use of energy and use of proven technologies that can minimize CO₂Eq emissions.

OUR PERFORMANCE - METRICS AND TARGETS

We use energy to mine, move, and process ore and waste rock as well as for infrastructure, ancillary facilities, logistics, mine ventilation, heating and dewatering. The type and quantity of emissions from our operations are determined by the energy source and the manner in which we mine and process ores, which is largely dependent on the geology and geometry of our deposits. The energy used at our sites comes primarily from diesel fuel for powering heavy equipment and electrical power generation at some limited remote sites or purchased electricity from regional or national power supply transmission grids. The transmission grid energy we use is becoming cleaner and more efficient each year as the jurisdictions where we operate are increasing renewable energy generation. Grid electricity has a lower carbon footprint than onsite electricity generation.

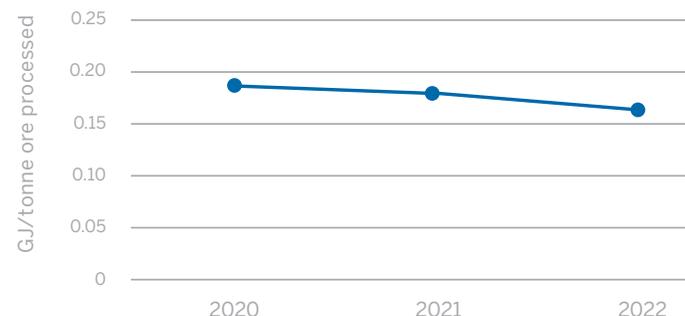
2022 Highlights

- Achieved our 2022 energy and emissions goals with a 9% or 600,000 GJ reduction in energy use and 19% or 80,000 t CO₂Eq reduction in GHG emission estimates compared to the 2022 base case. Our goals were achieved primarily through the commencement of renewable electricity supply at both our Mexican operations, change to our Dolores mine plan with in-pit dumping of waste rock, delays in capital projects and exploration activities, as well as other energy and emission reduction projects at all our operations.

- Reduced 170,000 GJ of diesel use for waste rock haulage through in-pit dumping at Dolores.
- Reduced 22,000 and 18,000 t CO₂Eq of GHG emissions in Dolores and La Colorada, respectively, from commencement of renewable electricity supply in May 2022.
- Achieved 14,600 GJ reduction in energy use and 110 t CO₂Eq in GHG emissions in Timmins through dewatering, ventilation, and compressor automation projects.
- 1,500 GJ and 220 t CO₂Eq through various energy efficiency projects at the Peruvian operations, including reductions in haulage distances and switching to cleaner sources of energy by extending grid connections and installing solar-powered lights.
- Less than 30% of our 2022 purchased electricity supply was from fossil fuel generation.

The total energy consumption at our mines in 2022 decreased relative to 2021, driven mainly by the in-pit dumping of waste rock at Dolores and Morococha being placed on care and maintenance at the beginning of the year. This resulted in an improved overall energy efficiency of 0.16 GJ/t in 2022, a 10% reduction from 2021 (0.18 GJ/t). Generally, we saw a growing share of energy from purchased electricity, partly due to the several grid connection projects completed in Peru, replacing diesel-powered generators. This reflects our strategy to replace direct fuel-consuming activities with electric grid-connected systems.

ENERGY INTENSITY⁽¹⁾



(1) All fuel, electricity, and explosives energy sources used within the organization are included in the intensity calculation.

GHG Emissions ⁽¹⁾⁽²⁾ (Tonnes CO ₂ Eq)	2022	2021	2020
Scope 1 – Direct ⁽³⁾⁽⁴⁾	274,133	294,799	274,522
Scope 2 – Electricity ⁽⁵⁾	77,133	107,255	111,895
Total Scope 1 and 2	351,267	402,054	386,418
Scope 3 - Value Chain	768,897	716,253	618,332

(1) Gases included in this calculation are CO₂, CH₄ and N₂O. HFCs, PFCs, SF6, and NF3 are not considered as they represent an immaterial amount in our GHG inventory.

(2) The consolidation approach is operational control.

(3) Pan American Silver used National Inventory Report Canada 2020 to calculate Direct (Scope 1) GHG emissions. The global warming potential (GWP) is based on the information provided by the Government of Canada. The GHG protocol and B.C. Methodological Guidance for Quantifying Greenhouse Gas Emissions are used as reference.

(4) Biogenic emissions have been determined to be immaterial in our GHG inventory based on its magnitude.

(5) Emissions from purchased electricity are calculated using a market-based approach aligned with the GHG protocol. The IEA 2022 national electricity emission factors are used for sites where there are no renewable electricity contracts, and supplier specific factors are not available. The location-based Scope 2 emissions for 2022 are estimated at 120,097 t CO₂eq and 122,072 t CO₂Eq for 2021, however these estimates are included to comply with GRI only and are not considered representative of our actual performance.

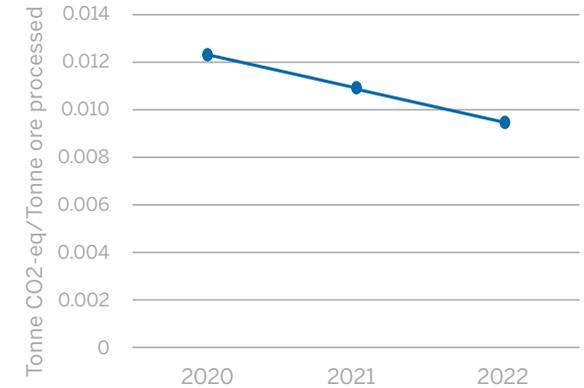
We completed our estimate of Scope 3 - Value Chain emissions using the Quantis Scope 3 Evaluator tool, in accordance with the Greenhouse Gas Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard. We use this tool for all 15 categories except downstream processing of metal concentrates, which we found to be underestimated by the Evaluator. We instead obtained direct emissions data from our partner smelters in Peru and Mexico that process zinc and lead concentrates from our mines.

This data allowed us to calculate more accurate downstream emissions for processing of our metal concentrates sold (41,519 tonnes CO₂Eq for 2022), which was used to complete the Scope 3 estimate.

We track GHG emissions intensity at our sites as a useful metric to assess ongoing performance. In general, the more ore we process at our sites, the more energy we use. Also, as our mines become deeper and expand in footprint, more

energy is required for mine ventilation, heating and dewatering, and more fuel is required to haul ore and waste rock over greater vertical and horizontal distances. We measure GHG emissions intensity (tonnes of Scope 1 and 2 CO₂Eq per tonne of ore processed) to help us understand the energy efficiencies of our processes and the effects of using cleaner grid energy.

GHG EMISSIONS INTENSITY⁽¹⁾



(1) Gases included in this calculation are CO₂, CH₄ and N₂O, and includes Scope 1 and 2 emissions.

In 2022, our total scope 1 and 2 GHG emissions were 13% lower compared to 2021, reflecting increased efficiency at our mines during the operating period and the supply of certified renewable electricity at Dolores and La Colorada. We remain on track with our medium-term 2030 target – we have reduced our total Scope 1 and 2 emissions by over 20% from our 2019 baseline.

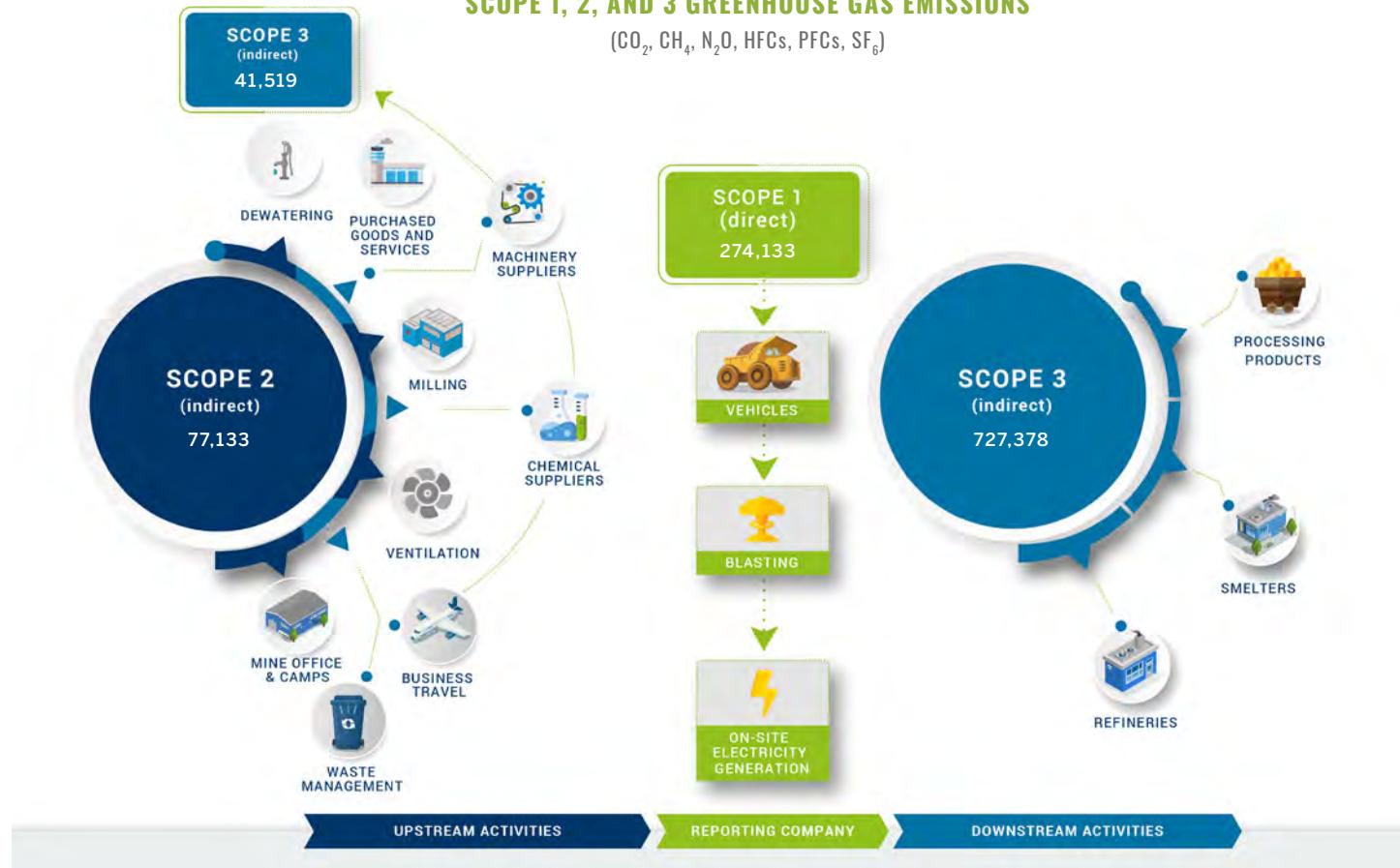
2023 Targets

Our targets for 2023 were developed through our annual budget development process described above. We have set two specific targets:

- Implement projects and initiatives to reduce GHG emission by 73,000 t CO₂Eq which is approximately 19% of the 2023 base case (2023 base case defined in the [Goals and Performance section](#)).
- Implement projects and initiatives to reduce energy use by 116,000 GJ which is approximately 2% of the 2023 base case.

SCOPE 1, 2, AND 3 GREENHOUSE GAS EMISSIONS

(CO₂, CH₄, N₂O, HFCs, PFCs, SF₆)



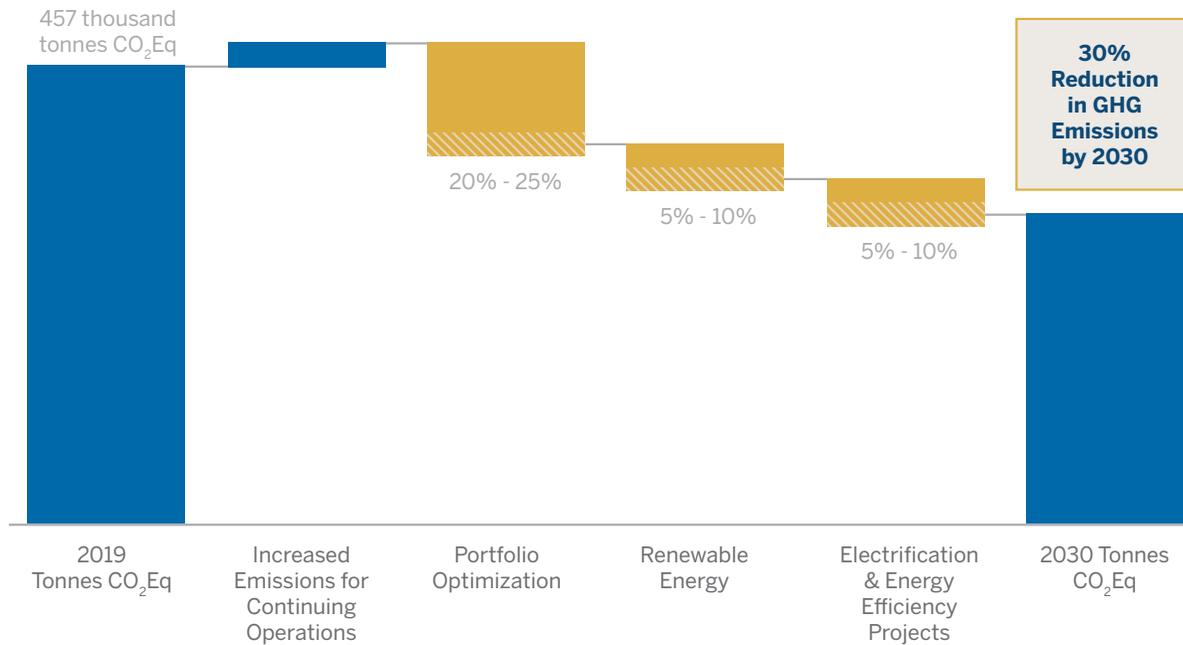
2030 Target

We are committed to reduce our global scope 1 and scope 2 GHG emission estimates by at least 30% by 2030 (from a 2019 baseline) through the following initiatives:

- **20% - 25%** reduction from portfolio optimization and transitioning to lower emission intensity operations.
- **5% - 10%** reduction through the transition of energy supply to renewable sources where appropriate and available.

- **5% - 10%** reduction through the electrification of fossil fuel driven equipment and processes, and energy efficiency projects.

Our 2019 baseline reflects our operations prior to the Yamana Transaction. Over the next two years, we will build long-term energy and emissions profiles for the Yamana assets that we have acquired in 2023 to commit to an updated objective with a reset baseline.



NEXT STEPS

We strive to inform our stakeholders and incorporate their feedback when developing our strategies and goals. We are focused on achieving our 2030 goal of reducing GHG emissions by 30% relative to our 2019 baseline with the intention of reaching net zero emissions in 2050 or earlier as permitted by the continued improvement in mining equipment technology and carbon capture use and storage.

We will continue our efforts to ensure climate-related issues receive the appropriate attention from our Board and management so that an effective strategic response can be established and implemented accordingly, and sufficient, transparent and timely climate-related disclosures can be made to our COIs.

Our key next steps to continually improve how we address climate-change and related disclosures include:

- Pursue medium-term projects and initiatives to achieve our goal of a 30% reduction of GHG emissions by 2030 (from a 2019 baseline) including:
 - Evaluation of electric or hybrid vehicles and the utilization of cleaner fuels.
 - Expanding the purchase of renewable grid electricity through power purchase agreements from renewable energy suppliers.
- Improvements to overall energy efficiency.
- Continue to monitor the development of long-term climate models as part of our ongoing physical risk assessments. Update our physical risks assessment in 2023 based on the IPCC AR6 report.
- Update our long-term energy profile quantification for the recently acquired Yamana operations.
- Incorporate scenario analysis and financial impact sensitivity analytics into our business planning and capital allocation processes based on the monitoring of changes to transition risks over time.
- Perform comprehensive jurisdictional and operation specific climate change vulnerability and risk assessments, and to inform our iteratively established mitigation strategies.
- Investigate, and where appropriate include climate-related performance metrics into future financing arrangements, and in our key COIs agreements.
- Continue to monitor our scope 1, 2 and 3 emission estimates and improve on our short-term target setting.



BIODIVERSITY

WHY IS BIODIVERSITY IMPORTANT?

Mining operations alter the natural features of the local landscape. Open pit mines, processing plants, mine waste-rock facilities, ancillary facilities, supporting infrastructure construction, and roads can damage or fragment habitat, impact individual species, or affect overall biodiversity. Ongoing activities use resources, create disturbances, and generate waste, which can also harm, degrade, or alter ecosystems and biodiversity. The past year was a pivotal one for nature and biodiversity, with heightened worldwide recognition of their importance and international efforts geared towards lessening their decline, leading to the emergence of new risk management and disclosure frameworks,

such as the Taskforce on Nature-related Financial Disclosures (TNFD). The industry and individual companies must adapt and respond.

At Pan American Silver, we recognize the importance of biodiversity in maintaining ecosystem health and supporting ecosystem services ranging from food production to freshwater supplies, and we respect the cultural and economic significance of species and ecosystems to host communities. Protecting biodiversity and contributing to a healthy environment is fundamental to our success and to the resilience and sustainable development of our host communities.

ANALYST CENTER



Material topic: Biodiversity

What's included in this section:

- Biodiversity management
- Biodiversity conservation

GRI indicators: 3-3; 304-1; 304-2; 304-3; 304-4; G4 MM1; G4 MM2

SASB indicators: SASB EM-MM-160a.1; EM-MM-160a.3

Prioritized SDGs: 12

UNGC Principles: 7; 8; 9

For additional information, see these data tables: GRI 304-3/GRI G4 MM1; GRI 3-3 (2022 Biodiversity Performance and 2023 Biodiversity Goals by Operating Mine)

Potential impacts from mining activities: habitat destruction, fragmentation and/or degradation, contamination or degradation of water, soil, and air, alteration of natural landscapes, biodiversity conservation and rehabilitation

Potential risks to the company: loss of social acceptance, conflicts over scarce resources, more stringent legal requirements or operating restrictions in eco-sensitive areas

OUR APPROACH

We design, construct, and operate with the intention of minimizing our impacts on biodiversity. Our Environmental Policy sets out our commitment not to explore or develop mines in internationally designated protected areas⁽²¹⁾. Each operation maintains a biodiversity conservation system as part of a site-wide environmental management system and applies the mitigation hierarchy framework – avoid, minimize, restore, and/or offset to manage potential impacts.

Policy

- [Environmental Policy](#)

Standards and Guidelines

- Biodiversity and Mine Closure Corporate Environmental Standard sets out minimum best practice requirements for the biodiversity conservation management system at each operation.

Plans, Programs and Initiatives

- Biodiversity conservation management systems help sites manage biodiversity impacts during construction, operation, and closure.
- Biodiversity baseline studies are conducted prior to the construction of new projects or significant changes in operations in order to generate flora and fauna baselines and identify critical or sensitive habitats and species.

- Biodiversity and community impact assessments are conducted prior to setting up in new areas or developing new projects in order to identify threats to biodiversity beyond our operations.
- COI engagement with local communities and other stakeholders on issues related to biodiversity conservation helps us manage our impacts and tailor our programs to include community interests.
- Training is provided to relevant employees, contractors, and community members regarding their management plans and conservation objectives.
- Progressive reclamation restores biodiversity by rehabilitating disturbed areas no longer required for mining activities.

Monitoring and Evaluation

- The TSM Biodiversity Conservation Management Protocol is used by operations to self-assess performance and implement action plans for continuous improvement.
- Biodiversity monitoring is conducted regularly with the aim of avoiding, minimizing, and/or mitigating identified impacts.

Accountability

- The General Manager at each operation is responsible for implementing the Biodiversity and Mine Closure Corporate Environmental Standard.

- The Vice President of Environment oversees and is responsible for biodiversity management for the Company.
- The Board HSE and CSD committees have oversight of matters related to biodiversity policies and practices.

(21) Defined as areas listed on the UNESCO World Heritage List, IUCN Green List, and/or other officially protected areas.



OUR PERFORMANCE

Biodiversity Management

Our goal is no net loss of habitat over the full mining cycle at each of our operations, measured by hectares impacted, reclaimed, and rehabilitated. Our objective is to return the land disturbed by our activities to as close to its natural and beneficial state as possible and create viable habitats for the local native species.

In 2022, our annual corporate goal was the reforestation or revegetation of 100 hectares of land across all our sites. We did not meet this goal due to uncertainty over the location of infrastructure to be built for the future La Colorada Skarn project, which would have potentially impacted the areas we had planned to revegetate, and delays in reaching agreement with the local community on areas for revegetation. However, elsewhere, we rehabilitated 57 ha (1.7% of total disturbed land, or 41% of land newly disturbed in 2022). Across our operations, the total accumulated area disturbed and not yet reclaimed is 3,470 hectares. Annual land disturbances and rehabilitation vary depending on the stages of the mine plan. Site performance on annual biodiversity goals can be found in the [GRI & SASB Data Tables](#).

Examples of site-level rehabilitation and restoration projects in 2022 include:

- **Dolores:** Reforested 25 ha with native vegetation near the waste rock dumps and the heap leach pad, and 3 ha in the Arroyo Amplio community.

- **La Arena:** Revegetated 3 ha and donated over 200,000 seedlings to the villages in the Sanagorán district.
- **Shahuindo:** Revegetated 7.5 ha of its industrial area.
- **Manantial Espejo:** Revegetated 19.2 ha of waste dump and previous open pit operation areas.

Additional examples of closure-related rehabilitation work can be found in [Mine Closure](#). Initiatives for biodiversity management at Escobal, can be found in the [Escobal Mine](#) section of this report.

All sites have biodiversity management plans and systems in place and apply a mitigation hierarchy to avoid or minimize negative biodiversity impacts. Our activities have the potential to cause habitat disturbance or degradation or to directly impact flora and fauna. Impacts may result from:

- Excavation and vegetation clearing.
- Vehicle strikes.
- Noise, artificial lights, and/or blasting.
- Erosion.
- Spills and discharges.

Baseline studies and regular monitoring have not identified any significant impacts on biodiversity from our operations.

To align with the TSM Biodiversity Conservation Management Protocol, sites engage with COIs

to communicate their biodiversity management approach and programs and to better understand local interests and priorities. For example, our Peruvian operations conduct surveys of community members, contractors, and

government representatives, and our Timmins operation engages with COIs through their COI outreach program. Sites also conduct biodiversity training and run biodiversity awareness campaigns for employees and contractors.

BIODIVERSITY MANAGEMENT PLAN



Biodiversity Conservation

None of our mines or mineral reserves are in or near endangered species⁽²²⁾ habitats, areas designated as having high biodiversity value, or land having protected conservation status⁽²³⁾. Land owned by our Huaron mine in Peru is adjacent to the Huayllay “Stone Forest” National Sanctuary (a natural geological rock formation). The mine and mineral reserves are located more than 5 km from the Sanctuary boundary, and our nearest infrastructure, a camp and water treatment plant, is located 0.7 km from the Sanctuary, next to the town of Huayllay.

Site-level biodiversity conservation management plans include species identification and monitoring activities and may include relocation programs for certain plant and animal species. In addition, our new Corporate Environmental Incident Management Standard will contribute to highlighting necessary mitigation measures for present species with different conservation statuses.

We contribute to biodiversity conservation through site-level initiatives, formal partnerships, collaboration with communities, and the protection of areas of land from industrial uses. For example, our Timmins operation actively supports several local sustainability

initiatives, including the Mattagami First Nation Walleye Hatchery and the Integrated Watershed Management Plan as a collaborative initiative of the Mattagami Region Watershed Committee in which we participate.

Some of our operations hold extensive areas of land but use only a small portion for mining activities, protecting the remaining land from ranching, grazing, and hunting activities. This allows natural habitats and species to recover gradually to their pre-impacted states. For example, 57,000 ha of land adjacent to our operations in Argentina are protected from regional impacts such as sheep grazing and hunting. Biodiversity surveys have shown a significant increase in the abundance and diversity of natural flora and fauna in this area over recent years.

We also continue our partnership with Nature Trust BC. This is a three-year (2021-2023) commitment to supporting long-term wetland conservation projects, such as the Nicomen Slough Conservation Area on an oxbow of the Fraser River between Mission and Hope in British Columbia.

⁽²²⁾ Critically endangered or endangered species on the IUCN Red List.

⁽²³⁾ Defined as areas listed on the UNESCO World Heritage List, IUCN Green List, and/or other officially protected areas.



NEXT STEPS

- Continue site-level implementation of Biodiversity and Mine Closure Corporate Environmental Standard.
- Continue partnership with Nature Trust BC.
- Evaluate the draft Taskforce on Nature-related Financial Disclosure (TNFD) framework and plan for future implementation.



MINE CLOSURE

WHY IS MINE CLOSURE IMPORTANT?

Mining operations have a finite life, but their social, economic, and environmental impacts, both positive and negative, can continue long after a mine closes. Planning for mine closure is a complex process, encompassing decommissioning, land rehabilitation, post-closure monitoring, social closure planning with COIs, and the necessary provisions for land management after the mining cycle is complete. Mines must also navigate the social and economic dimensions of mine closure, including potential unemployment, outmigration, and a decrease in local economic activity. When managed properly, closure can reduce potential liabilities and create long-term benefits for host communities.

At Pan American Silver, our desire is to leave a positive and beneficial legacy for host communities. To this end, we take a holistic approach to closure. We consider the potential environmental and social impacts of closure before and during a mine's operating phase, and we diligently seek input from local communities, government, and other COIs. Early planning and ongoing COI engagement help us manage the uncertainties and expectations associated with closing a mine, including tensions that could undermine the trust and positive relationships that we have worked hard to build and maintain.

ANALYST CENTER



Material topic: Mine Closure

What's included in this section:

- Environmental mine closure
- Social mine closure

GRI indicator: 3-3; GRI 304-3; G4 MM1

SASB indicator: EM-MM-160a.1

Prioritized SDGs: 3; 8; 12

UNGC Principles: 1; 2; 7; 8; 9

For additional information, see these data tables: GRI G4 MM1; GRI 304-3

Potential impacts from mining activities: changes in traditional land use, water-flow patterns, and/or water quality; decreased local economic activity and loss of services; changes to social dynamics caused by unemployment, workforce transition, and outmigration

Potential risks to the company: new or unanticipated closure, reclamation, and remediation costs; unanticipated effects of climate change leading to increased costs of remediation; new regulatory requirements, conflict and loss of social acceptance

OUR APPROACH

We start planning for closure in the design phase of every new project. Each operation has a closure plan, which is updated throughout the mine lifecycle to incorporate technical, environmental, or social considerations, to meet new regulatory requirements, and/or in response to COI engagement. Closure cost estimates are updated on an annual basis.

Policy

- [Environmental Policy](#)

Standards and Guidelines

- The Biodiversity and Mine Closure Corporate Environmental Standard sets out the key components for effective mine closure, including COI engagement, risk assessments, reclamation planning, decommissioning liability estimates, and social and environmental monitoring programs.
- The Corporate Social Closure Standard establishes the minimum requirements for the development and implementation of social closure plans that reflect local conditions, COIs' social interests and expectations, as well as legal requirements.

Plans, Programs, and Initiatives

- Closure plans establish the relevant technical, environmental, social, and financial aspects of each mine closure.

- COI engagement helps us identify COI interests, such as reclamation and land use objectives, and opportunities for long-term socio-economic development projects that we can incorporate into our closure plans.
- The Community Development Initiative (CDI) Toolkit provides guidelines to help us both identify and develop socio-economic programs that have a high likelihood of long-term success and measure their impact.
- Progressive closure entails reclaiming disturbed land and waste rock facilities once they are no longer required by our operations.

Monitoring and Evaluation

- Post closure monitoring entails ongoing, long-term monitoring of risks and controls to assess alignment with closure plan objectives. Operational hazard controls – A hierarchy of controls is applied to manage identified risks

Accountability

- The General Manager at each operation is responsible for the development and implementation of procedures and programs that comply with the Biodiversity and Mine Closure Corporate Environmental Standard and other corporate policies and initiatives.
- The Vice President of Social Sustainability, Inclusion and Diversity is responsible for social closure.

- The Vice President of Environment oversees and is responsible for mine closure and land rehabilitation.
- The Board HSE and CSD Committees have oversight of matters related to mine closure policies and practices.



OUR PERFORMANCE

All closure plans must align with both our corporate environmental and new social closure standards. The social standard, which was finalized in 2022, provides practical guidance to support operations in preparing closure plans and delivering on closure commitments. All social closure plans are required to include a legacy plan, which incorporates the social and economic programs identified in partnership with local communities. Our intent is that these programs become self-sustaining after the mine closes. We use our CDI Toolkit to develop indicators to measure each program's success, including participation rates and the program's effects on the local community. Environmental targets, including reclamation, activities, and timelines, are also included in closure plans.

We engage with workers, local communities, governments, and other COIs in the creation and/or update of our closure plans. Regular social baseline and perception studies help us understand the potential impacts of mine closures on communities including, communities' understanding of closure implications, and the interests of individuals and families remaining in a community after the mine closure.

In 2022, we completed the first phase of social closure at Manantial Espejo, and we are rolling out the legacy programs identified in the social transition plan, namely, micro tourism and training in trades. We submitted Manantial Espejo's closure plan to the Argentinian authorities at the end of 2022 and continue to carry out planned reclamation activities. We will

put the plant and other infrastructure on care and maintenance in early 2023.

We are advancing the early phase of the participatory social closure planning at Dolores. In 2022, we completed a closure-related social baseline assessment. As well, our social team conducted a workshop with key COIs to assess their level of awareness about the upcoming closure, gauge their specific interests, identify potential risks, and test their comfort with our proposed social closure process, which will be launched in 2023. We also updated the mine's closure plan, which included improving our closure cost estimates and updating environmental baseline studies. In addition, we are piloting new modeling technologies to help us manage the environmental aspects of closure, such as surface water management.

We placed our Morococha mine on care and maintenance in 2022. The Peruvian government approved an update of the Morococha closure plan, which will allow us to demolish the mineral processing plant and other adjacent infrastructure in 2023, in accordance with an agreement with a neighbouring mining company that is expanding its open pit mine. We continue to conduct on-going monitoring and progressive closure, as well as manage our social commitments.

In terms of physical closure, our aim is to restore closed sites to healthy ecosystems that are appropriate for the intended post mining land use. Wherever possible, we conduct progressive closure and reclaim disturbed areas no longer

required for mining activities. In 2022, we carried out the following closure activities:

- Progressive reclamation at La Arena's Waste Rock Dump 2 and Lucía Borrow Pit.
- Reclamation at Manantial Espejo with the hydroseeding of waste dump areas and closure of the COSE mine, facilities and waste dump.
- Progressive closure of Huaron's historic portals and waste rock dump, and initiation of reclamation on historic raises and waste rock deposits.
- Closure of Morococha's mining components at, including portals, raises, industrial and domestic water infrastructure, electrical substations and camps.
- Reclamation of the landfill in San Vicente.

Our Alamo Dorado mine is in the post-closure monitoring and maintenance stage, which entails ongoing environmental sampling and analysis to evaluate erosion, revegetation survival, habitat recovery, water quality, biodiversity, and geotechnical and geochemical stability. We continue to cap and re-vegetate regraded waste dumps. Capping seals the surface of waste dumps, preventing water penetration, and improves vegetation stabilization, which, in turn, helps control erosion.

In 2022, extreme rainfall events damaged water diversion channels and caused severe erosion of revegetated slopes at Alamo Dorado and La Arena, effectively undoing some of our

NEXT STEPS

- Obtain approval by the government of Santa Cruz of Manantial Espejo's closure plan.
- Roll out the Social Transition Plan at Manantial Espejo and put the plant and other infrastructure into care and maintenance.
- Conduct active closure at Morococha, including monitoring activities and demolition of the process plant and associated infrastructure.
- Continue participatory social closure planning at Dolores and carry out Phase 1 progressive closure activities.

reclamation work. At Alamo Dorado, we have changed our water channel design plans and are undertaking the necessary repair work. At La Arena, we have revised our surface water management plan for the affected waste rock dump. As a result of these incidents, we are now taking steps to improve our understanding of extreme precipitation events and revising surface water management plans for all operations. Our goal is to reduce the negative impacts of future extreme precipitation events on erosion and infrastructure at all our sites.

SOCIAL



\$14.7 MILLION
IN COMMUNITY
INVESTMENTS



1,185,250
HOURS OF SAFETY
TRAINING IN 2022



CLOSED
96%
OF GRIEVANCES AND
97% OF COMMUNITY
REQUESTS RECEIVED
IN 2022



37.5%
OF OUR BOARD
MEMBERS ARE
WOMEN, INCLUDING
OUR BOARD CHAIR



TRAINED
100%
OF OUR WORKFORCE
ON MODULE 2 OF OUR
“BUILDING RESPECT
TOGETHER” PROGRAM



COMPLETED THE
FIRST PHASE OF THE
**SOCIAL
CLOSURE**
AT MANANTIAL
ESPEJO



LAUNCHED
**FUTURE PAAS
INTERNSHIP**
PROGRAM



HEALTH & SAFETY

WHY IS HEALTH AND SAFETY IMPORTANT?

Mine workers engage in many complex and potentially hazardous tasks, such as drilling and blasting rock, operating heavy machinery, handling explosives and chemicals, working with high voltage electricity, working at heights, working with high temperature materials, and more. Exposure to these hazards may result in serious injury, lead to occupational disease, and/or affect worker well-being. Incidents have the potential to impact not only workers, but also their families, and communities. Fortunately, technology, automation, and improved critical controls and procedures have reduced the rates of disease and injury.

At Pan American Silver, creating safe work environments and protecting the safety, health, and well-being of our employees, contractors, suppliers, and host communities is a top priority. Operating safely is our moral obligation and operational imperative. We believe that operating safe mines and building a culture of safety are directly related to our operational success and our ability to create long-term value for COIs and society.

ANALYST CENTER



Material topic: Health and Safety

What's included in this section:

- Safety performance
- Health and safety culture
- Health and safety training and initiatives
- Mine rescue and emergency response
- Occupational health
- Cyanide management
- [Safety audits](#)

GRI indicators: 403-1; 403-2; 403-3; 403-4; 403-5; 403-7; 403-9

SASB indicators: EM-MM-320a.1

Prioritized SDGs: 3; 8

UNGC Principles: 1; 2; 3; 4

For additional information, see these data tables: GRI 403-9/ EM-MM-320a.1

Potential impacts from mining activities: industrial accidents, worker injuries, long-term health impacts, fatal and life-disabling accidents

Potential risks to the company: delayed production, loss of social acceptance

OUR PERFORMANCE

Our priority is to create and maintain safe work environments. Eliminating the potential for fatal or life-disabling accidents has always been our objective. Our most important goal is zero fatalities. We are deeply saddened that we suffered the loss of three workers in unrelated incidents at the Huaron, La Arena, and Dolores mines in 2022. In each instance, we conducted in-depth root cause analysis, which was used to develop corrective and preventive actions. These actions were shared with management and operating personnel throughout the Company with the intent of closing gaps and improving processes to preventing similar incidents in the future.

We also set annual goals and track performance of lost time injuries and injury severity at all operations. In 2022, we exceeded our targeted lost time injuries rate frequency (LTIF) rate of 0.90, but failed to meet our lost time injury severity (LTIS) goal of 525 due to the three fatalities. Still, our LTIS rate of 661 represents a reduction of 24% compared to 2021.

The most common lost time incidents tend result from operating machinery, rock falls, slips and falls, and failure to follow operating procedures. We track all safety incidents, regardless of severity, and identify and address trends. When a severe incident occurs, we use root cause analysis investigation methods to determine the underlying causes and the controls necessary to prevent and/or mitigate similar incidents in the future. Findings are communicated to

SAFETY PERFORMANCE⁽¹⁾

	LTIF ⁽²⁾	LTIS ⁽³⁾
2022	0.74	661
2021	0.98	868
2020	0.35	534
2019	1.04	481
2018	1.41	723
2017	1.26	771
2016	0.74	373

(1) Data include employees and contractors at operating mines and active development and exploration projects.

(2) Lost time injury frequency (LTIF) is calculated as the number of lost time injuries, including fatalities, in the exposure period multiplied by one million hours and divided by the total number of hours worked in that period.

(3) Lost time injury severity (LTIS) is calculated as the number of workdays lost due to lost time injuries multiplied by one million and divided by the total exposure hours. We count 6,000 lost workdays in the event of a fatal accident.

management and operating personnel at all operations. Individual sites investigate and track data relating to near misses and high-potential events. Trends are identified and managed at the country level.

We believe that serious injuries and fatalities are preventable. In 2022, we created a taskforce of corporate and site safety managers to develop and begin rolling out a company-wide critical risk management program. The purpose of the program is to identify and eliminate hazards that create potential for serious injuries and fatalities. This program is an evolution from a traditional

safety approach that focuses on performance-lagging indicators, such as a minor lost time injury, to a more proactive approach that uses leading indicators to assess the effectiveness of controls, such as near misses. The program provides for standardized metrics, tracking and reporting at the corporate level. We are already seeing positive results: a deeper understanding of risks, a greater focus on high-potential incidents, and increased worker-supervisor communication around safety issues.

Health and Safety Culture

Another way we are working to prevent serious incidents and improve overall safety performance is by creating a safety awareness culture. Workers throughout the Company have the right to refuse unsafe work. They can also raise safety-related concerns confidentially and anonymously through PAAS Listens, our employee feedback mechanism.

Several operations have implemented, or are currently implementing, behaviour-based programs to help build a level of safety awareness that prioritizes injury prevention and supports workers in consistently making safe choices:

- The “Good Catches” program at Timmins encourages employees to flag potential safety issues, even minor maintenance issues. These catches are recorded, and the issues are addressed.
- The Red Card safety system, in place at La Colorada and Dolores, empowers workers to refuse unsafe work and raise

concerns regarding unsafe conditions. A worker initiates a refusal by giving a “Red Card” to their supervisor, without fear of retribution. The supervisor investigates, corrects, or repairs the unsafe condition. If the worker agrees that the situation has been remedied, they return to work, and the details of the actions are recorded in the safety management system. This program is currently being implemented at our Peru operations.

- Our operations in Peru have implemented a behaviour-based program intended to empower workers to take a more active role in their own safety. The program encourages and supports workers in making safe choices, both at work and at home. The focus is on visible leadership, risk management, and safe production, and the intended result is a safety-conscious workforce. Elements the program are being adopted at La Colorada and Dolores.

Health and Safety Training and Initiatives

Through a range of training programs, we provide our workforce with the skills they need to do their jobs safely. In 2022, we provided over 1.2 million training hours to our workforce.

Type of Training	Hours
General Safety	838,908
Mining Induction	180,761
Geotechnical	11,774
Formal Safety Meetings	108,526
Mine Rescue	45,282
Total⁽¹⁾	1,185,250

(1) Includes training of employees and contractors at operating mines and active development and exploration projects.

Our health and safety supervisor training program, which provides leadership and technical training, has undergone recent changes. We are using our Morococho mine, which is currently on care and maintenance, as a hub for training our Latin America-based supervisors. Bringing people together enables us to provide a consistent level of training and facilitates the sharing of learnings, best practices, and innovations that can help improve safety performance across our operations.

Operations-level health and safety management systems also apply to contractors. Before commencing work at a site, contract workers receive health and safety induction training.⁽²⁵⁾ For infrastructure projects, only companies meeting or exceeding Pan American Silver's health and safety standards are considered

for contracts. The project's safety team communicates, monitors, and verifies the contractor's performance throughout the project's life span.

Mine rescue and emergency response

Each operation has a mine rescue team. In 2022, we developed corporate mine rescue standards and assessment criteria, based on Ontario's best-in-class mine rescue requirements, and rolled these out across our Latin American operations. Our objective is to standardize and elevate each mine's ability to respond to an incident. Operations conducted self-assessments during the year and are in the process of implementing corrective actions. Operations are required to implement the guidelines in 2023.

Occupational Health

Each operation has an industrial health program and access to an industrial hygienist, whose task is to identify, manage, and minimize exposure to workplace hazards. Key health risks at our operations include pulmonary disease (e.g., cancer and silicosis), hearing loss, and deterioration of musculoskeletal conditions. To reduce these hazards and make conditions safer for workers, sites have programs to monitor and manage noise, dust, and air contaminants, including diesel particulate matter.

We also continue to pilot, test, and implement equipment and technologies to make our work safer and improve working conditions. In 2022, this included:

- Piloting electric vehicle use at Timmins.

- Improving mine ventilation at Huaron to increase overall air flow and reduce dust and diesel exhaust.
- Enhancing the primary and secondary ventilation systems at La Colorada by installing a cooling plant to reduce heat and remove dust in workplaces.

Cyanide Management

In six of our nine operations we use sodium cyanide for dissolution and extraction of precious metals given its unique selectivity, efficiency and manageability of risks to health, hygiene, and the environment. We use the International Cyanide Management Code to help guide our safe supply and use of sodium cyanide, particularly considering facility designs, reagent handling systems and operating practices.

(25) All temporary workers and visitors at a site are made aware of safety procedures and required to undergo appropriate safety training.

NEXT STEPS

- Implement the critical risk management program at all sites.
- Implement mine rescue guidelines at all sites.
- Continue our Corporate Safety Audit Program.

TIMMINS' MINE RESCUE TEAM WINS DISTRICT CHAMPIONSHIP

In 2022, Pan American Silver's Timmins mine rescue team won the Timmins District Mine Rescue competition and placed third in the provincial competition which encompasses eight districts across the province of Ontario in Canada. Mine rescue teams are evaluated in areas such as general knowledge, firefighting skills, first

aid response, use of emergency equipment, and decision-making ability under stress. Our Timmins team had to deal with different scenarios that included multiple emergencies in both the underground and on surface including mechanical failures, fire and various other challenges.



RELATIONSHIPS WITH COMMUNITIES AND INDIGENOUS PEOPLES

WHY ARE RELATIONSHIPS WITH COMMUNITIES AND INDIGENOUS PEOPLES IMPORTANT?

Mining can be a driver of economic growth and positive social development. It can also have negative impacts on local economies, the environment, communities, Indigenous Peoples and human rights. Interest and scrutiny are growing concerning the effects of mining not only on communities and vulnerable groups, but also the impacts on the rights of Indigenous Peoples. Expectations for the industry continue to grow. To be successful, mining companies must navigate various complexities involved in managing risks and impacts and building support for their operations. The industry recognizes that effective stakeholder engagement is critical to the management of risks and impacts, and to the creation of socio-economic contributions for local communities and Indigenous Peoples. Failure to build positive relationships with host communities and Indigenous Peoples can manifest in conflict and social unrest, and result in legal challenges,

production and/or permitting delays, and even the suspension of mining operations.

Pan American Silver is committed to fostering positive and effective long-term relationships with communities and Indigenous Peoples, with trust as a core value. Our business success is enhanced by building acceptance and relationships with all our COIs. We pursue this objective through open and inclusive dialogue, partnerships, and ethical and sustainable business practices throughout the mining lifecycle, and we strive to establish a positive legacy in the areas where we operate. We work towards collaborating with local communities and Indigenous Peoples, whose contributions help us manage potential risks and impacts, identify opportunities, and develop programs that will deliver lasting and mutual benefits.

ANALYST CENTER



Material topic: Relationships with Communities and Indigenous Peoples

What's included in this section:

- Social Performance
- Community Response Mechanisms
- Social Disputes
- Indigenous Rights and Relationships with Indigenous Peoples
- Artisanal and Small-Scale Miners
- Escobal Mine

GRI indicators: 3-3; 409-1; 411-1; 413-1; 413-2; G4 MM5; G4 MM6; G4 MM7; G4 MM8; G4 MM9

SASB indicators: EM-MM-210b.1; EMM-MM-210a.3; EM-MM-120a.1

Prioritized SDGs: 3; 4; 5; 6; 7; 8; 12; 13

UNGC Principles: 1; 2; 3; 4; 5; 6

For additional information, see these data tables: SASB EM-MM-120a.1; EM-MM-210a.1; EM-MM-210a.2

Potential impacts from mining activities: local employment and procurement, community development programs, infrastructure investments, taxes and other payments to governments, economic dependence, income inequality, influx of population, changes to social dynamics, pressures on local infrastructure, housing and services, harm to vulnerable groups

Potential risks to the company: community opposition resulting in project or production delays, loss of or failure to obtain permits, loss of social acceptance, political or social instability, new or amended regulations affecting acquisition or use of land

OUR APPROACH

Early and ongoing engagement and meaningful dialogue set the foundation for building trust and positive relationships with local communities and Indigenous Peoples. We use participatory processes and social performance tools to create effective engagement opportunities, identify and manage our actual and perceived impacts, and evaluate the effectiveness of our performance. This approach also helps us better understand community interests and expectations, which in turn helps us manage social risk and more effectively support the priorities of local communities and Indigenous Peoples.

Policy

- [Social Sustainability Policy](#)
- [Global Human Rights Policy](#)
- [Inclusion & Diversity Policy](#)

Standards and Guidelines

- Our Corporate Social Closure Standard establishes the minimum requirements for the development and implementation of social closure plans that reflect local conditions, COI interests and expectations, and legal requirements.

Plans, Programs, and Initiatives

- COI mapping helps us identify relevant stakeholders, improve our engagement, and understand risks. Mapping includes vulnerable groups that may be disproportionately affected by our activities.

- Participatory baselines, cultural studies, and perception assessments, conducted jointly with communities and third parties, create opportunities for effective dialogue and are essential to helping us understand social context, the potential impacts of our operations on our host communities, and community needs and interests.
- Response mechanisms at each site help us understand and respond to community questions or concerns around perceived or actual impacts from our activities.

Monitoring and evaluation

- Our social risk assessment tool helps sites identify and manage social risks.
- [Sustainability audits](#) are conducted to evaluate our social performance, including the effectiveness of our community programs and the conditions of our mine camps and facilities.

Accountability

- The social teams at each mine are responsible for ongoing engagement and the implementation of social management systems that meet corporate commitments and initiatives.
- The Vice President of Social Sustainability, Inclusion and Diversity leads social performance and sustainable development programs and initiatives.
- The Board CSD Committee oversees the Company's overall social performance.



OUR PERFORMANCE

Social Performance

In 2022, we carried out a baseline study at La Colorada to assess and identify socio-economic opportunities to design development projects jointly with local communities. As part of the initial social closure planning process at Dolores, we completed a baseline study to assess the Arroyo Amplio community's socio-economic aspects and to better understand community members' concerns related to the mine closure.

At Manantial Espejo in Argentina, we conducted a closure-focused perception study and completed the first phase of a participatory social closure process. We held three stakeholder focus groups aimed at the joint development of the social transition plan, including the development of a legacy program for the community of Gobernador Gregores. The plan was developed by community members and has been presented to the local government. The plan is currently under review. To read more about the social closure plan, please see the [Mine Closure section](#).

We also moved forward with efforts to standardize and formalize our social sustainability processes by adding tools to improve our ability to understand and manage social issues and risks. For example, we continued to implement our country-level social risk assessment tool, which improves our ability to proactively identify and manage potential risks before a serious issue or conflict arises. We consider risk not only from an operation's perspective, but also from the perspective of our COIs, and this approach

creates opportunities for fostering positive outcomes. In 2022, we updated the matrix that covers social risk assessments. We will continue reviewing the tool throughout 2023 in order to optimize the assessments.

Our internal biennial sustainability audits help us assess the effectiveness of our community programs and processes, their alignment with our policies and standards, and the conditions of our mining camps and facilities. Audits are also important in identifying opportunities for improvement. Corrective actions and, on occasion, programs are designed and implemented to address findings and resolve concerns. Additional details on our sustainability audits and audit performance can be found in the [ESG Management section](#).

By the end of the year, all our operations had met Level A requirements on the TSM Community and Indigenous Relationships Protocol, and our Timmins mine underwent an external third-party TSM verification that confirmed this result.

We continue to improve our data management system to track our social performance and the results of our sustainability audits, and to monitor our social risks. As well, we continued to measure our social performance through our Sustainability Performance Indicators (SPIs). These indicators and our management systems are consistent across all sites. We track 14 social performance indicators on a monthly, quarterly, and annual basis.

Community Response Mechanisms

Our community response mechanisms provide a means through which community members can engage with our operations. Community members can submit questions, requests, concerns, and/or grievances to us in person or via:

- Community mailbox
- Telephone
- Email
- Suggestion boxes
- Community offices

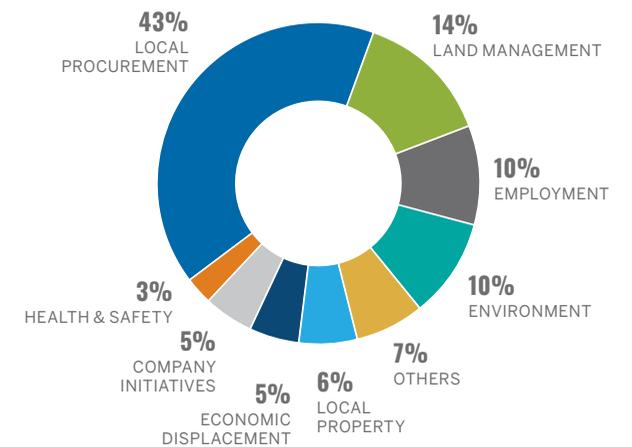
All requests or grievances are registered by the social teams, which then respond, working with other departments if needed. If there is an objection or disagreement to the proposed response, the case escalates to an appeal process that involves the mine senior management. The process is overseen by the Vice President of Social Sustainability, Diversity, and Inclusion. The effectiveness of the mechanism is evaluated through our social audit system and periodical checks to the team and the management system data centre. Through stakeholder surveys and ongoing face-to-face communication, we also provide opportunities to the users of our Community Response Mechanisms to give us feedback on how the mechanisms operates and on any improvements that can be made.

In 2022, we received 155 grievances and 2,822 requests. Most of the grievances (40%) fell into the category of "Local Procurement", which are predominately alleged claims related to delayed payments to local contractors in Peru. The second highest (14%) category of grievances is related

to "Land Management" cases, which includes complaints and concerns from previous land-owners. By the end of 2022, we had closed 96% of grievances and 97% of requests received, including most high- and medium-risk grievances. Our teams continue to work with the relevant individuals and communities to resolve the remaining two grievances (one medium-risk in La Arena, and one high-risk in Huaron) and 54 requests that remain open as at May 24, 2023. Although 80% of all requests and grievances received an acknowledgement of receipt within 15 days, our average response time was 20 days.

Our response mechanisms track requests and grievances in 13 categories. In any given year, we may or may not receive requests or grievances pertaining to a specific category.

GRIEVANCES BY CATEGORY - 2022



Note: Includes operating mines only.

GRIEVANCES AND REQUESTS CATEGORIES

Category	Description
Company Initiative	Requests for donations, support, social investment, employment, and business opportunities.
Cultural Heritage	Concerns related to potential damage to traditional and/or sacred areas or objects important to the local population, including Indigenous groups.
Economic Displacement	Allegations of damage to the main economic activities of communities or populations caused by a relocation from their area of origin due to mining activities.
Employment	Concerns related to work environment, contract and any other issue that involves an employee or contractor.
Local Procurement	Allegations of breach of a local employment commitment/contract. Issues related to delay(s) in payment(s) to contractors/suppliers for goods/services provided to the mine (or to a related contractor or supplier).
Environment	Concerns related to water quality and quantity, air quality, noise, gases, and/or solid and liquid waste. Environmental incidents, including spills or releases of liquids, gases, and/or solid waste into water, air or onto land.
Health & Safety	Concerns related to the health and safety of local community members or their assets.
Human Rights	Allegations related to breaches of our Human Rights Policy or Code of Ethical Conduct. Allegations related to discrimination or harassment.
Local Property	Allegations of property damage resulting from the activities of the mine or its contractors.
Land Management	Concerns regarding potential breach of commitments resulting from the purchase or sale of land or commitments not fulfilled with the former owners.
Land Rights	Misuse of land rights (permits) held by the mine.
Other	Any matter not related to a specific category.
Relocation	Issues arising from the relocation of communities or populations due to mining activities.

Social Disputes

We manage social risks and minimize social disputes by identifying risks early through our social risk processes and prioritizing engagement and participatory processes. In 2022, we experienced 26 community incidents, mostly in Shahuindo operation in the form of day or hour length protests, relating to requests for direct

employment or local procurement contracts. All were resolved peacefully. We work to create local opportunities through procurement and other socio-economic development programs.

Significant Disputes

We define significant social disputes as grievances that cannot be resolved jointly within a reasonable time frame and/or require significant

financial resources to resolve. These disputes are escalated to site-level or country-level senior management to oversee the resolution process. In 2022, we had no new significant social disputes at our operations; however, we are actively working to address two ongoing disputes.

As part of an expansion at La Colorada that began in 2015, we built new camp facilities and re-accommodated workers and families who lived on our property in substandard housing. A group of families opposed the relocation and filed a land rights claim at the Mexican Agrarian Court. This group also engaged the United Nations Office of the High Commissioner for Human Rights (OHCHR) in Mexico City. In 2020 we began proactively working with the OHCHR, and meeting with their officials, officials from the National Human Rights Commission, and representatives of the families to understand concerns, resolve identified issues, and work towards a solution.

In October 2021, with OHCHR's oversight, we began a resettlement negotiation process. In 2022, Pan American's team, supported by an independent resettlement specialist – Mike Steyn and his team, part of SRA (Steyn Reddy Associates) – continued to facilitate a robust and transparent negotiation process, aligned with IFC Performance Standard 5, Land Acquisition and Involuntary Resettlement and other international standards and best practices. Of the three groups of families with whom we are negotiating, we have reached agreements with two groups – 35 individual families have opted to receive either a financial settlement or a physical re-settlement. We continue to negotiate with the legal representatives of the third group, which includes 4 families.

In addition, there remains a situation at Escobal that is also classified as an ongoing dispute. Prior to our acquisition of Escobal in 2019, its mining license was suspended by the Constitutional Court of Guatemala due to the Ministry of Energy and Mines (MEM)' omission to conduct the legally required consultation with the Xinka Indigenous People residing in the area of influence. The mine is currently on care and maintenance while the government of Guatemala conducts the court-mandated International Labour Organization (ILO) 169 consultation process.

During 2022, the ILO 169 consultation process for the Escobal mine in Guatemala advanced, concluding Phase 1 of the process in July. The process is being led by the Guatemala MEM with representatives of the Xinka Indigenous People and Pan American Silver Guatemala, Pan American's subsidiary in Guatemala, as participants in the process. Additionally, two meetings were held in October 2022 to provide information related to the project. Jointly with the representatives of the Xinka Indigenous community, MEM submitted an update to the Guatemalan Supreme Court of Justice in December 2022. The process, timing, and outcome of the [ILO 169 consultation](#) remains uncertain. Additional details on the Escobal mine and the ILO consultation process are provided in the [Escobal Mine](#) section of this report.

Since July 2017, protesters near the town of Casillas have blocked primarily mine-related deliveries from using the highway that connects Guatemala City to San Rafael Las Flores and the Escobal mine. A second roadblock initiated in 2018 near the community of Mataquescuintla also remains in place. We are engaging with community leaders, government agencies, and

DUST MANAGEMENT

A key issue for many local communities is dust that is generated by our activities, including blasting, crushing, and driving on gravel roadways. If not properly managed, dust can affect air quality and human health. Dust from transport trucks on gravel roadways is a common grievance for communities.

We work hard to actively manage dust. All our operations have dust suppression systems to manage dust sources from truck transport on gravel roadways. We also work with affected communities and local authorities to implement and/or improve mitigation measures, such as paving and other [dust suppression measures](#). Additional information on non-GHG air emissions can be found in the [GRI & SASB Data Tables](#).

NGOs to develop a productive dialogue aimed at addressing concerns, resolving the dispute, and reaching a peaceful conclusion.

Indigenous Rights and Relationships with Indigenous Peoples

Pan American Silver acknowledges and respects the rights, cultures, heritage, and interests of Indigenous Peoples and endeavours to build and maintain positive relationships with them. Our Social Sustainability Policy sets out

guidelines that aim to recognize and respect the rights, cultural values, beliefs, knowledge, and traditions of Indigenous Peoples present in the areas where we operate. In alignment with MAC's TSM Indigenous and Community Relationships Protocol, and as outlined also in our Social Sustainability Policy, we are committed to aiming to achieve free, prior, and informed consent (FPIC) for impacts on rights of directly affected Indigenous Peoples.

Ongoing engagement and the identification of mutually beneficial opportunities is the approach we believe can develop positive and sustainable relationships with Indigenous Peoples. For example, we operate two mines near Indigenous communities at our Timmins operation, where we engage them through multiple channels, including site tours, job fairs, community visits, and educational events. We also have an Indigenous Coordinator who is selected and employed by the Wabun Tribal Council, a regional chiefs' council, and is responsible for sharing Company information with two of the four Indigenous Peoples communities. Formal partnership agreements, in the form of Impact Benefit Agreements (IBAs), were established between our Timmins operating companies and the Mattagami, Flying Post, Matachewan, and Wahgoshig First Nations. These IBAs establish frameworks for continued consultation on existing and future operations at the mine. They also include provisions regarding education and training, employment, business and contracting opportunities, environmental care, and economic benefits.

Examples of measures collaboratively created to support local Indigenous Peoples communities include initiatives to increase the number of employees who self-identify as Indigenous and

to provide support for our Indigenous partners' community projects. We also provide ongoing support for the Mattagami fish hatchery by supplying materials and assisting in its operations. Walleye is a commercially valuable food fish, as well as a popular sporting fish, and the hatchery raises and releases hundreds of thousands of Walleye fish into local streams and lakes each year.

At the [Escobal mine](#) in Guatemala, operations are currently suspended while the Government of Guatemala completes an International Labour Organization (ILO) Convention 169 consultation process⁽²⁶⁾ with Xinka Indigenous Peoples. As a participant, we cooperate and fully support the consultation process.

Other than Timmins in Canada and Escobal in Guatemala, there are no Indigenous Peoples near any of our other operating mines.

In 2022, we had no new incidents involving violations of the rights of Indigenous Peoples.

Artisanal and Small-Scale Miners

Artisanal or informal mining can be a key source of income for local communities. Because government administrations are often lacking in the locations where these mines operate, their activities can be largely unregulated and working conditions unsafe, creating risks for both miners and communities, including environmental degradation, human rights abuses, health and safety issues, and the funding of conflict⁽²⁷⁾. In addition, the potential exists for conflict between Artisanal and Small-Scale Miners (ASM) and anti-mining groups.

In Peru, the current political crisis has posed a risk of increasing informal claims of land in mining areas in the country.

NEXT STEPS



- Continue to implement the new TSM Indigenous and Community Relationships Protocol at all operations aiming to improve our practices towards level AA.
- Develop additional standards to improve site-level social management systems.
- Improve our monitoring system to track community investment progress in real-time.
- Develop a Stakeholders Engagement Corporate Standard in 2023. At this moment, every site has their own Stakeholder Engagement Plan based on TSM requirements.
- Share relocation policies and lessons learnt from La Colorada mine process with other mine sites.

(26) ILO 169 includes a mandate for governments to consult with Indigenous Peoples surrounding mining operations prior to granting mining rights, permits, or approvals.

(27) For more information, please see the [Konrad Adenauer Stiftung 2019 report](#)

ESCOBAL MINE

The Escobal mine is located in San Rafael Las Flores, near Guatemala City, and has an industrial footprint of less than one square kilometre. The underground mine was built to produce silver, zinc, lead, and gold polymetallic concentrates through a selective flotation process. Both the mine and process were designed to minimize water consumption, waste generation, and environmental disturbance through a state-of-the-art paste backfill, filtered tailings, and a dry stack tailings facility.

Prior to our acquisition of Escobal in 2019, the mine was operating from 2014 to 2017, during which time, it was a major contributor to the national and local economy by providing over 1,500 direct jobs, thousands of indirect jobs, and through spending with local suppliers, tax contributions, and royalties paid to landowners, as well as to national and local governments. Its mining license was suspended in 2017 after a court proceeding was initiated by a non-governmental organization in Guatemala. The Constitutional Court stated in the ruling that the Guatemalan Ministry of Energy and Mines (MEM) violated the Xinka Indigenous People's right to consultation under Convention ILO 169. The Escobal operation remained on care and maintenance in 2022.

Update on the ILO 169 Consultation Process

The first phase of the consultation process, led by the Government of Guatemala through the Ministry of Energy and Mines (MEM), started in May 2021. Pan American Silver takes part as one of the three key participants.

During the first phase, a study regarding the Xinka People's perceptions around the cultural and spiritual impact of the mining project was completed by external advisors in collaboration with the government and the Xinka People, who were represented by the Xinka Parliament of Guatemala (PAPXIGUA). As part of this process, the PAPXIGUA also gave a presentation on their traditional way of life, cultural identity, social structure, economic system, customs, beliefs, and distinctive traditions. Eight meetings were conducted during phase one of the process, which concluded in July 2022. The final report of this phase included the agreements and progress made during the meetings and was delivered to the Guatemalan Supreme Court of Justice jointly by the MEM and PAPXIGUA in December 2022.

In October 2022, the second phase of the consultation process was launched. This phase marks the start of the information sharing process, during which institutions present relevant information about the mining operations at Escobal. To date, four meetings have been held. The Ministry of Health and Social Assistance (MSPAS) and the Ministry of Culture and Sports (MICUDE) have shared information with PAPXIGUA. As part of phase two of this process, the MEM provided consultants to support and guide the Xinka People through their analysis of the information.

Pan American Silver is actively participating in the ILO 169 consultation process and remains committed to an open, respectful, and inclusive dialogue with those involved. We continue our care and maintenance activities and fulfill our commitments to the Guatemalan government. We are committed to carrying out all our activities in good faith and in full respect of the terms of the

Constitutional Court ruling. At this time, there is no date for a potential restart of operations at Escobal.

MEM provides updates on the process through a [webpage dedicated to Escobal](#).

Highlights from 2022

Social and Communities

As required by the Escobal's Environmental Management Plan and with the participation of the communities, we continued community relations and engagement activities in 2022. With the support of local authorities from the Ministry of Education (MINEDUC), we were able to resume in-person activities, including 26 training workshops on environmental matters, which benefited 640 children and 58 teachers from seven communities near the mine. Topics such as water use, care and conservation of the environment, and recycling were addressed during the workshops.

In line with our social sustainability commitments and upon request from the San Rafael Health Center, we facilitated medical care for 15 medical support days, over which more than 2,900 consultations were provided for men, women, and children. Sixty hours of training were also offered to eight firefighters in the town of Casillas.

We also continued our efforts at strengthening local economic development through skill training conducted by the Technical Institute for Training and Productivity (INTECAP). The course offerings for 2022 were welding and masonry. Over 100 local participants are now in the process of certification.

In partnership with FundaSistemas, a private

Our mine visits program drew over 1,900 visitors in 2022, allowing more than 225 groups to gain insight into our process and practices.

organization focused on supplier development, we launched a local business development program that includes activities such as personalized counseling and training for current local vendors, possible new vendors, and entrepreneurs. Twenty-seven workshops were delivered. More than 20 businesses participated in this program, and 18 of these managed to increase their operational efficiency through the program.

Our mine visits program drew over 1,900 visitors in 2022, allowing more than 225 groups to gain insight into our process and practices. We will continue offering this program, adding a tour focused on our environmental care activities and creating a plan to boost school visits to the site. Feedback from visitors suggests a positive perception of our practices and programs.

We continued our partnership with the United Nations Development Program's (UNDP) multi-stakeholder innovation platform for sustainable development. This participatory process, led by the municipality of San Rafael Las Flores, aids in the identification of development challenges and priorities that exist in the area. The analysis involved eight participatory workshops, held between November 2021 and January 2022, to gather qualitative information from local actors such as women, civil society, extractive sector,

NGOs, churches, Indigenous People, youth, and community leaders. A report issued by the UNDP highlighted the challenges prioritized by the population, which were environmental quality, migration or forced displacement, water, job and income opportunities, risk factors, sexual and reproductive health, and violence against women. In 2023, we will continue working on the program with UNDP in response to the issues identified by the community.

To foster open dialogue with the communities near Escobal, we have an Office of Public Attention, where we provide support, process requests, and manage our grievance mechanisms. In 2022, we received 230 information queries (over 90% of which were centered on employment opportunities), 170 requests for support and two grievances. We responded to 98% of the queries, requests and grievances in under 15 days.

Human Rights and Security

In 2022, we conducted over 3,100 hours of human rights-related training, with the Office for the Human Rights Ombudsman in Guatemala (PDH) supporting our efforts. Our security contractor also provided over 950 hours of training on the Voluntary Principles on Security and Human Rights to their workforce at Escobal.

In 2022, we also conducted a [human rights internal review at Escobal](#).

In 2022, we received no human rights complaints related to our security personnel or security activities. However, we did receive and process one human rights-related claim through our grievance mechanism. An internal review was

conducted by the Human Rights and Compliance Officer, who concluded that the allegation was unfounded, as no irregularities or violations of corporate policies were detected. The results were reported to management, the Ministry of Energy and Mines, and participants in the ILO 169 consultation process.

Our Company is committed to inclusion and diversity and creating respectful workplaces. Our Escobal workforce also received over 244 hours of training as part of our [“Building Respect Together” program](#).

In addition, more than 200 employees participated in three talks to learn about Xinka Culture. These talks were given by the Presidential Commission Against Discrimination and Racism Against Indigenous Peoples in Guatemala (CODISRA).

To promote an understanding of human rights amongst our suppliers, we held 37 workshops with suppliers and business development program participants on our human rights policies and measures to prevent human rights abuses. Over 170 people participated.

Environmental Performance

To comply with our environmental permits and our commitments with the Ministry of Environment and Natural Resources (MARN), we have established extensive mitigation measures that cover air quality, noise, water monitoring, biodiversity, wastewater treatment systems, and other activities.

Throughout 2022, we continued implementing Toward Sustainable Mining (TSM) environmental

protocols. Our Environmental Team was recognized with a third-place award in the Environment category, as part of the Industrial Awards granted by the Chamber of Industry of Guatemala. This was the second consecutive year that that Escobal was recognized for its environmental performance.

Environmental care programs within communities continued in 2022 to promote greater environmental responsibility. Over 24,300 trees of native species were donated to communities around the mine, equalling a reforested area of about 25 hectares. We also continued taking part in the technical committee of the Los Esclavos watershed, which published a study of the watershed during the year.

Escobal’s more than 126 hectares of forested land serve as available habitat for wildlife and have been monitored and preserved since the project’s biological baseline was established in 2009. In 2022, we reforested 5 on-site hectares with native species and continued to preserve previously reforested areas and a natural forest within the mine property. Through our environmental practices, we have increased the coverage of native oak species and preserved the natural forest within the property. These species, including some with protection status according to the International Union for Conservation of Nature (IUCN), are grown in our forestry nursery and then planted on Escobal’s property.

Partnerships

In 2022 we publicly disclosed payments to government in accordance with the [Extractive Industry Transparency Initiative \(EITI\)](#). This

initiative seeks to increase transparency about payments by private companies in the mining and other sectors to government sectors.

Pan American Silver stands against corruption in all its forms and works to mitigate risks associated with corruption. In 2022, we began the process of obtaining GuateÍntegra Anti-Corruption Certification, based on ISO 37001. This certification is validated by the Guatemalan Chamber of Industry.

Per our commitments to the local chapter of the United Nations Global Compact (UNGC), in December 2022, we presented the [first report on our progress](#) in integrating the 10 UNGC Principles, which cover the areas of human rights, labour, environment, and anti-corruption.





SOCIO-ECONOMIC CONTRIBUTIONS

WHY ARE SOCIO-ECONOMIC CONTRIBUTIONS IMPORTANT?

Mining companies can create significant economic benefits for host countries and communities through taxes, payments to governments, investments in infrastructure, local employment and procurement, and community investments. By working with host communities and other stakeholders, companies can support development priorities and catalyze economic development, which in turn helps companies build social acceptance and manage social risk. If not managed properly, however, economic contributions can create economic dependence and wealth disparity within communities, which can cause changes in social dynamics and harm to vulnerable groups.

At Pan American Silver, we value our host communities. We want them to see our presence as a positive factor, and that requires establishing long-term relationships and sharing the economic benefits of our operations. However, our mines have finite lifespans, so it is important that our investments contribute to building community resilience. We work hard to understand community needs and interests and collaborate to identify and implement beneficial and viable programs and projects that contribute to community well-being and self-reliance beyond the lifespans of our mines.

ANALYST CENTER



Material topic: Socio-economic Contributions

What's included in this section:

- Economic Value Generated and Distributed
- Community and Sustainable Development
- Local Employment and Procurement
- Socio-Economic Development Programs
- Local Infrastructure and Service Investments

GRI indicators: 3-3; 202-2; 203-2; 204-1; 413-1

SASB indicators: EM-MM-210b.1

Prioritized SDGs: 3; 4; 5; 8; 13

UNGC Principles: 1; 2; 6

For additional information, see these data tables: GRI 201-1; GRI 202-2; GRI 204-1

Potential impacts from mining activities: economic dependence, wealth disparity within local communities, local employment and procurement, infrastructure investments, socio-economic development opportunities, taxes and royalties paid to local government

Potential risks to the company: community opposition resulting in project or production delays, loss of or failure to obtain permits, loss of social acceptance

OUR APPROACH

We invest directly in host countries and communities through education, training, economic growth, taxes, royalties, wages, infrastructure improvements and local procurement opportunities. We also contribute to the sustainable development of host communities through investments in infrastructure and services as well as socio-economic development programs created in partnership with communities with the intent of providing long-term benefits beyond the life of the mine.

Policies

- [Global Human Rights Policy](#)
- [Inclusion & Diversity Policy](#)
- [Social Sustainability Policy](#)

Standards and Guidelines

- The Community Development Initiative (CDI) Toolkit provides guidelines to help us identify and develop socio-economic programs with a high likelihood of long-term success and to measure their impacts. Monitoring and Evaluation

Plans, Programs, and Initiatives

- Participatory community processes such as baseline assessments conducted jointly with communities and third parties help us understand the existing social context, the actual and potential impacts of our operations, and community needs and interests. This enables us to identify

opportunities for long-term investment. Baseline assessments are updated when designing new programs or initiatives with COIs.

- Natural leader focus groups are conducted when appropriate to engage with and seek input from informal community leaders, that is individuals who are neither elected nor part of a formal group.
- Socio-economic development programs focus on education, health, and alternative economic opportunities intended to provide long-term benefits.
- Local procurement initiatives engage and build capacity with local suppliers.

Monitoring and Evaluation

- The TSM Aboriginal and Community Relationship Protocol provides a standard process for community engagement against which operations self-assess their performance.
- Social Sustainability audits help us verify that our community investment programs meet our policy and that the CDI Toolkit guidelines have been applied. The audits also assess our progress in fulfilling our commitments.

Accountability

- The Vice President of Social Sustainability, Diversity, and Inclusion leads social sustainability programs at the corporate level.

- The Senior Vice President, Corporate Affairs and Sustainability oversees social sustainability in the Company.
- The Board CSD Committee has oversight of the Company's community investments.



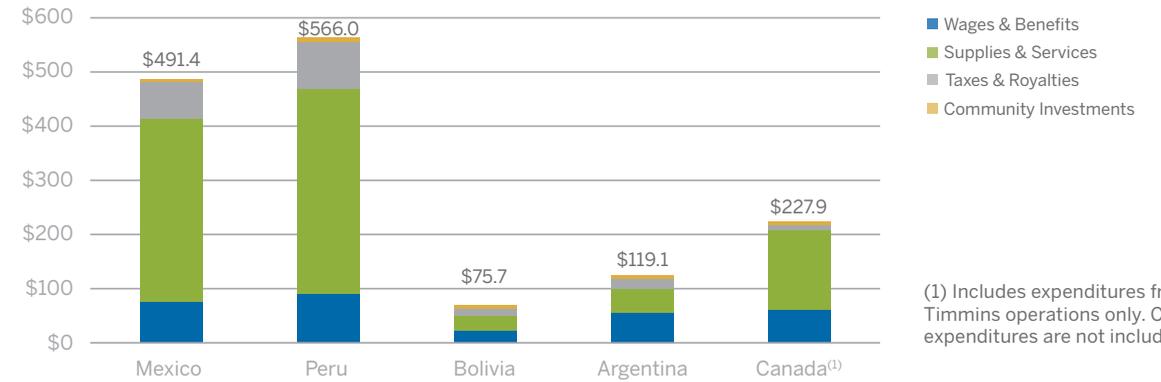
OUR PERFORMANCE

Economic Value Distributed

Our core business activities generate economic value for COIs at the international, national, regional, and community levels, both directly and indirectly. Our direct investments include wages paid to employees, community investments, purchases of local products and services, and payments to government in the form of taxes, royalties, and fees. Economic value retained after distributions can be used for future reinvestments in expansion and growth projects, which ultimately contribute to regional economies.

Our community investments are voluntary contributions that, in conjunction with a portion of the taxes and royalties paid to governments, provide social and economic benefits to local communities affected by our operations. These investments are meant to be sustainable, defined by communities, and aligned with our business objectives. We actively track each operation's community investments to discern whether allocated funding is reaching the communities within a reasonable time and community commitments are being met. Budget performance is audited to identify the cause of any delays.

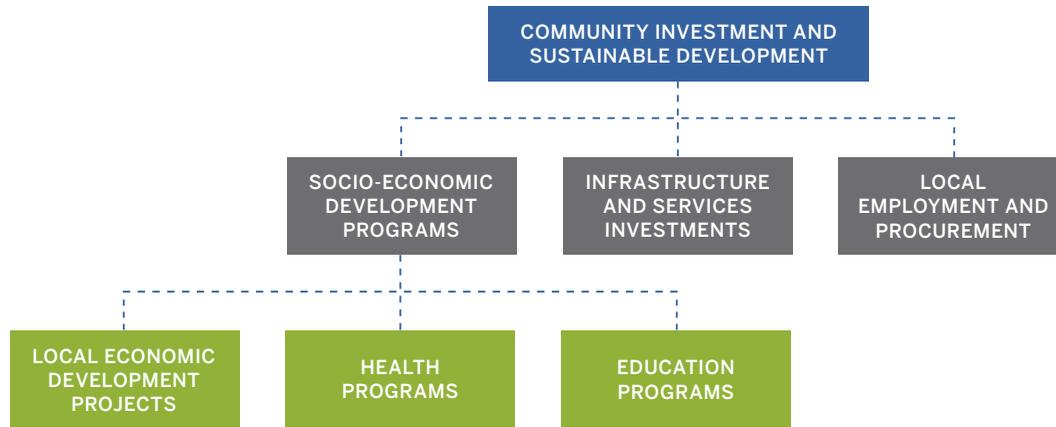
OPERATING MINES SPENDING BY COUNTRY



(1) Includes expenditures from the Timmins operations only. Corporate expenditures are not included.



COMMUNITY AND SUSTAINABLE DEVELOPMENT



Throughout the year, we engaged with communities to better understand how the pandemic was affecting them and to identify how we could support their needs through community investments.

Local Employment and Procurement

For many of our host communities in Latin America, the pandemic has created economic hardship and uncertainty, leading to an increase in the number of community members reaching out to us for employment. We recognize these economic challenges, but also know that we are unable to meet all of this demand for direct employment. Where possible, we create employment opportunities, both direct and indirect. We prioritize local hiring while focusing on our diversity and inclusion objectives. Most of the workforce at each operation is from the country where the operation is located.

We also emphasize local procurement, which

creates opportunities for community members and local businesses. In 2022, 45% of goods and services (\$439.4 million) were provided by local or regional suppliers. We have programs to support community members in launching and/or sustaining small businesses that provide our mines with necessary goods and services. Where local suppliers cannot meet our needs or business standards, we build capacity through programs and support focused on:

- Business skills, such as accounting and bookkeeping.
- Bidding processes.
- Pan American Silver’s business standards and protocols.
- Health and safety training for contractors.
- Health and addiction workshops.

Additionally, we encourage our larger contractors and suppliers to hire or use qualified local enterprises whenever possible. This approach

provides transferable skills and creates economic opportunities for individuals and small businesses. It also supports our business by deepening the relationships between our sites and local suppliers, providing us with a higher level of service, and helping us build a more resilient supply chain.

Key goods and services from local, regional, and national economies include:

- Materials for road construction.
- Machinery and parts.
- Food and catering services.
- Maintenance services.
- Earthmoving equipment for road maintenance and smaller construction projects.

Socio-Economic Development Programs

Our socio-economic programs relate predominately to education, skills training, health, and local economic development projects. In these programs, we emphasize support for vulnerable groups and make efforts to consider diversity and inclusion. If successful, these programs will provide benefits that exceed the lifespan of our mines. We also create programs in other areas in response to needs or priorities identified through impact assessments or engagement with COIs.

Our Community Development Initiatives (CDI) Toolkit establishes guidelines for socio-economic programs. Our objective is that all programs:

- Address community needs and interests.
- Are developed and implemented with community participation.

- Are appropriate to the local social context.
- Consider mine closure.
- Incorporate key performance indicators.
- Align with our prioritized SDGs.
- Align with our Social Sustainability and Global Human Rights policies.

In 2022, we improved the process and KPIs by which we monitor and evaluate the performance of our community development projects. All sites received training on how to use our data systems, which is improving monthly progress reporting on our socio-economic development projects.

Local Economic Development Projects

Our local economic development projects are developed jointly with communities and aim to support local families or groups in creating self-sustaining economic opportunities not directly related to our mines. We provide equipment, tools, supplies, capacity building, training, and other support for a specific duration of time, with the expectation that these programs will be self-sustaining beyond our involvement.

In host communities facing ongoing economic challenges, our local economic development projects are aimed at providing technical skills to increase local food production and contribute to the self-sufficiency of increasingly important small-scale food producers and family farmers. Examples of these projects include:

- Ranching program, Bolivia – This program supports improvements in the genetic quality of livestock to maximize meat and wool production for personal consumption and sales. In 2022, San Vicente initiated discussions with community members

regarding their vision for the region after the mining activities cease. A new phase of the program is being designed in a participatory way to promote sustainability and reach more families in the Potosi region.

- Guinea pig program, Peru – This initiative provides families with training and supplies to increase guinea pig production in the districts of Chungales, Raunate, La Arena, and La Unión.
- Protection of Condebamba, river defense program, Peru – The dual goal of this project is to prevent flood damage by revegetating the riverbanks with bamboo and promoting local economic development through bamboo seedling production. This program is a partnership with the regional government.
- Strengthening the avocado production chain project, Peru – This program aims to promote local profitability and sustainability by strengthening the collective capacity of 500 avocado producers in the Condebamba Valley, expanding international markets, as well as promoting new business relationships and associations.

Health

In 2022, we continued supporting the health, safety, and well-being of communities and ensuring access to health services, including COVID prevention measures, in our operations. We continued to respond to COVID-related requests from communities and local governments in their areas of influence. Our support included:

- Providing hygiene and medical supplies to communities.

- Assisting in sanitization of community common areas and essential public facilities such as schools, hospitals, and community centers.
- Providing rapid tests to nearby health centers.
- Helping host communities access COVID-19 testing and vaccinations.

We support health programs intended to facilitate access to health services for all community members, with an emphasis on identified vulnerable groups such as young children, women, and elders. In 2022, we ran health campaigns to provide community members with access to health services in general medicine, dentistry, gynecology, laboratory exams, and psychology. We also continued to fund the salaries of health professionals who provide health care to the communities of San Vicente in Bolivia, and La Arena and Caracmaca in Peru.

Education

Education helps prepare individuals for life and is key to professional success. Our programs include:

- Child and adult literacy and education.
- Scholarship programs for university students.
- Support for teachers or the payment of their wages.
- Donations of school materials to students.
- Career advisory services during the last year of high school.

In 2022, we also completed the construction of a sports field for Fernando Calderon primary school in San Juan de la Tapia, near our La Colorada mine in Mexico.

Local Infrastructure and Services Investments

Some of our operations are located near communities that have basic services and amenities, whereas others are in remote, sparsely populated regions with little or no infrastructure. We regularly make investments to upgrade local infrastructure and social services in the communities near our operations.

In 2022, our infrastructure projects included upgrading school facilities in Mexico and Peru and continuation of the second phase of the construction of a water treatment and distribution system that will connect 1,500 families with potable water in La Arena. In coordination with the Municipality of Sombrerete, La Colorada installed 47 water meters at properties in the Colonia Orion community.

In Peru, through the Public Works for Taxes (OXI) program, the community and local governments identify necessary infrastructure projects. The government approves the project, which is financed and developed by a private company in return for corporate tax relief. Through this program, we have been collaborating with governments and local communities to fund and build infrastructure for communities in need.

Several infrastructure projects near Shahuindo were completed in 2022:

- The construction of the Hierba Buena Primary School in Cachachi.
- Improvements to the road system in the San Marcos district.
- Construction of primary school 043 in Cachachi.

NEXT STEPS

- Continue to build our capacity to better implement and manage social programs.
- Continue to improve project monitoring and evaluation at all sites.
- Continue to improve our stakeholder engagement practices and social risk analysis.
- Include climate change-related KPIs in our agricultural and reforestation programs.

CASE STUDY: LLAMA BREEDING PROGRAM – SAN VICENTE MINE, BOLIVIA

Pan American Silver's community investment programs seek to create self-sustaining economic opportunities that increase and/or optimize local capacity in areas unrelated to mining activities. In line with the PAS Social Responsibility Policy, the San Vicente mine has been developing projects and initiatives jointly with local communities to contribute to generating economic alternatives. One of these projects, the llama breeding program in Bolivia, began in 2016, with the goal of improving rural families' quality of life by promoting sustainable and inclusive economic development in 11 communities in the Potosí region. Llama breeding is the principal activity in the area, as soil conditions, water scarcity and altitude, make agriculture a difficult activity to develop. Participants comprised 350 families with a total population of more than 1,200 people from the direct and indirect areas of influence.

The project included training and capacity building of llama livestock producers, provision of materials for building sheds and fences for crops and pastures, and provision of 1 tractor and 11 balers.

Challenges faced during implementation of the project included finding ways to bring the quality of animal products up to commercialization standards and to promote coordination among producers. Llama meat is consumed mainly in the region of Potosi and it is sold in smaller quantities, as a delicacy in other regions of Bolivia, limiting market capabilities of the product. In addition, participation by producers who were also engaged in mining was low, as their mining work limited the time they could dedicate to ranching activities.

Among the project's main results are the following:

- Acquisition of reproductive llamas to improve the genetic quality of the llama herds.
- Installation of sheds in all 11 communities.
- Installation of silos for fodder storage.
- Establishment of the San Vicente Livestock Producers Association.
- Acquisition of agricultural equipment.

- Training of 11 leaders in animal health care in the 11 communities.
- Support in the project design and development plans for the communities of Portugaleta, Viacha, and Cerrillos.

The ranching activities themselves, as well as the management and conservation of the native grasslands, have become fundamental axes for realizing the project, and this is already reflected in the participation and enthusiasm of the producers. Starting with the enclosures of the properties and with the training and field talks, they are coming to understand the importance of conservation, not only for feeding their own livestock, but also for the stability of the local ecosystem.





SECURITY MANAGEMENT

WHY IS SECURITY MANAGEMENT IMPORTANT?

Mining companies often use private security contractors to protect people and assets. Interactions between private security contractors and local community members, activists, and/or artisanal and small-scale miners can potentially create situations where human rights can be impacted. Expectations for companies to understand and manage human rights risks are increasing globally. For mining companies, maintaining social license requires that security activities not cause or contribute to human rights abuses, unlawful conduct, or breaches of international laws.

At Pan American Silver, we understand the potential our activities have to infringe on human rights, particularly those of vulnerable groups. This potential can be heightened in politically unstable or conflict-affected areas. We expect everyone working for or on behalf of the Company to comply with applicable laws, rules, and regulations in the country where they operate and to respect applicable internationally recognized human rights laws and standards. Protecting the safety and respecting the human rights of our workforce and communities is a priority; it is key to building and maintaining trust and positive relationships with our communities of interest.

ANALYST CENTER



Material topic: Responsible Security Management

What's included in this section:

- Responsible security management
- Stakeholder-security engagement
- Training of security contractors
- Cybersecurity

GRI indicators: 410-1

SASB indicators: EM-MM-210a.1; EM-MM-210a.3;

Prioritized SDGs: 12

UNGC Principles: 1; 2; 6

For additional information, see these data tables: GRI 410-1

Potential impacts from mining activities: impacts on human rights with specific focus on child rights, repression of civil and labour rights, impacts to vulnerable groups

Potential risks to the company: loss of social acceptance, risks to assets and personnel, delayed production, corruption, cybersecurity attacks, IT security breaches, operational disruption

OUR APPROACH

We take our obligation to respect, protect, and promote human rights seriously. Our management approach includes the application of the best standards, programs, and processes and a commitment to continuous improvement. We work closely with other departments within the Company, contract security providers, and external stakeholders to ensure our daily security operations and approach to incident management are aligned with our policies and procedures relating to human rights. Special consideration is given to vulnerable groups, including children, that may be disproportionately affected by the actual or potential impacts of our activities.

Policy

- [Global Code of Ethical Conduct](#)
- [Global Human Rights Policy](#)
- [Social Sustainability Policy](#)
- [Supplier Code of Conduct \(the Supplier Code\)](#)

Standards and Guidelines

- The Pan American Silver Security and Human Rights Standard is a structured, auditable security management framework aligned with the VPSHR, UNICEF Canada's Child Rights and Security Checklist, and elements of the World Gold Council Conflict-Free Gold Standard (Conflict-Free Gold Standard).

Plans, Programs, and Initiatives

- Response mechanisms at each site help us understand and respond to community questions and concerns around perceived or actual impacts of our activities.
- Training on security and human rights is provided to security contractors every four months.

Monitoring and Evaluation

- Our Security and Human Rights Standard Risk Register allows us to identify and mitigate a range of security, sustainability, legal, and political risks related to security and human rights. Sites update the register annually or in response to specific risks.
- Annual assessments are conducted to review our practices against the requirements of our security standard.
- External limited assurance of our compliance with the Conflict-Free Gold Standard is carried out at Dolores, our only gold producing operation in a conflict-affected area⁽²⁸⁾, as defined by the World Gold Council.
- Weekly security manager check-ins help us monitor implementation of our security standard, assess emerging risks, and respond to challenges.

Accountability

- Each operation has a security representative responsible for security and management of security contractors.
- The Director of Security and Crisis Management is responsible for maintaining compliance with the Security and Human Rights Standard and related initiatives across the company.
- The Vice President of Information Technology and Cybersecurity is responsible for developing and implementing cybersecurity measures.

- The Senior Vice President, Corporate Affairs and Sustainability oversees security.
- The Senior Vice President of Finance and IT oversees cybersecurity strategy.
- The Board CSD Committee provides oversight of the Company's security performance, and the Board Audit Committee has oversight on matters related to cybersecurity practices.

(28) All other operations aim to comply with the standard's requirements relevant to the in-country context, including requirements related to anti-corruption.



OUR PERFORMANCE

Our Pan American Silver Security and Human Rights Standard is aligned with the VPSHR and incorporates UNICEF Canada's Child Rights and Security Checklist, and elements of the Conflict-Free Gold Standard. The standard establishes the minimum performance level expected at all of our operations.

The standard has four components:

- Risk Assessment and register – A standardized approach to identifying, evaluating, and mitigating risks and adverse impacts on human rights.
- Stakeholder engagement – Guidance on identifying and engaging with stakeholders on issues related to security and human rights.
- Security provider oversight – Requirements for the selection, management, and compliance monitoring of security providers.
- Public security engagement – Requirements for engaging and managing relationships with public security groups, with focus on managing potential human rights risks.

We continue to introduce additional elements into our security framework to formalize our approach and improve our teams' ability to respond appropriately to incidents. During the year, we developed several protocols that establish minimum requirements and provide additional guidance for the security teams on the ground. These include protocols for access and perimeter control and explosives management.

We continue to conduct annual assessments of our security practices against the requirements of our security standard. In 2022, we completed an external assessment of our performance on the VPSHR and UNICEF Canada's Child Rights and Security Checklist at three operations in Peru.

In 2022, we were officially confirmed as a signatory to the Voluntary Principles on Security and Human Rights. We currently hold engaged member status. As part of our annual program, we conducted training and internal audits of our performance on the VPSHR. All operations met or exceeded requirements.

Our Dolores operation in Mexico, which we identify as located in a conflict-affected region due to the high levels of organized crime⁽²⁹⁾, applies the Conflict-Free Gold Standard requirements. The standard provides us with an approach for identifying and minimizing the risk that our gold production could cause, contribute to, or support unlawful armed conflict. These risks include theft from site and during transit, contractor corruption and association with organized crime, and the physical security of the workforce. In 2022, our 2021 conformance with the Conflict-Free Gold Standard was externally assured.

Stakeholder-Security Engagement

We engage with a range of stakeholders on issues related to security and human rights. The type and frequency of engagement varies depending on an operation's context.

Security teams work with social teams to build local communities' awareness of our activities related to security and contractor management. Community engagement is required biannually. Company representatives meet both formally and informally with local authorities. We also engage with host governments and industry through human rights working groups.

Our engagement with public security forces is limited, and any engagement is led by Pan American Silver employees.

Training of Security Contractors

Security at our operations is provided by private security contractors. These contractors seldom interact with community members, and if they do, our dual priority is the safety and rights of community members and the security of our employees. We contract armed, private security guards only at operations located in a conflict affected region, with the intention to protect our people; we reduce access to weapons at those locations as much as possible.

Security providers are required to uphold Pan American Silver's codes and standards. Our security standard mandates that security personnel receive human rights training before they are allowed on our sites and every four months thereafter. Although training is provided by contract security providers, we review training content for alignment with our security standard and our Global Human Rights Policy. In 2022, 100% of independent contractors' security

personnel and Pan American Silver security employees at all of our sites received human rights training.

We conduct due diligence on contractor training. Every month, we review a sample of training records from security employees. Every four months, we carry out a review to confirm that security contractors continue to meet the requirements of the VPSHR. Any non-compliance issues identified are reported, and a timeframe is provided within which the issue must be rectified.

All security incidents must be reported. To increase awareness of the potential for security activities to contravene human rights, we have introduced human rights considerations into our incident reporting requirements.

The requirement to meet the VPSHR is a component of all new contracts for security services. Our Latin America security providers are required to be members of the International Code of Conduct Association (ICoCA) for Security Providers and work towards certification at mining operations having at least three years of life remaining. Currently, security providers in Guatemala are ICoCA certified, and our security providers in Mexico, Bolivia and Peru are working through the application process.

In 2022, we were accepted as Observers of ICoCA for Security Providers. Observer status allows us to be involved in and contribute an industry perspective to the development and evolution of

(29) As evaluated by the Heidelberg Conflict Barometer and our own quarterly Country Risk Reports.

the code. It also improves our ability to monitor the implementation of the code's requirements by our contracted security providers.

Cybersecurity

In the ordinary course of our business, Pan American Silver and our business partners collect, handle, and store sensitive data, including employee information and proprietary or confidential business information relating to the Company, our customers, suppliers, investors, and other stakeholders. Processes at our operations may leverage on-premise technologies and cloud-based technologies and services.

With our increasing dependence and interdependence on technologies and electronic data, including the use of cloud-based services and personal devices, we are exposed to evolving cybersecurity threats. These risks include targeted attacks on our information and operational technologies (IT/OT) systems or those of our business partners. Any security breach or improper use of our information could damage our reputation, compromise our networks or systems, and result in a loss of sensitive information, incidents of fraud, or operational disruptions.

Information and cybersecurity risk is an important component of our business continuity. Currently, cybersecurity is managed both at the country and corporate levels. We are working to formalize and centralize our approach and processes. Our cybersecurity measures include:

- Controls to identify and monitor potential threats, protect critical assets, and respond to and recover from incidents.
- Annual penetration testing at all operations and corporate office.
- Regular phishing tests and training to raise employee awareness.
- Internal and external audits and cyber risk and maturity assessments.
- The use of Multi-Factor Authentication (MFA) for critical users and services.
- Increased password complexity policies.
- Regular password audits to identify weak passwords.

For more information, please go to the Information and Cybersecurity section of our [Annual Information Form](#).



NEXT STEPS

- Further embed the security standard into operations.
- Improve and standardize contractor training.
- Continue to hire and promote women in security roles.



HUMAN CAPITAL DEVELOPMENT

WHY IS HUMAN CAPITAL DEVELOPMENT IMPORTANT?

An engaged, skilled, and stable workforce is key to any organization's success. The mining industry tends to offer well-paid jobs for skilled labour. However, fluctuations in commodity prices can create conditions for job insecurity. Competition for skilled workers can make it challenging for companies to recruit and retain a productive workforce. The remoteness of mine sites, local demographics, cultural traditions, and differing interests of the new generation of workers can also limit the available labour pool. Moreover, increasing automation and the adoption of new technologies are changing the nature of certain jobs and, in turn, the skill sets required to do those jobs. Mining companies must foresee what skills will be required in their future workforce and

make investments in training and development accordingly.

At Pan American Silver, we know our people are critical to our success. We want to be an employer of choice and one that creates value for our stakeholders and the communities in which we operate. This means we must attract qualified employees who will help us achieve our business objectives and invest in these employees throughout their careers. As the Company grows and the industry innovates, we will also have to focus on upgrading employees' skills, building bigger pools of skilled workers, and accessing new talent sources.

ANALYST CENTER



Material topic: Human Capital Development

What's included in this section:

- Talent Management
- Worker Wellness
- Worker Engagement
- Turnover
- Labour Relations

GRI indicators: 3-3; 202-2; 401-1; 403-6; G4 MM4

SASB indicators: EM-MM-310a.1; EM-MM-310a.2; EM-MM-000.B

Prioritized SDGs: 5; 8

UNGC Principles: 1; 2; 3; 4; 5; 6

For additional information, see these data tables: GRI 2-7/GRI 2-8/SASB EM-MM-000.B; GRI 2-30/ SASB EM-MM-310a.1; GRI 202-2; G4 MM4/SASB EM-MM-310a.2; GRI 401-1

Potential impacts from mining activities: well-paid work, training opportunities, challenging working conditions, job insecurity due to closures, health and safety benefits, high levels of worker fatigue

Potential risks to the company: skills shortages, labour disruptions, work stoppages, low productivity and efficiency, pandemics

OUR APPROACH

Our human capital development strategy includes talent management, training and development, and worker wellness. We also focus on building work environments that foster optimal worker contributions.

Policy

- [Global Code of Ethical Conduct](#)
- [Board and Senior Management Diversity Policy](#)
- [Global Human Rights Policy](#)

Plans, Programs, and Initiatives

- Site-level training programs provide the necessary skills and development opportunities to meet site-specific, current, and future needs.
- Succession planning helps us build the skills and talents required to fulfil corporate objectives. The Board reviews the succession plan annually.
- The Building Respect Together program fosters a respectful, safe, and inclusive work environment.
- Site-level union agreements improve safety standards and working conditions.
- The Whistleblower Hotline provides a mechanism for employees to report anonymously actual or potential breaches of the Global Code of Ethical Conduct via phone

or web, in English or Spanish, 24 hours a day, 365 days a year.

- PAAS Listens provides mechanisms for our workforce to give feedback or raise grievances with the Company.

Monitoring and Evaluation

- Compensation benchmarking helps to ensure our employee compensation is in line with market trends and complies with local legislation.

Accountability

- The Vice President of Human Resources, Operations manages operation-level human resources.
- The General Counsel has functional oversight of corporate human resources.
- The Human Resources and Compensation Committee of the Board oversees the Company's human resources strategy.



OUR PERFORMANCE

Our workforce comprises 13,023 individuals, 52% of whom are contract workers.

Talent Management

To attract and retain skilled and engaged employees, we offer meaningful employment, opportunities for development, competitive compensation, and benefits. We want our employees to feel valued, take pride in our Company, embody the Pan American Silver values, and share our success.

Our human capital development management system helps us ascertain the strengths and needs of our leadership teams and individuals in professional roles, identify future leaders, and prepare succession plans. Individualized development is both guided and supported by annual performance reviews. Starting in Peru, we began standardizing the system across operations, and it is currently being rolled out in Bolivia and Mexico.

Training and development are core to our talent management approach. On an ongoing basis, each operation provides training to its employees and contractors based on the needs and skill requirements of the mines and to help employees advance in their careers. In addition, in 2022, we launched two new company-wide programs to grow talent.

At our Mining Training Centre, we provide both safety and technical training for machine operators and technical employees from our Latin American operations. The Centre is located at

our Morococha mine, which was put on care and maintenance in early 2022.

In Peru, we launched the Future PAAS internship program, an initiative that aims to provide young graduates from mining-related disciplines with both formal training and exposure to Pan American Silver's operations. Our intent is to offer high-performing interns the opportunity to continue their career development with Pan American Silver. There are currently 30 participants in the program. Those who complete the Future PAAS program will be signed up for Trainee PAAS. The Trainee PAAS program will prepare them for their professional development inside the company.

Worker Wellness

In early 2022, our workforce and operations suffered from high levels of absenteeism, lower production levels, and continued COVID fatigue. As we slowly and collectively transition to a new normal, one where we learn to live with COVID, we continue putting people first as we strive to support the overall wellbeing of our workforce.

Pan American Silver supports employee health and wellness through mental wellbeing programs and on-site gyms and recreation facilities.

In countries with less developed public health systems, the Company provides workers with private health care.

Worker Engagement

By listening to our workforce, we are becoming a better company and creating a more positive work

CASE STUDY: FUTURE PAAS

Our Future PAAS program is a new, **1-year professional internship program designed to attract and develop young talent for careers at Pan American Silver.** The program is open to all graduates from engineering programs related to mining. Acceptance is merit based. In 2022, 2,960 applicants from 47 universities applied. Thirty were selected.

The internship provides:

- Rotations through relevant operational areas.
- Technical field training.
- Training in leadership and management.
- Mentoring and coaching.

The program also supports the development of English language skills. Some interns may also have opportunities for rotations at our operations. Our objective is to hire values-aligned, high-performing interns into junior engineering positions at our Company.

Future PAAS has the potential to change the lives of young professionals by providing them with opportunities and exposure to potential career avenues at our Company and/or within the mining industry. It also supports our talent attraction and retention objectives by helping us identify and develop future leaders for Pan American Silver.

environment.

In 2020, we launched a worker engagement survey to gather feedback on our response to COVID-19 and to inform our approach. Although COVID-19 is no longer our focus, we continue to survey our workforce on specific issues such as wellness, respect, and safety. In 2022, 85% of our employees responded to our survey; 87% felt positive about their jobs with Pan American Silver.

PAAS Listens is our worker feedback and

grievance mechanism. Through it our workforce can voice concerns, provide feedback, or raise grievances directly with Human Resources. Employee feedback received through other mechanisms, such as our Whistleblower hotline, is also entered into the PAAS Listens system. All grievances are reviewed and categorized, and every grievance receives a response. In 2022, we received 41 employee grievances/concerns. All grievances are reviewed by the Vice President of

Human Resources, Operations, who provides a quarterly report to the Board with a summary of the cases and their status.

Turnover

Our objective has always been to be a lean and efficient company. This has helped us retain employees through past market fluctuations and benefited us during the pandemic. Tracking turnover is one way we review our market competitiveness, assess the effectiveness of our hiring practices, and evaluate our performance as an employer.

In 2022, several factors, including market conditions, increasing costs, and political instability, led us to implement cost reduction initiatives. We closed the Dolores underground operation in Mexico and the Navidad project in Argentina and restructured our regional office in Argentina. In addition, our Morococha mine was put on care and maintenance. These measures led to a downsizing of our workforce. Our total turnover rate, based on voluntary and involuntary turnover, in 2022 was 17.2%. When downsizing, we follow all legal requirements. Where possible, we consider opportunities to relocate employees to other operations and provide employees with transition support, such as career coaching.

Across the Company, our overall voluntary turnover rate in 2022 was approximately 7.9%, compared to 10% in 2021. We know that voluntary turnover reflects local labour market competition and industry trends and changes. At the operation level, competitive environments for skilled labour and opportunities at new mines are generally responsible. Timmins continues to have the highest voluntary turnover rate in the Company,

driven by particularly strong industry competition in the region.

Labour Relations

Eight of our nine operations have collective agreements with one or more unions, and 54.9% of our employees are unionized. We respect our employees' right to unionize. Our commitment to recognize the right to freedom of association and collective bargaining is set out in the Global Human Rights Policy.

Labour strikes and work stoppages have the potential to disrupt operations and reduce production. We work to build and maintain positive relationships with our unions and unionized workers. Our approach is to work in partnership with our unions, which furthers the health and safety of our employees, who, in turn, support the Company. This approach has been essential throughout the pandemic. Collaboration with our unions and a united and consistent approach to worker health, safety, and wellness have been fundamental in the management of COVID-19 at our sites.

During 2022, we had no work stoppages at our operations.



NEXT STEPS

- Continue to implement our talent development management system.
- Continue workforce training through our Mining Training Centre.
- Expand the Future PAAS program.



INCLUSION AND DIVERSITY

WHY ARE INCLUSION AND DIVERSITY IMPORTANT?

People are at the core of the mining industry. There is growing recognition that diverse and inclusive workplaces pay dividends to stakeholders, shareholders, and the communities in which such workplaces operate. In the mining industry, however, groups such as women and Indigenous Peoples have been historically underrepresented in the workforce. Tackling such underrepresentation demands changes from within and a potential reshaping of the values, culture and norms, and traditional approaches that have produced and maintained biases within the industry and within the regions where mining companies operate. The location of mining operations, for example, may require remote work and/or long hours, and a lack of onsite childcare and other supports can present barriers to women.

Pan American Silver has had long-term success in operating mines across the Americas in communities with different cultures, languages, and values, and we want our workforce to represent this diversity. We seek to foster diversity and the development of local talent, recognizing that a workforce with a wide array of backgrounds, cultures, experiences, and knowledge is essential to our growth and competitive advantage. We believe respectful workplaces are fundamental to a diverse workforce and inclusive culture. The more our workforce feels safe, valued, and empowered, the more likely our workers are to be successful in their roles and fully contribute to the success of the Company.

ANALYST CENTER



Material topic: Inclusion and Diversity

What's included in this section:

- Local Hiring
- Diversity
- Equity and inclusion
- Fair compensation and pay equity
- Harassment and non-discrimination

GRI indicators: 3-3; 202-2; 401-1; 405-1; 406-1

Prioritized SDGs: 5; 8

UNGC Principles: 1; 2; 3; 4; 5; 6

For additional information, see these data tables: GRI 202-2; GRI 401-1; GRI 405-1

Potential impacts from mining activities: discrimination, harassment, lack of equal opportunity, economic security, empowerment of women and historically marginalized groups, local social and economic development, social and political uncertainty, and cultural tolerance

Potential risks to the company: talent shortages, attrition, low worker productivity and efficiency, and loss of social acceptance

OUR APPROACH

The Human Capital and Inclusion and Diversity departments work together to create programs and processes that enhance our ability to both hire and retain employees who represent the local community and to engage with local contractors and suppliers. Operation-level inclusion and diversity sub-committees develop and implement inclusion programs to address site-specific challenges and perceived barriers to hiring and retaining diverse talent.

Policies

- [Global Code of Ethical Conduct](#)
- [Global Human Rights Policy](#)
- [Board and Senior Management Diversity Policy](#)
- [Inclusion and Diversity Policy](#)

Plans, Programs, and Initiatives

- The Building Respect Together program promotes a respectful workplace and fosters a culture that honours inclusion and diversity.
- PAAS Listens provides employees with a mechanism to provide feedback or file grievances directly with the Company.
- The Whistleblower Hotline allows employees to report actual or potential breaches of the Global Code of Ethical Conduct or other policies anonymously via phone or web, in English or Spanish, 24 hours a day, 365 days a year.
- Training programs, awareness, and

scholarships help grow the talent pool of women in mining-related careers.

Monitoring and Evaluation

- The hiring and retention of women in our workforce is monitored by Human Resources on a quarterly basis.

Accountability

- The Vice President of Social Sustainability, Inclusion and Diversity and the Vice President of Human Resources, Operations are responsible for inclusion and diversity initiatives and performance.
- The General Counsel has functional oversight of corporate human resources.
- The Human Resources and Compensation Committee of the Board has oversight of the Company's human resources strategy.



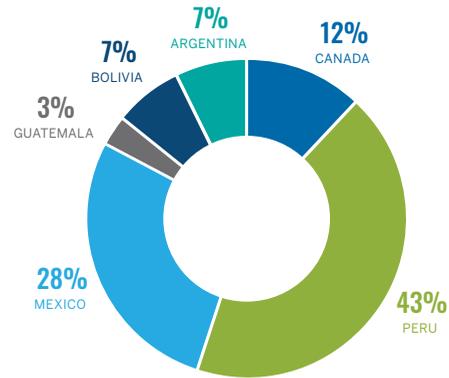
OUR PERFORMANCE

For Pan American Silver, diversity includes gender, ethnicity, age, race, religion, disability, cultural and socio-economic background, nationality, sexual orientation, language, educational background, and expertise. Our aim is to build inclusive work environments in which everyone is treated fairly and respectfully, has equal access to resources and opportunities, is free from harassment, and can thrive.

PAN AMERICAN SILVER'S INCLUSION AND DIVERSITY POLICY FORMALIZES OUR COMMITMENT TO:

- Provide a safe and healthy work environment, free from violence, harassment, intimidation, racism, and discrimination.
- Provide equal and fair pay.
- Foster a respectful workplace culture.
- Maintain an employee feedback and grievance mechanism.
- Consider diversity when appointing, promoting, or hiring at the board and senior management levels.

EMPLOYEES BY NATIONALITY



Local Hiring

We emphasize the hiring of trained and qualified candidates from the communities where our mines are located. Local community members make up the vast majority of our workforce. A high percentage of operations-level senior managers are hired locally as well. Managers who speak the local language and understand the local culture can be instrumental in helping us translate our corporate values and policies into site-appropriate practices. In 2022, 99.5% of our employees and 97.7% of our senior managers were locals.

Diversity

Although we see women as drivers of positive long-term change for Pan American Silver, mining continues to be a male-dominated industry. In

2022, women comprised just under 10% of our workforce, and most of them work in professional, administrative, and support roles. As at December 31, 2022, there was no female representation in our executive team (defined as C-level executives and senior vice presidents) and four of our 12 vice presidents were women.⁽³⁰⁾ At the corporate level, the Board and Senior Management Diversity Policy emphasizes gender diversity as a key consideration when recruiting, hiring, and promoting persons at the Board and senior management levels. As at December 31, 2022, we had three female Board members, including the Board Chair. Female directors therefore represented 37.5% of the Board⁽³¹⁾, exceeding our minimum target of 30% representation by women.

Women Workforce	
Employees	8.3%
Contractors	11.3%
Total Women Workforce	9.9%

A key focus for us is attracting and retaining women –both employees and contractors– and limiting voluntary turnover. In 2022, voluntary turnover of our female workforce was 1.6%.

In 2022, 18% of new hires were women. Nonetheless, attracting women continues to be a challenge, and we have been working hard to understand and reduce barriers to their employment.

The retention and/or advancement of women within the Company also requires providing opportunities for career growth and development. Of all employees promoted in 2022, 12.9% were women.

Women Employees Hired And Promoted		
% Women New Hires	% Women Promoted	% Women Hired and Promoted
18.2%	12.9%	16.0%

Note: Represents the % of new hires that were women and the % of promotions awarded to female candidates

We also provide women with social supports. Our company-wide maternity leave program, for example, has significantly increased maternity support in some of our operating jurisdictions. Our Timmins' parental leave policy provides both pregnancy and parental leave salary top-ups. In addition, we have maintained social services hotlines established during the pandemic to allow workers to seek support for issues such as mental health or family concerns.

(30) As at May 11, 2023, women represented 9% of our executive team (defined as C-level executives and senior vice presidents) and three of our 14 vice presidents were women.

(31) As at May 11, 2023, we had five female Board members, including the Board Chair. Female directors therefore represented 45% of the Board.

HIRING AND PROMOTING WOMEN SECURITY GUARDS AT OUR LATIN AMERICAN OPERATIONS

We consider it essential for operations to have diversity within their security teams. In line with our inclusion and diversity initiatives, we aim to provide equal opportunities for women in our security departments. In addition, having more women on our teams allows us the opportunity to respond more effectively to complex challenges while respecting the rights of those involved. In 2022, we undertook an initiative to introduce female guards at all Pan American Silver operations

in Latin America. Women guards now comprise 42% of security personnel at our Escobal mine in Guatemala and 23% at our Dolores mine in Chihuahua, Mexico. For our other mines in Mexico, Peru, and Bolivia, we brought in the requirement that their security teams, whether contracted or directly employed, must include at least 10% women. The Manantial Espejo operation in Argentina is currently in the closure process, so has not been included in the initiative.

Industry-wide, there are more opportunities than ever before for women in mining. We know, however, that mines in remote locations that require fly-in and fly-out and lengthy stays on site can be of low interest to some women and an impossibility for those needing to balance family obligations. In addition, with diversity a focus throughout the industry, we are competing with other companies for talented women. For these reasons, we are looking to build talent pools of women in communities near our operations and we intend to recruit women at the local level in the coming years.

Hiring local women provides us with workers already familiar with our operations and interested in its success. By offering training, well-paying jobs, and proximity of to home, we

can develop workers more likely to stay with the Company, thus contributing to the communities themselves.

We want women to see mining as a potential career and Pan American as an employer of choice. To this end, we conducted an analysis of Pan American Silver job postings to determine whether the language used is inclusive and gender neutral. Knowing that proper messaging can help women feel that they have a place in the Company, we developed inclusive language and imagery guidelines to be used as reference by the HR teams for future job postings. We also launched the Women of PAAS LinkedIn campaign, featuring a Pan American employee on a bi-weekly basis throughout 2022.

To attract qualified women candidates to our Company, we must invest in growing the talent pool of women in mining-related career fields and develop training opportunities that provide women in local communities with skills they need to work with us directly or as service providers. In Mexico, the La Colorada Operators Program provides a month-long technical training course for eligible female candidates. In 2022, nine women graduated from the program and three are now Pan American Silver employees.

Equity and Inclusion

We believe that respect is the foundation for building an inclusive organizational culture, one in which diversity is the norm and individuals are safe, valued, treated fairly, and given equal opportunity to develop and advance.

Building Respect Together Program

Our Building Respect Together (“BRT”) program is the foundation of our approach to creating a respectful and inclusive workplace culture, which fosters optimal worker contribution. The program is dialogue based and facilitated by over 170 employee volunteers across our sites. The program also includes specific content to promote a greater understanding of and protection and respect for women’s rights.

The program consists of three modules:

Respect – establishing respectful understanding,

Awareness – developing assertiveness and empathy.

Harassment and Assertiveness – contributing to a healthier work environment.

We rolled out the first module – Respect – in 2021, training 100% of our workforce, both contractors and employees. In 2022, we rolled out the second module – Awareness – and trained 100% of our workforce, involving just over 13,000 individuals and 29,000 training hours. Digitized version of both modules will be included in the onboarding process for new employees and contractors. The third module will be developed and rolled out in 2023. By continuing the program, we hope to contribute to the erosion of long-standing cultural biases and views on traditional gender roles.

Through our annual employee survey, we assessed employees’ perceptions of the BRT program and the changes they have seen since the start of the program. Of the 4,744 employees who responded to the survey:

- 85% believe Pan American Silver has a respectful workplace.
- 71% agreed that they have seen improvements in respectful practices among managers, supervisors, and workers.
- 85% would like to see more open discussions around inclusion and diversity at the Company.

Harassment and non-discrimination

We are creating initiatives to help our employees better understand and take action to avoid harassment and discrimination in the workplace and in local communities. We are expected to



uphold ILO Convention 190, recognizing the right to freedom from violence and harassment at work, which has been ratified in three of our operating countries. In 2022, we trained nearly 200 managers and supervisors on harassment and discrimination against women as well as domestic violence.

In 2021, as part of a tailings expansion project at San Vicente, we worked with the local community to identify means of minimizing risks to women and girls from an influx of male contract workers. As part of this process, we trained contractors on the prevention of harassment, with a focus on respecting the rights of women, children, and communities. Our efforts were well received and sparked internal conversations on the need for our workforce to recognize and prevent harassment in the workplace to further foster a more respectful working environment. In 2023, we will roll out self-directed discrimination and harassment prevention training online across the Company.

We have zero tolerance for any form of discrimination. Our Global Code of Ethical Conduct and Global Human Rights Policy prohibit discrimination, not only in our workplace, but also against service providers and community members. Workers can raise allegations of discrimination through the PAAS Listens employee feedback mechanism or through our Whistleblower hotline. Service providers and community members can raise allegations through our community feedback and grievance mechanism. In 2022, three allegations of workplace discrimination and one allegation of harassment were made; all were resolved in a timely manner.

Self-identification

We are also engaging in conversations on self-identification. Our objective is to have a better understanding of the diverse groups represented in our workforce and local communities. This will help us act in ways that are non-discriminatory, support potentially vulnerable populations, and provide equal opportunities for employment and advancement within the Company and for local procurement.

In 2022, 7.7% of the employees who responded to our annual [Communities of Interest survey](#) self-identified as Indigenous.

At our Timmins operation, which is located near Indigenous Peoples' communities, approximately 6% of employees self-identify as being of Indigenous descent. Initiatives are in place to increase this percentage. We provide all job postings to our Indigenous partners and give hiring priority to qualified Indigenous persons. Our Traditional Indigenous Practices Leave program is available to all Timmins operations employees who identify as Indigenous. It provides up to five days of unpaid leave to enable their participation in traditional Indigenous practices such as hunting, fishing, harvesting, and gathering.

Fair Compensation and Pay Equity

We conducted a living wage analysis to determine whether employees were receiving a living wage. We determined the wages paid to our lowest salaried employees at all operations and regional offices⁽³²⁾ exceeded the local living wage as defined by ALIGN's guidance tool on living wages and living income.

At each of our sites, we set salaries based on objective criteria, not gender, and establish salary bands that are externally benchmarked on a regular basis. We are in the process of developing a standardized approach to reporting on pay equity.

External initiatives

We support a number of external initiatives that promote inclusion and diversity across our industry and in the countries where we operate:

- **Special Olympics British Columbia:** We have a 3-year commitment with Special Olympics British Columbia to support year-round sport, youth, health, and leadership programs, empowering competitions, and inclusive awareness initiatives for individuals with intellectual disabilities across the province of British Columbia. Our commitment will contribute to the organization's efforts to reduce health disparities between people with intellectual disabilities and the general population.
- **Pan American Silver Equity and Inclusion Award in Science:** This scholarship, totalling \$10,000, is made available annually through a gift from Pan American Silver for third- and fourth-year undergraduate and graduate students in the Faculty of Science of the University of British Columbia who have demonstrated outstanding academic achievement and are from communities that have been historically, persistently and systemically discriminated against. Preference is given to students studying geology or geological sciences.

NEXT STEPS

- Roll out the third module of the Building Respect Together program.
- Implement programs and practices to increase the hiring of women from local communities.
- **Women in Mining Canada:** We support Women in Mining Canada to promote the interests of women and facilitate conversations on inclusion and diversity in the mining sector.
- **International Women's Forum (IWF):** We sponsor the annual IWF, which connects women leaders across every professional sector in support of each other and the common mission of advancing women's leadership and championing equality worldwide.
- **BlackNorth Initiative:** We have signed the BlackNorth Initiative's CEO pledge to address barriers to all racialized communities, Indigenous Peoples, the LGBTQ+ community, women, and persons with disabilities.

(32) Bolivia and Canada were not covered by this analysis as the living wage and living income for such countries was not available in the ALIGN's guidance tool.

GOVERNANCE



ZERO
CRITICAL
CONCERN
INCIDENTS



TRAINED
432
KEY EMPLOYEES ON
ANTI-CORRUPTION
POLICY



ASSESSED
167
CRITICAL SUPPLIERS
USING OUR DUE
DILIGENCE SYSTEM



BUSINESS ETHICS

WHY ARE BUSINESS ETHICS IMPORTANT?

The mining industry operates in a complex and demanding legal and regulatory environment under cyclical market conditions. Moreover, mining operations are often located in emerging and/or politically unstable countries, which can be prone to levels of economic and regulatory uncertainty. Such circumstances can create conditions for corruption in the form of bribery, collusion, or influence peddling. Corruption can affect host communities by redirecting funds that would otherwise support social services or local infrastructure development. This concern is driving industry initiatives and regulation to increase transparency on payments made to governments. Globally, governments and other stakeholders are increasingly expecting companies to address not only their own impacts, but to identify and manage the risks stemming from their business relationships.

As a Canadian company listed on the Toronto Stock Exchange and the New York Stock Exchange, Pan American Silver must comply with securities regulations and exchange rules, as well as requirements designed to protect investors and the integrity of financial markets. We must also adhere to applicable and changing legislation in the jurisdictions where we operate, as is the case in Latin America, where political and economic conditions can be complex and challenging. We conduct our activities ethically and transparently and apply industry best practices across all our operations. These practices are fundamental to manage risk, build trust with our communities of interest, and maintain social acceptance.

ANALYST CENTER



Material topic: Business Ethics

What's included in this section:

- Anti-Corruption
- Supplier Risk
- Ethics Reporting
- Tax Transparency

GRI indicators: 3-3; 205-1; 205-3

SASB indicators: EM-MM-510a.1; EM-MM-510a.2

Prioritized SDGs: 12

UNGC Principles: 1; 2; 4; 5; 6; 10

For additional information, see these data tables: EM-MM-510a.2

Potential impacts from mining activities: fiscal revenues, economic development, misallocation of resource revenues

Potential risks to the company: fines, penalties, and sanctions for non-compliance, unanticipated changes to laws or regulations, corruption inside our business or by third parties, reputational damage from actual or perceived impropriety

OUR APPROACH

Our Global Code of Ethical Conduct (the Code) and related policies provide the foundational tenets of ethical business practices, set corporate expectations for ourselves and our business partners, and lay the path for operational consistency in terms of responsibility and compliance with applicable laws, rules, and regulations. Our Code and policies provide guidance on core aspects of ethical business conduct, including conflicts of interest, gifts and hospitality, political and charitable donations, as well as requirements on reporting actual or potential conflicts of interest or violations of this Code or other policies. Our policies and standards are based on legal requirements as well as international best practice, such as UN Global Compact principles.

Policies

- [Global Code of Ethical Conduct](#)
- [Global Anti-Corruption Policy \(the Policy\)](#)
- [Supplier Code of Conduct \(the Supplier Code\)](#)

Standards and Guidelines

- Gifts and Hospitality Guidelines provide guidance to employees dealing with government officials.

Programs, Plans, and Initiatives

- Training is conducted periodically to improve employees' understanding of our anti-corruption program and processes. Targeted training is provided to employees

in procurement, government relations, and other roles that may be exposed to corruption risk. All new employees receive the Code and Policy upon commencement of employment.

- Donation protocols, specific to each country, require that donations made align with our values, and that the Company does not derive direct benefits. Management approval of all donations is required.
- Procurement protocols, specific to each country, include guidelines and controls for contract bidding processes.

Compliance

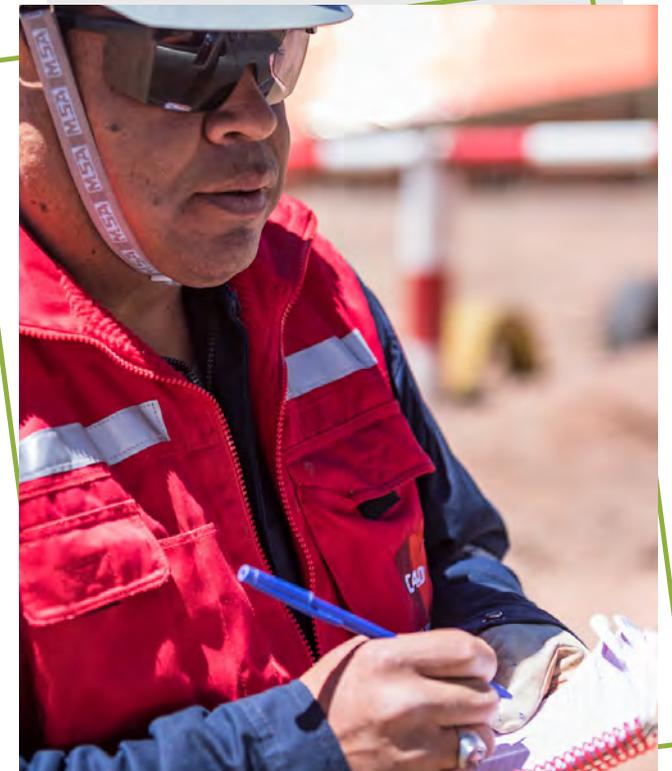
- Whistleblower Hotline allows directors, officers, and employees to report actual or potential breaches of the Code or Policy via phone or web, in English or Spanish, 24 hours a day, 365 days a year. The hotline is managed by an independent service provider. The legal and compliance teams review and investigate all complaints and concerns.
- Compliance certification with the Code and the Policy is required from the Board, officers, executives, and senior management⁽³³⁾ on an annual basis.
- Supply chain due diligence system helps us screen and monitor both new and existing suppliers for compliance with our Supplier Code, as well as a range of risks.

Accountability

- The Vice President of Legal Operations

and Compliance manages anti-corruption programs and practices and provides annual compliance reports to the Board's Audit Committee.

- The General Counsel oversees legal compliance and anti-corruption and reports on these matters to the Board's Audit Committee.
- The Board Nominating and Governance Committee provides oversight regarding the compliance with the Code.



(33) Includes executive officers, vice presidents, country managers, directors, operation and unit managers.

OUR PERFORMANCE

At Pan American Silver, we adhere to the highest standards of corporate governance, ethics, and transparency in the conduct of our business. We require our Board and senior management to certify compliance with the Code and Policy annually.⁽³⁴⁾ We also request certification from employees in certain functions. In 2022, 261 individuals were certified.

Anti-Corruption

We regularly assess operations for risks related to fraud and corruption. The most significant potential corruption-related risks identified are fraud perpetrated by (or in collusion with) third-party contractors or suppliers and raw materials or supply inventory theft from operations or during transit. In the operating jurisdictions where the risk of corruption is high, we take additional measures to manage these risks.⁽³⁵⁾

In 2022, we continued to strengthen and standardize our anti-corruption and compliance processes and controls across all operations. This included overseeing and testing the additional controls introduced through our contract procurement protocols and guidelines. We also verified that any contributions made were compliant with our donation protocols and the applicable laws of the jurisdictions where we operate. Training continues to be central to our approach. We provided anti-corruption training for 432 senior management members in our Latin American operations.

Supplier Risk

Our [supplier due diligence systems](#) help us screen and monitor supplier risk, including those related to bribery and corruption. For mid and high-risk contracts, we have incorporated specific anti-corruption provisions into the contract terms.

In 2022, we implemented a new software tool to better screen our customers—which include refineries, bullion banks, and traders—for financial risks related to corruption and the financing of terrorism. This system also allows us to screen employees for exposure to fraud and corruption risks. During the year, we screened all new employees at our Peruvian offices and operations as well as over 1,000 other employees in Peru. We will expand employee screening to additional jurisdictions in 2023.

We continue to implement the requirements of the World Gold Council Conflict-Free Gold Standard in our operations in Mexico. This process is helping us screen for and implement processes to manage additional risks related to corruption and organized crime.

Ethics Reporting

All directors, officers, and employees are required to comply with our Code and Policy, and to report any actual or potential unethical or illegal activity. Our Whistleblower Hotline service enables anonymous and confidential reporting of any actual or suspected unethical or illegal activity or violations of the Code or other Pan American Silver policies. Non-employees can

submit complaints of an ethical, accounting, or audit nature by mail, marked “private and confidential,” to Pan American Silver’s General Counsel. Every report received is reviewed by the General Counsel and the compliance team. When applicable, an investigation is conducted, and appropriate actions are taken. Any ethics-related critical concerns⁽³⁶⁾ raised through these mechanisms are reported to the Audit Committee of the Board. Pan American Silver does not tolerate acts of reprisal or retaliation against a person for reporting any suspected violations of our Code or Policy.

In 2022, we conducted training and campaigns to improve our workforce’s understanding of and comfort in using the Whistleblower Hotline system. In 2022, we received a total of 30 reports of alleged violations to our Code through the

Whistleblower Hotline. The areas for which we received the greatest number of allegations were Harassment and/or Discrimination (24%), Conflict of Interests (22%), Fraud (14%) and Corruption (10%).

In 2022, the Company had no critical concern incidents. We also had no confirmed instances of incidents of fraud or corruption.

(34) Certification entails acknowledging receipt of the Global Code of Ethical Conduct, acknowledgment of its content, confirming familiarity with our policies, and committing to fulfill them and to report any violation.

(35) Guatemala, Bolivia, Mexico, Peru, and Argentina are identified in Transparency International’s 2022 Corruption Perception Index as being at high risk for corruption.

(36) Critical concerns entail those with the potential to cause, in the opinion of the General Counsel or the Compliance Officer, a relevant impact on the Company (reputationally, financially, environmentally, etc.).



Tax Transparency

Pan American Silver pays taxes on taxable income generated through operations. Our approach to tax matters is aligned with the principles set out in our Code. In all jurisdictions in which Pan American Silver operates, we:

- Comply with local tax laws and regulations, including filing appropriate tax returns and related reports in a timely manner. We ensure that tax returns and other filed reports are accurate and complete.
- Seek to maintain a good working relationship with local tax authorities. We respond to all requests for additional information in a timely, transparent, and accurate manner. If disputes arise, we work with the tax authorities to resolve them efficiently based on statutory processes and within the letter and intent of the tax laws and regulations.
- Undertake tax planning to support the growth and development of the business in accordance with all applicable laws and regulations.

We have an offshore financial entity that provides insurance against certain risks at our worldwide mining operations. The activities of this entity are fully disclosed, as required, under the tax laws and regulations of the jurisdictions in which we operate.

We engage in inter-company transactions and execute all such transactions using arm's length transfer prices. In accordance with the Organization of Economic Co-operation and Development (OECD) Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations, we ensure that these arm's length transfer prices are supported by the necessary contemporaneous documentation.

Pan American Silver does not make any political donations or contributions in any of our host countries. We comply with the Canadian Extractive Sector Transparency Measures Act (ESTMA), which requires public reporting of payments to governments over CAD 100,000. Our ESTMA reports can be accessed on [our website](#). Pan American Silver publicly discloses payments in accordance with the Extractive Industries Transparency Initiative (EITI) where applicable; and in Peru, Argentina and Guatemala it complies with the information requested by local governments to support their commitment to this initiative. In the interest of transparency, payments made to governments are reported to the Vice President, Tax.



NEXT STEPS

- Continue to strengthen our anti-corruption and money laundering controls.
- Continue to train employees on business ethics and anticorruption practices.
- Expand scope of supplier due diligence to include local and non-critical suppliers.

APPENDIX



GRI & SASB DATA TABLES

GRI 2-7 Employees

GRI 2-8 Workers who are not employees

SASB EM-MM-000.B Total number of employees, percentage contractors

Total number of employees and contractors ⁽¹⁾	Employees ⁽²⁾⁽³⁾									Contractors			Total Workforce
	Administration		Geology		Engineering		Labour		Total Employees	Fixed ⁽⁴⁾	Temporary ⁽⁵⁾	Total Contractors	
	Male	Female	Male	Female	Male	Female	Male	Female					
Corporate Office	25	25	5	0	13	3	0	0	71	4		4	75
Canada	109	45	7	4	4	1	488	33	691	0	170	170	861
Peru	215	82	28	6	185	8	2,090	25	2,639	2,002	2,574	4,576	7,215
Mexico ⁽⁶⁾	141	70	20	6	236	23	1,170	75	1,741	1,654	43	1,697	3,438
Guatemala ⁽⁶⁾	30	28	1	0	6	2	97	6	170		106	106	276
Bolivia	80	24	9	1	62	5	260	6	447	110	87	197	644
Argentina ⁽⁶⁾	72	18	3	1	65	3	260	16	438	71	5	76	514
Total	672	292	73	18	571	45	4,365	161	6,197	3,841	2,985	6,826	13,023

(1) Data per country includes mines, offices, exploration, and project sites.

(2) Includes full-time equivalent (FTE) permanent employees only.

(3) Pan American Silver does not have temporary, non-guaranteed and part-time employees given the nature of the industry.

(4) Includes contractors with fixed term employment and whose activities are non-core to the business, but are needed to operate, e.g., catering, security, housing, cleaning, fuel supply, etc.

(5) Includes contractors who are hired to perform a temporary activity, and whose contract has a beginning and an end date, e.g., project construction, drilling, sampling for temporary exploration.

(6) Includes Escobal, Alamo Dorado and Navidad.

Total number of employees and contractors by region ⁽¹⁾	Employees					Contractors			
	Direct Influence Area ⁽²⁾	Indirect Influence Area ⁽³⁾	National Influence Area ⁽⁴⁾	Foreign	Total	Direct Influence Area	Indirect Influence Area	National Influence Area	Total
Corporate Office ⁽⁵⁾	45	2	4	20	71	2	0	2	4
Canada	649	42	0	0	691	143	27	0	170
Peru	838	898	901	2	2,639	1,217	1,883	1,476	4,576
Mexico ⁽⁶⁾	1,173	550	13	5	1,741	1,231	418	48	1,697
Guatemala ⁽⁶⁾	87	25	56	2	170	90	12	4	106
Bolivia	209	111	127	0	447	57	64	76	197
Argentina ⁽⁶⁾	244	68	123	3	438	27	45	4	76
Total	3,245	1,696	1,224	32	6,197	2,767	2,449	1,610	6,826

(1) Data per country includes mines, offices, exploration, and project sites.

(2) Direct influence area refers to the personnel who reside near the operation units.

(3) Indirect Influence area refers to the personnel who reside in the same state or department in which the operating unit is located but are not in the direct influence area.

(4) National influence area refers to the personnel residing in other states or regions within the country where the unit is located.

(5) At the corporate level, direct influence area includes personnel who reside in Canada, and indirect influence area includes personnel who report to a manager or senior manager from corporate, but work outside Canada.

(6) Includes Escobal, Alamo Dorado, and Navidad.

SASB EM-MM-000.A Production of (1) metal ores and (2) finished metal products

Metal Products	2022 ⁽¹⁾
Silver (thousand ounces)	18,454.8
Gold (thousand ounces)	552.5
Zinc (thousand tonnes)	38.6
Lead (thousand tonnes)	18.7
Copper (thousand tonnes)	5.3

(1) See Fourth Quarter Report for the year ending December 31, 2022.

GRI 2-28 Memberships associations

Canada and USA

- Mining Association of Canada
- Women in Mining
- Women Who Rock
- The Silver Institute
- Prospectors and Developers Association of Canada (PDAC)
- Northwest Mining Association
- Engineers Without Borders
- UNICEF Canada
- Ontario Mining Association
- United Nations Global Compact
- The Viola Desmond Chair in Social Justice at Cape Breton University

Peru

- Patronato de la Plata
- Instituto de Minas del Perú
- Sociedad Nacional de Minería, Petróleo y Energía (SNMPE)
- EITI Perú
- Senati
- Sencico
- CETEMIN
- La Cámara de Comercio Canadá Perú
- Colegio de Ingenieros del Perú
- ALOXI (Alianza para Obras por Impuestos)

Mexico

- Centro Mexicano Para la Filantropía (CEMEFI)
- Fundación del Empresariado Chihuahuense (FECHAC)
- Cámara Minera de México (CAMIMEX)
- La Cámara de Comercio del Canadá en México, A.C. (CANCHAMM)
- Asociación Mexicana en Dirección de Recursos Humanos, A.C. (AMEDIRH)
- Clúster Minero de Chihuahua (CLUMIN)
- Clúster Minero de Zacatecas (CLUSMIN)
- Cruz Roja Durango

Argentina

- Cámara Argentina de Empresas Mineras (CAEM)
- CADIM (Colegio Argentino de Ingenieros en Mineras)
- CEADS (Consejo Empresario Argentino para el Desarrollo Sostenible)
- EITI Argentina
- Green Cross
- Fundación Codo a Codo (education initiatives at Gobernador Gregores)

Bolivia

- Asociación de Mineros Medianos
- Amcham Cámara Americana de Comercio
- Colegio de Geólogos de Bolivia

- Cámara de Comercio de Bolivia
- Confederación de empresarios privados de Bolivia
- Cámara de Exportadores de Bolivia
- Cámara de Comercio Boliviano Canadiense
- Club de Minería

Guatemala

- United Nations Global Compact Guatemala
- EITI Guatemala
- Cámara de Comercio Guatemalteco Americana (AMCHAM)
- Cámara de Industria de Guatemala (CIG)
- Cámara de Comercio de Guatemala (CCG)
- Cámara de Comercio Guatemalteco Canadiense (CANCHAM)
- Gremial de Recursos Naturales Minas y Canteras (GreNat)

GRI 2-30 Collective bargaining agreements⁽¹⁾⁽²⁾

SASB EM-MM-310a.1 Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees

	Timmins	Dolores	La Colorada ⁽³⁾	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Workers covered by collective bargaining agreements	0	475	760	407	311	488	367	307	292	3,407
Total % of employees	0%	69%	86%	62%	55%	54%	94%	74%	69%	55%

(1) Unionization is free and voluntary. Pan American Silver respects freedom of association.

(2) For most employees in Peru, Bolivia, and Argentina not covered by collective bargaining agreements, we determine their working conditions and terms of employment based on the collective bargaining agreements in place in our operations of such countries.

(3) Even though the union is not active, by law, all operation employees are included as members of the union.

G4 MM4 Number of strikes and lockouts exceeding one week's duration, by country ⁽¹⁾

SASB EM-MM-310a.2 Number and duration of strikes and lockouts⁽²⁾

Total number of strikes and lockouts that exceeded one week's duration during the reporting	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
	Number of workers strikes	0	0	0	0	0	0	0	0	0
Number of lockouts	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0

(1) In 2022, there were zero work stoppages.

(2) Data for strikes and lockouts of less than one week's duration during the reporting period is not available.

GRI 3-3 Management of material topics (Environment 2022 Performance and 2023 Goals by Operating Mine)

2022 Performance	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo
Water	Goal achieved. No water was used from external surface and groundwater sources for the mill.	<p>Goal achieved, water withdrawn was lower compared to the 2022 base case.</p> <p>The project to reuse treated effluent from the treatment plant was partially implemented.</p>	<p>Goal not achieved, water withdrawn was higher compared to the 2022 base case.</p> <p>Achieved reductions by installing toilet tank fill-limiters.</p>	<p>Goal achieved, water withdrawn was lower compared to the 2022 base case.</p> <p>Achieved reductions by reusing water for dust mitigation in roads and processing</p>	<p>Goal achieved, water withdrawn was lower compared to the 2022 base case and Blue certificate was obtained.</p> <p>The project to reuse treated water for reagent preparation was unsuccessful, but we achieved reductions by improving the preventive maintenance of the water supply system for the dining area, and optimizing the activated carbon washing process.</p>	<p>Goal achieved, water withdrawn was lower compared to the 2022 base case.</p> <p>Achieved reductions by reusing the effluent from the domestic water treatment plant for dust mitigation in roads. The optimization of water used for drilling was delayed.</p>	<p>Site on care and maintenance, minimizing water use.</p>	<p>Goal achieved, water withdrawn was lower compared to the 2022 base case.</p> <p>The reverse osmosis water treatment project was delayed.</p>	<p>Goal not achieved, water withdrawn was higher compared to the 2022 base case.</p> <p>Greater recycling from the tailings dam was not achieved due to operating conditions as mine entered care and maintenance.</p>
Energy and Emissions	<p>Goal achieved, energy consumption and GHG emissions were lower compared to the 2022 base case.</p> <p>Achieved reductions by switching from propane to CNG as the main heating source, optimizing dewatering and ventilation systems in Timmins West, starting the automation of underground fans, practising fan shut-down during the summer months in Bell Creek, and participating in load shedding.</p>	<p>Goal achieved, energy consumption and GHG emissions were lower compared to the 2022 base case.</p> <p>Achieved reductions by optimizing haul truck routes and using a renewable electricity supply.</p>	<p>Goal achieved, energy consumption and GHG emissions were lower compared to the 2022 base case.</p> <p>Achieved reductions in GHG emissions by using a renewable electricity supply. The pump train replacement and commissioning of the ore pass was delayed.</p>	<p>Goal achieved, energy consumption and GHG emissions were lower compared to the 2022 base case.</p> <p>Achieved reductions by replacing conventional light towers with solar light towers. Replacement of gas furnace and switching from generators to grid supply for a water management system was not concluded.</p>	<p>Goal not achieved, energy consumption and GHG emissions were higher compared to the 2022 base case.</p> <p>Achieved reductions by partially implementing the optimization of haul truck routes project, switching specific lamps to solar-powered lamps, and implementing raincoats which decreased the volume of treated water</p>	<p>Goal not achieved, energy consumption and GHG emissions were higher compared to the 2022 base case.</p> <p>Achieved reductions by replacing conventional lamps with LED, and replacing conventional light towers with solar light towers.</p>	<p>Site on care and maintenance, minimizing energy consumption and GHG emissions.</p>	<p>Goal achieved, energy consumption and GHG emissions were lower compared to the 2022 base case.</p> <p>Achieved reductions by optimizing personnel transportation, limiting camp lighting during the day, and awareness campaigns on efficient use of energy. The energy-saving lighting systems were not implemented after further cost-benefit analysis.</p>	<p>No goal was established for 2022, however, the maintenance of power generation equipment continued, and lower energy consumption and GHG emissions were recorded due to Joaquin and COSE halting operations.</p>
Biodiversity	- (1)	Goal achieved, reforested 25 hectares of land within the mine site with native species.	Goal not achieved due to delays in agreeing on revegetation areas in La Colorada with local community, and uncertainty over location of infrastructure for future Skarn project.	Goal achieved, revegetated 7.5 hectares of land within the mine site including native species.	Goal not achieved, revegetated 3 hectares of land within the mine site including native species and donated 200,000 seedlings to the villages in the Sanagoran district.	Goal achieved, revegetated 1.2 hectares of land within the mine site including native species.	Goal not achieved, revegetated 0.5 hectares of land within the mine site including native species.	Goal achieved, revegetated 0.9 hectares of land within the mine site with native species.	Goal achieved, revegetated 19.2 hectares of land within the mine site with native species.

(1) Timmins was unable to identify any rehabilitation projects for 2022.

2023 Goals	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	San Vicente
Water	Continue with zero use of external surface and groundwater supply for the mill.	Harvest rainfall from specific building roofs as an alternative source for water supply for sanitation and cleaning.	Reduce water use by using a dust suppressor for dust mitigation on roads.	Reduce water use by expanding the number of roads where molasses is utilized as an additive for dust mitigation.	Use treated pit dewatering effluent as an alternative source for reagent preparation. Reduce water use by decreasing the flushing volume of toilets.	Reduce water losses by providing improved maintenance to the water supply system of the offices and camps.	Reduce water use by using a dust suppressor for dust mitigation on roads.
Energy & Emissions	Reduce energy consumption and/or GHG emissions by finalizing the automation of fans and compressors, shutting down Bell Creek surface fans for the summer months, implementing the louvre ventilation project in Timmins West, and tracking the effects of load shedding.	Produce and use biogas as an alternative source for energy supply. Reduce energy and/or GHG emissions by continuing the optimization of haul truck routes and renewable energy supply.	Reduce energy and/or GHG emissions by optimizing the mine dewatering system, optimizing energy use for ore transportation from the mine and diesel supply to the mine equipment, and continuing renewable electricity supply.	Reduce energy and/or GHG emissions by optimizing energy supply by generators, and switching from generators to grid supply for part of the water management system.	Reduce energy and GHG emissions by optimizing haul truck routes.	Reduce energy and GHG emissions by optimizing the mine dewatering system, and replacing three scooptrams.	Reduce energy and GHG emissions by optimizing transport, compressors usage, and carrying out awareness campaigns for the efficient use of energy.
Biodiversity	Revegetate 3 hectares of land with native species.	Revegetate 62 hectares of land with native species.	Revegetate 2 hectares of land with native species.	Revegetate 5 hectares of land including native species.	Revegetate 6.5 hectares of land including native species.	Revegetate 1 hectare of land including native species.	Revegetate 0.5 hectares of land with native species.

Economic Performance

GRI 201-1 Direct economic value generated and distributed

2022 Breakdown of Economic Value Generated and Distributed (\$USD thousands) ⁽¹⁾	Economic Value Generated	Economic Value Distributed							Economic Value Retained / Invested
	Revenues ⁽²⁾	Payment to Suppliers ⁽³⁾	Employee Wages and Benefits ⁽³⁾	Other Taxes and Fees ⁽³⁾⁽⁴⁾	Royalties ⁽⁶⁾	Income and Resource Taxes ⁽⁶⁾	Community Investments ⁽³⁾	Total	
Mexico	458,973	343,694	75,025	7,660	11,484	50,292	3,288	491,442	(32,469)
Peru	610,029	380,187	88,346	9,937	-	77,276	10,222	565,967	44,062
Bolivia	76,935	30,540	21,528	252	13,851	8,943	583	75,695	1,240
Argentina	105,073	53,586	49,542	11,719	3,658	361	222	119,088	(14,015)
Canada	243,708	154,779	59,697	6,139	6,898	-	420	227,933	15,775
Corporate and Others ⁽⁷⁾	-	31,061	42,201	2,373	-	890	-	76,525	(76,525)
Total	\$1,494,718	\$993,847	\$336,338	\$38,079	\$35,890	\$137,762	\$14,734	\$1,556,650	(\$61,932)

Payments to Providers of Capital

Dividends Paid	\$94,728
Interest Paid	\$6,584
Total payments to providers of capital⁽⁸⁾	\$101,312
Economic Value Retained/(Invested)	(\$163,244)

(1) As per the annual Financial Statements for fiscal 2022, dated February 22, 2023.

(2) Based on 2022 accrued revenue.

(3) Payments to Suppliers, Employee Wages and Benefits, Other Taxes and Fees, and Community Investments are composed of expenditures from mining activities including production costs, general and administrative expenditures, exploration and project development, mine care and maintenance, payments for mineral properties, plant and equipment, payment of equipment leases, repayment of construction loans, and reclamation expenditures. Production costs exclude purchase price allocation inventory fair value adjustments and NRV inventory adjustments.

(4) Other Taxes and Fees include payments to governments such as payroll taxes and permitting fees included as production costs.

(5) Royalties include government and third party royalties.

(6) Income and resource taxes include income taxes paid.

(7) Corporate and Other include general and administrative expenditures, mine care and maintenance, non-producing asset exploration expenditures, payments for properties, plant and equipment and income taxes paid, dividends paid to shareholders and interest paid to debtholders.

(8) Payments to providers of capital include interest paid and dividends paid.

Community Investment (\$USD thousands) ⁽¹⁾	Economic Development	Infrastructure	Others ⁽²⁾	Education	Health	Charitable Expenses	Total
Timmins ⁽³⁾⁽⁴⁾	-	-	16.7	-	-	402.8	419.6
Dolores	985.4	1,520.8	123.4	30.6	30.5	106.2	2,796.9
La Colorada	55.0	315.8	71.7	20.0	13.0	15.8	491.2
Shahuindo	1,739.7	1,400.6	1,961.3	243.3	69.9	226.8	5,641.4
La Arena	872.5	1,670.2	673.3	241.6	134.9	65.8	3,658.3
Huaron	194.8	41.6	61.0	180.4	95.6	21.7	595.0
Morococha	49.1	92.6	51.5	60.5	31.2	42.3	327.1
San Vicente	43.5	95.5	-	403.8	2.7	37.4	582.7
Manantial Espejo	-	0.5	0.3	51.5	13.9	155.9	222.0
Total	\$3,939.9	\$5,137.5	\$2,959.2	\$1,231.5	\$391.5	\$1,074.5	\$14,734.2

(1) Only operating mines are included in this table.

(2) The "Others" category includes payments for land agreements and ad hoc activities.

(3) Timmins includes Timmins and Bell Creek.

(4) Royalty payments to First Nations made by Timmins are captured on [Table GRI 201-1](#).

Corporate Giving Committee Donations	(\$ USD)
BabyGoRound Helping Families Society	3,720
BC Cancer Foundation (Glotman Challenge)	15,535
BC Children's Hospital	15,919
Big Sisters of BC Lower Mainland	6,402
Canadian Institute of Mining, Metallurgy and Petroleum	18,366
Cape Breton University (Viola Desmond)	63,151
CIM Sponsorship	19,400
Covenant House	11,889
Dean's Emergency Fund - Afghan Women Master Program	36,724
ETH Zurich - Swiss Federal Institute of Tech Zurich	5,246
Greater Vancouver Food Bank Society	3,788
Hockey Helps the Homeless	2,205
International Women's Forum	25,000
Laurentian University	3,850

Minerva Foundation for BC Women	14,880
Nature of Trust of BC	6,995
Pacific Salmon Foundation	20,363
Paws for Hope Animal Foundation	2,306
PDAC Mining Matters	19,489
Special Olympics BC Society	19,986
The B.C. Wildlife Federation	3,732
UBC Development and Alumni Engagement	7,440
UBC Mining Engineering Department	3,914
UNICEF Canada ⁽¹⁾	500,000
Vancouver Food Runners Society	7,598
Vancouver Symphony Orchestra	12,352
VGH and UBC Hospital Foundation	15,401
Total	\$865,651

(1) To support the well-being and rights of children, we entered a 3-year \$1.5 million partnership commitment with UNICEF Canada to provide health and education to vulnerable children and families in the Latin American countries where we operate. This commitment will continue post pandemic, focusing primarily on hygiene and sanitation in schools.

Market Presence

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

	Canada ⁽³⁾	Peru	Mexico	Guatemala	Bolivia	Argentina	Total
Senior Management ⁽¹⁾	82.3%	99.7%	99.7%	97.0%	100.0%	99.0%	97.7%
Total Employees ⁽²⁾	97.4%	99.2%	98.8%	98.8%	100.0%	99.3%	99.5%

(1) Includes executive officers, vice presidents, country managers, directors, operation, and unit managers.

(2) Includes permanent employees who are either born in or have the legal right to reside indefinitely in the same geographic region as the operation.

(3) Canada includes corporate office.

Procurement Practices

GRI 204-1 Proportion of spending on local suppliers

	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Spending on goods and services (\$US Million)	155.2	186.3	160.2	161.3	122.7	88.6	20.2	31.1	53.8	979.4
Proportion spent on local and regional suppliers ⁽¹⁾	78%	48%	31%	18%	21%	96%	98%	10%	32%	45%

(1) Local and regional suppliers include those in communities within the direct area of influence, and those in surrounding regions within the indirect areas of influence. Local procurement varies by region, depending on the availability of local suppliers and the proximity of the mine to major economic centers such as Lima and Guatemala City.

Environment

Energy

GRI 302-1 Energy consumption within the organization

SASB EM-MM-130a.1 (1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable

Energy Consumption ⁽¹⁾	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total ⁽³⁾
Diesel (m ³)	8,723	16,979	5,043	18,983	21,360	3,325	464	1,369	19,439	95,685
Gasoline/Naphtha (m ³)	72	965	159	-	-	-	-	90	-	1,286
Coal (tonnes)	-	-	-	-	-	3	-	2	-	5
Liquified Petroleum Gas, LPG (m ³)	48	67	371	137	215	16	31	-	-	885
Compressed Natural Gas, CNG (m ³)	5,063,115	-	-	-	-	-	-	-	-	5,063,115
Ammonium Nitrate, ANFO (tonnes)	33	7,049	1,120	-	1,523	221	135	823	301	11,205
Emulsions (tonnes)	816	117	-	4,305	6,707	854	71	115	169	13,154
Dynamite (tonnes) ⁽²⁾	1,301	-	-	-	-	45	-	-	-	1,346
Electricity (MWh)	201,060	43,599	37,966	34,496	32,891	101,175	-	24,960	-	476,147
Certified Renewable Electricity (MWh)	-	59,690	49,181	-	-	-	12,478	-	-	121,349

(1) The measurement methodology to collect information is inventory control.

(2) Dynamite was separated from emulsions to improve reporting accuracy. This segregation allows us to apply a more specific energy density and emission factor for dynamite explosives.

(3) Total energy consumption for heating, cooling, and steam is not disclosed by type as we do not track it by type, however totals include all energy used at our sites. Pan American Silver does not sell energy.

(GJ) Energy Consumption ⁽¹⁾	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Diesel (GJ)	337,406	656,763	195,063	734,262	826,205	128,611	17,948	52,953	751,894	3,701,104
Gasoline/Naphtha (GJ)	2,496	33,451	5,511	-	-	-	-	3,109	-	44,566
Coal (GJ)	-	-	-	-	-	95	-	55	-	151
Liquified Petroleum Gas, LPG (GJ)	1,225	1,711	9,472	3,498	5,489	418	791	-	-	22,603
Compressed Natural Gas, CNG (GJ)	188,500	-	-	-	-	-	-	-	-	188,500
Ammonium Nitrate, ANFO (GJ)	76	16,213	2,576	-	3,503	508	311	1,893	692	25,772
Emulsion (GJ)	1,877	269	-	9,902	15,426	1,964	163	265	389	30,254
Dynamite ⁽²⁾	5,985	-	-	-	-	207	-	-	-	6,192
Electricity (GJ)	723,816	371,840	313,728	124,186	118,408	364,230	44,921	89,856	-	2,150,984
Total	1,261,380	1,080,246	526,349	871,847	969,030	496,034	64,134	148,130	752,975	6,170,126

(1) The measurement methodology to collect information is inventory control. Pan American Silver used TSM - Energy and Greenhouse Gas Emissions Management Guide 2014, Orca and conversion tools to transform the units to GJ.

(2) Dynamite was separated from emulsions to improve reporting accuracy. This segregation allows us to apply a more specific energy density and emission factor for dynamite explosives.

(GJ) Total Energy Consumption^(1,2)	2022 Total	2021 Total	2020 Total
Diesel	3,701,104	3,980,774	3,651,457
Gasoline /Naphtha	44,566	54,789	47,151
Coal	151	112	95
Liquified Petroleum Gas, LPG	22,603	51,871	148,535
Compressed Natural Gas, CNG	188,500	154,843	43,273
Ammonium Nitrate, ANFO	25,772	26,121	25,844
Emulsions	30,254	32,677	28,360
Dynamite ⁽³⁾	6,192	9,988	
Electricity	2,150,984	2,348,049	2,048,170
Total⁽⁴⁾	6,170,126	6,659,225	5,992,887

(1) Pan American Silver used TSM - Energy and Greenhouse Gas Emissions Management Guide 2014, Orica and conversion tools to transform the units to GJ.

(2) The measurement methodology to collect the information is inventory control.

(3) Dynamite was separated from emulsions to improve reporting accuracy. This segregation allows us to apply a more specific energy density and emission factor for dynamite explosives.

(4) 36% of the total energy consumed was supplied from grid electricity.

SASB EM-MM-130a.1 (1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable

Percentage of renewable energy consumed⁽¹⁾	Dolores⁽²⁾	La Colorada⁽²⁾	Morococha⁽²⁾	Total
Hydro (MWh)	0	0	12,478	12,478
Geothermal (MWh)	0	0	0	0
Wind (MWh)	0	0	0	0
Solar (MWh)	59,690	49,181	0	108,871
Biomass (MWh)	0	0	0	0
Total Renewable (MWh)	59,690	49,181	12,478	121,349
% of total energy consumption	20%	34%	70%	7%

(1) The percentage is calculated as renewable energy consumption divided by total energy consumption.

(2) Dolores, La Colorada, and Morococha have a certified renewable energy provider according to the IEA (International Energy Agency) definition. The tables below also report non-certified renewable energy consumed through grid supply at our operations.

Purchased Electricity ⁽¹⁾	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total	%
Total MWh	201,060	103,289	87,147	34,496	32,891	101,175	12,478	24,960	-	597,496	
Non-renewable	23,675	32,088	27,942	15,283	14,571	44,823	-	16,400	-	174,782	29%
Renewable	73,052	69,661	57,864	19,213	18,320	56,352	12,478	8,560	-	315,499	53%
Nuclear	104,333	1,540	1,341	-	-	-	-	-	-	107,215	18%

Purchased Electricity ⁽¹⁾	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total	%
Total GJ	723,816	371,840	313,728	124,186	118,408	364,230	44,921	89,856	-	2,150,984	
Non-renewable	85,231	115,516	100,591	55,017	52,457	161,362	-	59,040	-	629,215	29%
Renewable	262,986	250,780	208,309	69,169	65,950	202,868	44,921	30,816	-	1,135,798	53%
Nuclear	375,600	5,544	4,828	-	-	-	-	-	-	385,973	18%

(1) Type of electricity purchased is calculated based on electricity generation data obtained from government statistics for Canada and Bolivia, IEA for Mexico, and grid operator (COES) for Peru.

Water

GRI 303-3 Water withdrawal⁽¹⁾⁽²⁾

SASB EM-MM-140a.1 (1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress

Water withdrawal with use or stored (m ³)		Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente ⁽⁵⁾	Manantial Espejo ⁽⁶⁾	Total
Total water withdrawal from all areas											
Surface water body	Freshwater	5,034	-	-	-	-	4,791,900	435,690	27,084	-	5,259,708
	Other water	-	-	-	-	-	-	-	-	-	-
Precipitation (all freshwater)		1,175,582	-	148,385	1,310,054	1,515,701	-	-	37,119	95,253	4,282,093
Ore moisture (all freshwater)		33,997	-	20,310	1,123,008	286,588	80,004	4,357	10,894	33,884	1,593,042
Mine dewatering ⁽²⁾	Freshwater	-	-	694,585	-	-	-	-	-	-	694,585
	Other water	84,525	-	-	-	-	-	-	290,116	728,376	1,103,017
Groundwater	Freshwater	6,318	-	-	358,226	88,247	13,077	725	11,580	7,498	485,671
	Other water	-	-	-	-	-	-	-	-	-	-
External Sources	Freshwater	-	-	-	-	-	-	-	-	-	-
	Other water	-	-	-	-	-	-	-	-	-	-
Water withdrawal from areas with water stress⁽³⁾⁽⁴⁾											
Surface water body	Freshwater	-	968,722	-	-	-	-	-	-	-	968,722
	Other water	-	-	-	-	-	-	-	-	-	-
Precipitation (all freshwater)		-	884,679	-	-	-	-	-	-	-	884,679
Moisture in ore (all freshwater)		-	419,536	-	-	-	-	-	-	-	419,536
Mine dewatering ⁽²⁾	Freshwater	-	127,617	-	-	-	-	-	-	-	127,617
	Other water	-	-	-	-	-	-	-	-	-	-
Groundwater	Freshwater	-	175,399	-	-	-	-	-	-	-	175,399
	Other water	-	-	-	-	-	-	-	-	-	-
External Sources	Freshwater	-	-	-	-	-	-	-	-	-	-
	Other water	-	-	-	-	-	-	-	-	-	-
Total water withdrawal with use per site:		1,305,456	2,575,954	863,280	2,791,288	1,890,536	4,884,981	440,772	376,793	865,010	15,994,069

(1) Freshwater is water with concentration of total dissolved solids equal to or below 1,000 mg/l, other water is water with a concentration above 1,000 mg/l.

(2) Dewatering does not include water reused within underground mines.

(3) Areas with water stress were assessed by using the Aqueduct Water Risk Atlas project from the World Resources Institute.

(4) See "Water Stewardship" section for the percentage from areas with water stress

(5) While San Vicente is not in an area classified as water stressed according to the World Resources Institute, we recognize that the mine is in a water scarce region and continually work to reduce our water use from external sources.

(6) Includes data from Joaquin and COSE.

(m ³)	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo ⁽²⁾	Total 2022
Other Managed Water ⁽¹⁾	3,129,392	245,587	3,574,431	732,333	5,814,886	17,748,923	45,575,691	977,198	290,687	78,089,128

(1) Other managed water is water managed without an intent to supply the operations and includes community water supply.

(2) Includes data from Joaquin and COSE.

Water use for mineral processing ⁽¹⁾⁽²⁾	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
New water for mineral processing or stored in related components (m ³)	817,530	1,633,181	368,850	2,350,592	1,218,978	3,557,267	394,768	285,341	648,595	11,275,102
Recycled process water (m ³)	1,115,014	10,189,237	1,491,284	15,540,257	16,255,681	0	70,261	569,406	2,385,767	47,616,908
% Recycled process water	58%	86%	80%	87%	93%	0%	15%	67%	79%	81%

(1) The percentage of recycled water is calculated using the total recycled water divided by the total water used in mineral processing.

(2) New water for mineral processing accounting was improved by including the ore moisture.

Water Intensity - PAAS Specific Indicator

Water Intensity ⁽¹⁾⁽²⁾	2022	2021	2020
Total revenue (million USD)	1,494.72	1,632.75	1,338.81
Water withdrawal (cubic meters)	15,994,069	17,775,768	12,188,431
Water intensity (cubic meters/million USD)	10,700	10,887	9,104
Water intensity (cubic meters/tonne ore milled) excluding Huaron and Morococha	0.20	0.22	0.19

(1) We report the water intensity of Huaron and Morococha separately since their data would otherwise mask trends at our other operations. These two mines have high calculated water intensity because they are designed with gravity-driven water supply systems wherein water flows from large lakes through the mineral processing plant, is treated, and is then discharged downstream. Both mines are in areas with high precipitation, low evaporation, and relatively abundant surface water. The gravity-driven designs reduce energy use and greenhouse gas emissions at both sites by eliminating pumping for water recycling.

(2) Water withdrawal, water intensity per USD of total revenue, and water intensity per tonne of ore milled are revised for 2020 and 2021. Ore moisture was included for both years at all operations, and La Colorada and La Arena values were updated for accuracy.

GRI 303-4 Water discharge⁽¹⁾⁽²⁾⁽⁵⁾

Water Discharge (m ³)		Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo ⁽⁴⁾	Total
Water discharge from all areas											
Surface water body	Freshwater	-	-	3,554,062	77,072	4,313,513	21,866,421	7,769,434	-	-	37,580,501
	Other water	2,229,126	-	-	-	-	20,237	-	1,013,375	357,569	3,620,306
Groundwater	Freshwater	11,352	-	-	-	-	-	7,787	-	38	19,176
	Other water	-	-	-	-	-	-	-	-	-	-
External Destination	Freshwater	-	-	20,369	-	-	-	35,268,644	2,487	-	35,291,500
	Other water	-	-	-	-	-	-	-	-	-	-
Water discharge from areas with water stress⁽³⁾											
Surface water body	Freshwater	-	-	-	-	-	-	-	-	-	-
	Other water	-	-	-	-	-	-	-	-	-	-
Groundwater	Freshwater	-	-	-	-	-	-	-	-	-	-
	Other water	-	-	-	-	-	-	-	-	-	-
External Destination	Freshwater	-	173,575	-	-	-	-	-	-	-	173,575
	Other water	-	-	-	-	-	-	-	-	-	-
Total water discharge:		2,240,478	173,575	3,574,431	77,072	4,313,513	21,886,658	43,045,864	1,015,862	357,606	76,685,058

(1) No mine site discharges to seawater.

(2) Water discharge includes treated wastewater, used water, and other managed water.

(3) Areas with water stress were assessed by using the Aqueduct Water Risk Atlas project from the World Resources Institute.

(4) Includes data from Joaquin and COSE.

(5) Water is treated to remove sediment, metals and priority substances of concern where necessary to meet regulatory compliance prior to discharge.

GRI 303-5 Water Consumption⁽¹⁾⁽²⁾⁽³⁾

SASB EM-MM-140a.1 (1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress

Total water consumption (freshwater) (m ³)	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Water consumption in all areas	945,420	-	863,280	2,647,466	1,240,426	683,684	10,489	341,776	704,526	7,437,068
Water consumption in areas with water stress	-	2,405,893	-	-	-	-	-	-	-	2,405,893
Change in water storage	164,640	170,060	-	-	234,522	-	-	-3,648	71,465	637,039
Total water consumption and change in storage	1,110,060	2,575,954	863,280	2,647,466	1,474,948	683,684	10,489	338,128	775,991	10,480,000

(m ³)	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Evaporation from other managed water	1,084,310	72,012	-	799,083	1,916,962	63,562	2,960,110	-	22,100	6,918,139

(1) Water consumption includes evaporation. The accounting of evaporation was improved for this reporting period.

(2) Other managed water is water managed without an intent to supply the operations.

(3) Includes data from Joaquin and COSE.

GRI 304-3 Habitats protected or restored

GRI MM1 Amount of land (owned or leased, and managed for productive activities of extractive use) disturbed or rehabilitated

(ha)	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Land disturbed in 2022	4	15	0.6	112	8	0	0	0	0	139
Land rehabilitated in 2022	0	25	0	8	3	1	1	0.9	19	57
Total land not yet rehabilitated	364	769	190	707	494	303	64	67	512	3,470

(ha)	2022 Total	2021 Total	2020 Total
Total land newly disturbed	139	102	83
Total land newly rehabilitated	57	53	16
Total land disturbed and not yet rehabilitated	3,470	3,389	3,172

GHG Emissions

GRI 305-1 Direct Greenhouse Gas (Scope 1) GHG emissions

GRI 305-2 Energy indirect (Scope 2) GHG emissions

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

GRI 305-5 GHG emissions intensity

SASB EM-MM-110a.1 Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations

GHG Emissions ⁽¹⁾⁽²⁾ (Tonnes of CO ₂ Eq)	Energy Source	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Direct (Scope 1) GHG Emissions ⁽³⁾⁽⁴⁾	Diesel	23,386	44,433	13,520	50,844	57,175	8,914	1,244	3,670	52,116	255,303
	Gasoline/Naphta	166	2,227	367	-	-	-	-	207	-	2,966
	Coal	-	-	-	-	-	8	-	5	-	13
	Liquified Petroleum Gas, LPG	73	102	562	208	326	25	47	-	-	1,341
	Compressed Natural Gas, CNG (m ³)	9,559	-	-	-	-	-	-	-	-	9,559
	Ammonium Nitrate, ANFO	6	1,332	212	-	288	42	26	156	57	2,118
	Emulsions	154	22	-	814	1,268	161	13	22	32	2,486
	Dynamite	336	-	-	-	-	12	-	-	-	347
Indirect (Scope 2) GHG Emissions ⁽⁵⁾	Grid Electricity	5,429	16,206	14,112	6,903	6,581	20,245	-	7,658	-	77,133
Total		39,109	64,321	28,773	58,768	65,638	29,407	1,330	11,717	52,204	351,267

(1) Gases included in this calculation are CO₂, CH₄ and N₂O. HFCs, PFCs, SF6, and NF3 are not considered as they represent an immaterial amount in our GHG inventory.

(2) The consolidation approach is operational control.

(3) Pan American Silver used National Inventory Report Canada 2020 to calculate Direct (Scope 1) GHG emissions. The global warming potential (GWP) is based on the information provided by the Government of Canada. The GHG protocol and B.C. Methodological Guidance for Quantifying Greenhouse Gas Emissions are used as reference.

(4) Biogenic emissions have been determined to be immaterial in our GHG inventory based on its magnitude.

(5) Emissions from purchased electricity are calculated using a market-based approach aligned with the GHG protocol. The IEA 2022 national electricity emission factors are used for sites where there are no renewable electricity contracts, and supplier specific factors are not available. The location-based Scope 2 emissions for 2022 are estimated at 120,097 t CO₂eq and 122,072 t CO₂eq for 2021, however these estimates are included to comply with GRI only and are not considered representative of our actual performance.

GHG Emissions ⁽¹⁾⁽²⁾ (Tonnes of CO ₂ Eq)		2022 Total	2021 Total	2020 Total
Direct (Scope 1) GHG Emissions ⁽³⁾⁽⁴⁾	Diesel	255,303	274,820	255,512
	Gasoline/Naphtha	2,966	3,647	3,357
	Coal	13	10	8
	Liquified Petroleum Gas, LPG	1,341	3,078	8,985
	Compressed Natural Gas, CNG (m ³)	9,559	7,852	2,206
	Ammonium Nitrate, ANFO	2,118	2,146	2,124
	Emulsions	2,486	2,685	2,331
	Dynamite	347	560	-
Total Scope 1 GHG Emissions		274,133	294,799	274,522
Indirect (Scope 2) GHG Emissions ⁽⁵⁾	MWh	77,133	107,255	111,895
Total Scope 1 and 2 GHG Emissions		351,267	402,054	386,418

(1) Gases included in this calculation are CO₂, CH₄ and N₂O. HFCs, PFCs, SF₆, and NF₃ are not considered as they represent an immaterial amount in our GHG inventory.

(2) The consolidation approach is operational control.

(3) Pan American Silver used National Inventory Report Canada 2020 to calculate Direct (Scope 1) GHG emissions. The global warming potential (GWP) is based on the information provided by the Government of Canada. The GHG protocol and B.C. Methodological Guidance for Quantifying Greenhouse Gas Emissions are used as reference.

(4) Biogenic emissions have been determined to be immaterial in our GHG inventory based on its magnitude.

(5) Emissions from purchased electricity are calculated using a market-based approach aligned with the GHG protocol. The IEA 2022 national electricity emission factors are used for sites where there are no renewable electricity contracts, and supplier specific factors are not available. The location-based Scope 2 emissions for 2022 are estimated at 120,097 t CO₂eq and 122,072 t CO₂eq for 2021, however these estimates are included to comply with GRI only and are not considered representative of our actual performance.

GHG Emissions (Tonnes CO ₂ Eq)	2022	2021	2020
Scope 1 - Direct	274,133	294,799	274,522
Scope 2 - Electricity	77,133	107,255	111,895
Total Scope 1 and 2	351,267	402,054	386,417
Scope 3 - Value Chain	768,897	716,253	618,332

	Timmins	La Colorada	Manantial Espejo
Percentage of Scope 1 GHG emissions covered under regulation	100%	100%	100%
Percentage of Scope 1 GHG emissions covered under a government emission limiting regulation or program that is intended to directly limit or reduce emissions ⁽¹⁾	Output Based Pricing System (Federal) Emissions Performance Standard (Provincial)	Zacatecas Eco-tax	Federal tax on liquid fuels and carbon dioxide
Material HFCs, PFCs, SF ₆ , NF ₃ emissions present at the mine site	No	No	No

(1) Scope 1 GHG emissions from Timmins, La Colorada and Manantial Espejo represent 36.6% of the Company's total Scope 1 GHG emissions.

GHG Emissions Intensity	2022	2021	2020
GHG Emissions Intensity (Tonne CO ₂ Eq/Tonne Ore Processed)	0.009	0.011	0.012

Waste & Hazardous Materials

GRI 306-3 Waste generated

SASB EM-MM-150a.4 Total weight of non-mineral waste generated

SASB EM-MM-150a.7 Total weight of hazardous waste generated

SASB EM-MM-150a.8 Total weight of hazardous waste recycled

Total - All Mines (tonnes)	Reuse	Recycled	Compost	Landfill (Non-Hazardous Waste)	Controlled Landfill (Hazardous Waste)	Total Waste	% Recycled	% Reused
Hazardous or dangerous waste	9	1,245	-	-	2,014	3,268	38%	0%
Non-hazardous domestic waste	124	-	81	4,410	-	4,615	0%	3%
Non-hazardous Industrial	955	3,702	-	664	-	5,322	70%	18%
Total	1,088	4,948	81	5,075	2,014	13,205	37%	8%

Total waste (tonnes)	2022	2021	2020
Hazardous or dangerous waste - secured landfill ⁽¹⁾⁽²⁾	2,014	2,448	1,574
Domestic waste to landfill	4,410	5,409	3,221
Industrial waste to landfill ⁽³⁾	664	289	363
Reuse ⁽⁴⁾	1,088	700	843
Recycling and Composting ⁽⁴⁾⁽⁵⁾	5,028	5,759	2,463

(1) Landfill for hazardous waste refer to secured landfills engineered to prevent any leaching to the surrounding environment. This also includes special treatment and disposal as per applicable local regulations.

(2) Hazardous waste to landfill is revised for 2021 to reclassify Manantial Espejo waste oil used as fuel from this category to Recycling and Composting.

(3) Waste categorization was revised this year, changing inert waste to industrial waste, leading to the recalculation of the annual totals.

(4) Reuse and Recycling and Composting categories are revised for 2020 and 2021, with Dolores, Shahuindo, and Manantial Espejo values updated for accuracy.

(5) Waste oil used as fuel is considered in this category and was 386 tonnes in 2022.

Reportable spills⁽¹⁾ - PAAS Specific Indicator

	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo
Number of reportable spills	4	-	-	-	-	-	-	-	-
Volume of liquid or pulp (m ³)	54.3	-	-	-	-	-	-	-	-

Total - All Mines	2022	2021	2020
Number of reportable spills	4	2	3
Volume of liquid or pulp (m ³)	54.3	0	80

(1) Reportable spills defined according to local regulations

GRI G4 MM3 Total amounts of over burden, rock, tailings, and sludges

SASB EM-MM-150a.5 Total weight of tailings produced

SASB EM-MM-150a.6 Total weight of waste rock generated⁽¹⁾

(tonnes)	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Tailings not used as hydraulic backfill (dry tonnes)	1,693,712	-	577,635	-	-	865,872	91,096	337,658	642,614	4,208,587
Tailings used as hydraulic backfill (dry tonnes)	458,296	-	47,904	-	-	202,213	-	-	-	708,413
Waste rock not used as backfill	95,323	-	90,369	18,922,880	17,788,386	373,764	54,989	-	-	37,325,711
Waste rock used as backfill or construction material	253,540	26,227,205	428,565	-	4,895,323	433,085	-	302,300	231,139	32,771,157
Water treatment sludge not reused or recycled	-	2	5,769	89	331,601	17,169	-	2,766	-	357,396
Other types of sludges not reused or recycled	-	-	-	305	-	-	-	-	-	305

(1) Waste rock is defined as mineral materials and low-grade ore with no economic interest at the time of mining.

Air Quality

SASB EM-MM-120a.1 Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N2O), (3) SOx, (4) particulate matter (PM10), (5) mercury (Hg), (6) lead (Pb), and (7) volatile organic compounds (VOCs)⁽¹⁾

(tonnes)	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Carbon monoxide, CO	147	290	82	296	333	52	7	23	317	1,547
Nitrogen oxides, NOx	288	638	163	594	666	104	15	45	700	3,213
Sulfur oxides, SOx	42	18	24	89	101	16	2	7	28	327
Particulate matter, PM10	45	20	26	95	108	17	2	7	31	352
Non-methane volatile organic compounds, VOCs	54	68	35	107	123	19	3	11	43	464

(1) Calculated according to on-site fuel combustion using EPA air emission factors for all sites.

Tailings Storage Facilities

SASB EM-MM-540a.1 Tailings storage facility inventory table: (1) facility name, (2) location, (3) ownership status, (4) operational status, (5) construction method, (6) maximum permitted storage capacity, (7) current amount of tailings stored, (8) consequence classification, (9) date of most recent independent technical review, (10) material findings, (11) mitigation measures, (12) site-specific Emergency Preparedness and Response Plans (EPRP)

#	Facility name	Location	Ownership status	Operational status	Construction method	Maximum permitted storage capacity in million tonnes	Current amount of tailings stored in million tonnes	Consequence classification ⁽¹⁾	Date of the most recent Independent technical review		Material findings	Mitigation measurements	Site-specific EPRP
									Independent Third-party EoR, Dam Safety Review	Another Independent Third-party Review			
1	Timmins (Bell Creek)	Canada	Pan American Silver	Operational	Downstream/Centerline	24.1	12.2	Significant to High ⁽²⁾	Sep 2022	2020	None	N/A	✓
2	La Colorada (Presa #7)	Mexico	Pan American Silver	Operational	Downstream	4.0	2.4	Significant	Nov 2022	2019	None	N/A	✓
3	La Colorada (Presa #6)	Mexico	Pan American Silver	Operational	Downstream/Modified Upstream/Centerline	12.2	6.2	Significant	Nov 2022	2019	None	N/A	✓
4	Huaron (Presa #5)	Peru	Pan American Silver	Operational	Centerline	12.6	10.9	High to Very High ⁽³⁾	Aug 2022	2021	None	N/A	✓
5	Morococha (Huascacocha)	Peru	Pan American Silver	On care & maintenance	Downstream	24.0	12.2	Extreme	Sep 2022	2018	None	N/A	✓
6	San Vicente	Bolivia	Pan American Silver	Operational	Centerline	9.8	4.3	Significant	Dec 2022	2017	None	N/A	✓
7	Manantial Espejo	Argentina	Pan American Silver	Operational	Downstream	10.4	10.1	Significant	Nov 2022	2018	None	N/A	✓
8	Escobal	Guatemala	Pan American Silver	On care & maintenance	N/A - Filtered Tailings stack	6.5	2.7	N/A	Jul 2022	2018	None	N/A	✓
9	Alamo Dorado	Mexico	Pan American Silver	Closed	N/A - Filtered Tailings stack	14.7	14.7	N/A	Apr 2022	2022	None	N/A	N/A

(1) CDA Dam Consequence Classification system.

(2) Significant for fair weather scenario and High for flood induced scenario.

(3) High for fair weather scenario and Very High for flood induced scenario.

GRI 2-27 Compliance with laws and regulations (Environmental Compliance)⁽¹⁾

Environmental fines and non-monetary penalties for non-compliance	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Instances with non-monetary penalties	-	-	-	-	-	-	-	-	-	-
Fines for instances occurred in the reporting period (USD)	-	-	-	-	-	\$4,600	-	-	-	\$4,600
Fines for instances occurred in previous reporting period (USD)	-	-	-	-	-	\$100	\$20,993	-	-	\$21,093

Environmental Fines and Penalties Paid	2022	2021	2020	2019	2018
	\$25,693	\$41,122	\$69,117	\$543	-

(1) The amounts paid in 2022 relate to an alleged discharge non-compliance due to an arbitrary government decision not to renew a domestic wastewater discharge permit at Huaron which is being appealed, lack of maintenance on pipelines at Huaron, and delays with closure activities on waste rock dumps at Morococha.

Labour Practices

Employment

GRI 401-1 New employee hires and employee turnover

New Employee Hires ⁽¹⁾⁽²⁾⁽³⁾		Canada ⁽⁴⁾	Peru ⁽⁵⁾	Mexico	Guatemala	Bolivia	Argentina	Total
<30	Men	36 23.23%	32 14.81%	68 34.17%	1 7.69%	3 10.71%	0 0.00%	140 22.73%
	Women	8 5.16%	13 6.02%	15 7.54%	4 30.77%	1 3.57%	1 20.00%	42 6.82%
Between 30 and 50	Men	70 45.16%	143 66.20%	82 41.21%	5 38.46%	15 53.57%	1 20.00%	316 51.30%
	Women	16 10.32%	13 6.02%	20 10.05%	2 15.38%	7 25.00%	3 60.00%	61 9.90%
>50	Men	18 11.61%	15 6.94%	12 6.03%	1 7.69%	2 7.14%	0 0.00%	48 7.79%
	Women	7 4.52%	0 0.00%	2 1.01%	0 0.00%	0 0.00%	0 0.00%	9 1.46%
Total Women Employees Hires		31	26	37	6	8	4	112
Total Men Employees Hires		124	190	162	7	20	1	504
Total New Employees Hires		155	216	199	13	28	5	616
% New Women Employee Hires		20.0%	12.0%	18.6%	46.2%	28.6%	80.0%	18.2%
% New Men Employee Hires		80.0%	88.0%	81.4%	53.8%	71.4%	20.0%	81.8%

(1) Data only includes permanent employees in operating mines.

(2) Data does not include projects or exploration figures.

(3) The factors to calculate these percentages changed in 2020. The percentages in each operation is calculated against the total of new employees hires in each corresponding operation.

(4) Canada includes corporate office, Timmins, and Bell Creek employees.

(5) Morococha operation was placed on care and maintenance in late February 2022 as a requirement to move the processing facilities to allow for the expansion of a neighboring mine.

Employee Voluntary Turnover ⁽¹⁾⁽²⁾⁽³⁾		Canada ⁽⁴⁾	Peru ⁽⁵⁾	Mexico	Guatemala	Bolivia	Argentina	Total
<30	Men	9 2.95%	6 0.72%	32 2.87%	2 0.88%	0 0.34%	5 0.57%	54 1.57%
	Women	5 0.85%	1 0.27%	14 0.83%	1 1.47%	1 0.22%	6 0.80%	28 0.56%
Between 30 and 50	Men	34 6.82%	55 3.75%	37 3.42%	0 1.47%	22 4.14%	34 4.00%	182 4.02%
	Women	12 1.84%	7 0.38%	20 1.15%	3 1.47%	5 1.34%	4 0.80%	51 0.90%
>50	Men	23 2.69%	5 0.38%	4 0.46%	0 0.29%	6 0.89%	7 0.80%	45 0.75%
	Women	2 0.59%	0 0.00%	1 0.09%	0 0%	0 0%	1 0.11%	4 0.10%
Total Women Employees Voluntary Terminations		19	8	35	4	6	11	83
Total Men Employees Voluntary Terminations		66	66	73	2	28	46	281
Total Employee Voluntary Terminations		85	74	108	6	34	57	364
% Total Women Employees Voluntary Turnover		3.3%	0.6%	2.1%	2.9%	1.6%	1.7%	1.6%
% Total Men Employees Voluntary Turnover		12.5%	4.9%	6.7%	2.6%	5.4%	5.4%	6.3%
% Total Employee Voluntary Turnover		15.7%	5.5%	8.8%	5.6%	6.9%	7.1%	7.9%

(1) Data only includes permanent employees in operating mines.

(2) Data does not include projects or exploration figures.

(3) The percentage in each operation is calculated against the total number of employees in each corresponding operation.

(4) Canada includes corporate office, Timmins, and Bell Creek employees.

(5) Morococha operation was placed on care and maintenance in late February 2022 as a requirement to move the processing facilities to allow for the expansion of a neighboring mine.

SASB EM-MM-210b.2: Number and duration (# of days) of non-technical production delays

	Timmins	Dolores	La Colorada	Escobal ⁽¹⁾	Shahuindo	La Arena	Huaron	Morococha ⁽²⁾	San Vicente	Manantial Espejo
Days of non-technical production delays	0	0	0	365	0	0	0	300	0	0

(1) Escobal is on care and maintenance pending of the completion of an International Labour Organization (ILO) 169 consultation process mandated by the Constitutional Court of Guatemala.

(2) Morococha operation was placed on care and maintenance in late February 2022 as a requirement to move the processing facilities to allow for the expansion of a neighboring mine.

Occupational Health and Safety

GRI 403-9 Work-related injuries

EM-MM-320a.1. (1) MSHA all-incidence rate, (2) fatality rate, (3) near miss frequency rate (NMFR) and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees

Employees Only - 2022 Safety Performance	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Fatalities	-	-	-	-	-	1	-	-	-	1
Lost time injury frequency ⁽¹⁾	-	0.87	1.21	1.19	-	2.03	1.33	4.17	-	1.23
Lost time injury severity ⁽²⁾	-	184	92	84	-	3,182	72	264	-	971
TRIFR	17.16	3.05	14.87	1.78	0.80	5.06	2.65	25.04	0.86	7.47

(1) Lost time injury frequency is calculated as the number of lost time injuries, including fatalities, in the exposure period multiplied by 1 million hours and divided by the total number of hours worked in that period.

(2) Lost time injury severity is a measurement of the seriousness of injuries and is calculated as the number of workdays lost due to lost time injuries multiplied by 1 million and divided by the total exposure hours. We count 6,000 lost workdays in the event of a fatal accident.

Contractors Only - 2022 Safety Performance	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Fatalities	-	1	-	-	1	-	-	-	-	2
Lost time injury frequency ⁽¹⁾	-	0.36	-	0.23	0.50	-	-	-	3.52	0.20
Lost time injury severity ⁽²⁾	-	2,143	-	30	2,970	-	-	-	264	417
TRIFR	12.43	1.07	8.09	0.94	0.50	1.30	-	3.79	7.03	2.49

(1) Lost time injury frequency is calculated as the number of lost time injuries, including fatalities, in the exposure period multiplied by 1 million hours and divided by the total number of hours worked in that period.

(2) Lost time injury severity is a measurement of the seriousness of injuries and is calculated as the number of workdays lost due to lost time injuries multiplied by 1 million and divided by the total exposure hours. We count 6,000 lost workdays in the event of a fatal accident.

Historical Safety Performance ⁽¹⁾	2022	2021	2020
Fatalities	3	4	2
LTIF Frequency ⁽²⁾	0.74	0.98	0.35
LTIS Severity ⁽³⁾	661	868	534
TRIFR	4.89	4.61	4.64

(1) Consolidation of employees and contractors.

(2) Lost time injury frequency is calculated as the number of lost time injuries, including fatalities, in the exposure period multiplied by 1 million hours and divided by the total number of hours worked in that period.

(3) Lost time injury severity is a measurement of the seriousness of injuries and is calculated as the number of workdays lost due to lost time injuries multiplied by 1 million and divided by the total exposure hours. We count 6,000 lost workdays in the event of a fatal accident.

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

Average hours of training per year per employee in 2022	Male	Female
Employees	43.3	38.3

Diversity and Equal Opportunity

GRI 405-1 Diversity of governance bodies and employees

Percentage of employees per gender and age group ⁽¹⁾	Employees									
	Male				Total Male	Female				Total Female
	< 30	30-50	> 50	> 60		< 30	30-50	> 50	> 60	
Corporate Office	8%	30%	15%	7%	61%	4%	27%	8%	0%	39%
Canada	14%	50%	16%	8%	88%	2%	7%	2%	0%	12%
Peru	7%	69%	16%	3%	95%	1%	3%	0%	0%	5%
Mexico ⁽³⁾	22%	58%	9%	1%	90%	3%	6%	0%	0%	10%
Guatemala ⁽³⁾	9%	59%	8%	3%	79%	4%	16%	1%	1%	21%
Bolivia	3%	74%	14%	2%	92%	2%	6%	1%	0%	8%
Argentina ⁽³⁾	9%	70%	11%	2%	91%	1%	7%	1%	0%	9%
Total⁽²⁾	12%	64%	13%	3%	92%	2%	6%	1%	0%	8%

(1) The percentages by age and gender in each country and corporate uses the total number of employees per country and per corporate.

(2) The total percentages per employees' gender and age group use the total number of employees in the Company.

(3) Includes Escobal, Alamo Dorado and Navidad.

Percentage of contractors per gender and age group ⁽¹⁾	Contractors									
	Male				Total Male	Female				Total Female
	< 30	30-50	> 50	> 60		< 30	30-50	> 50	> 60	
Corporate	0%	0%	0%	50%	50%	0%	50%	0%	0%	50%
Canada	15%	54%	15%	7%	91%	2%	6%	1%	0%	9%
Peru	25%	57%	7%	1%	90%	5%	5%	0%	0%	10%
Mexico ⁽³⁾	34%	45%	9%	1%	88%	5%	6%	1%	0%	12%
Guatemala ⁽³⁾	25%	25%	2%	0%	52%	33%	14%	1%	0%	48%
Bolivia	27%	53%	6%	2%	87%	5%	7%	2%	0%	13%
Argentina ⁽³⁾	11%	57%	26%	0%	93%	0%	7%	0%	0%	7%
Total⁽²⁾	27%	53%	8%	1%	89%	5%	5%	1%	0%	11%

(1) The percentages by age and gender in each country and corporate uses the total number of contractors per country and per corporate.

(2) The total percentages per contractors' gender and age group use the total number of contractors in the Company.

(3) Includes Escobal, Alamo Dorado and Navidad.

Percentage of management type per gender	Senior Manager ⁽¹⁾		Manager ⁽²⁾		Superintendent/Assistant Manager ⁽³⁾		Supervisor ⁽⁴⁾	
	Male	Female	Male	Female	Male	Female	Male	Female
Corporate Office ⁽⁵⁾	83%	17%	63%	37%	N/A	N/A	N/A	N/A
Canada	64%	36%	100%	0%	100%	0%	92%	8%
Peru	91%	9%	87%	13%	94%	6%	94%	6%
Mexico	89%	11%	87%	13%	92%	8%	82%	18%
Guatemala	100%	0%	78%	22%	88%	12%	94%	6%
Bolivia	100%	0%	100%	0%	100%	0%	85%	15%
Argentina	90%	10%	67%	33%	75%	25%	91%	9%
Total	84%	16%	79%	21%	92%	8%	88%	12%

(1) Senior Manager includes country managers, directors, and every employee who reports directly to a country manager. It also includes operations managers and/or general manager at the mine site.

(2) Manager includes any employee who reports directly to a senior manager but does not include country managers.

(3) Superintendent / Assistant Manager includes head of departments (mine managers, process managers, security managers, mine superintendent, maintenance superintendent, etc.) who report directly to operations manager or its equivalent.

(4) Supervisor includes employees who have at least one person to supervise, i.e., maintenance supervisor, head guard, etc.

(5) In the corporate office, Senior Manager includes C-level executives, vice presidents, senior vice presidents and manager includes directors and managers.

Security, Human Rights & Rights of Indigenous Peoples

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

	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Percentage of security personnel trained in human rights policies or procedures	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Does training requirements also apply to third-party organizations providing security personnel	Yes, also 100%									

Resettlement and/or Relocation

GRI G4 MM9 Resettlement and/or relocation activity: Site level

Country	Site	Resettlement and/or relocation activity occurred in 2022	Number of households resettled and/or relocated
Canada	Timmins	No	N/A
Mexico	Dolores	No	N/A
	La Colorada	Yes	35
Guatemala	Escobal	No	N/A
Peru	Shahuindo	No	N/A
	La Arena	No	N/A
	Huaron	No	N/A
	Morococha	No	N/A
Bolivia	San Vicente	No	N/A
Argentina	Manantial Espejo	No	N/A
Total			35

Resources and Reserves

SASB EM-MM-210a.1 Percentage of (1) proved and (2) probable reserves in or near areas of conflict⁽¹⁾⁽²⁾

Silver	Mexico ⁽²⁾		Total Company	
	Grade ⁽³⁾ (grammes/tonne)	Contained Metal (million ounces)	Grade ⁽³⁾ (grammes/tonne)	Contained Metal (million ounces)
Proven Reserves	94	50.1	60	174.4
Probable Reserves	190	62.3	124	340.5
% of Proven Reserves in or near areas of conflict				28.7%
% of Probable Reserves in or near areas of conflict				18.3%

Gold	Mexico ⁽²⁾		Total Company	
	Grade ⁽³⁾ (grammes/tonne)	Contained Metal (thousand ounces)	Grade ⁽³⁾ (grammes/tonne)	Contained Metal (thousand ounces)
Proven Reserves	0.49	262.9	0.61	2,034.6
Probable Reserves	0.35	113.7	0.47	1,597.1
% of Proven Reserves in or near areas of conflict				12.9%
% of Probable Reserves in or near areas of conflict				7.1%

(1) For additional information, see Pan American Silver Corporation Mineral Reserves and Resources tables as of June 30, 2022.

(2) We assessed the location of our mines against the Heidelberg Conflict Barometer and our own country risk reports. We identified our Mexican operations as being located in conflict-affected regions.

(3) Average grades of each element are with respect to those mines that produce the element.

SASB EM-MM-210a.2 Percentage of (1) proved and (2) probable reserves in or near indigenous land⁽¹⁾⁽²⁾

Silver	Canada ⁽²⁾		Guatemala ⁽²⁾		Total Company	
	Grade ⁽³⁾ (grammes/tonne)	Contained Metal (million ounces)	Grade ⁽³⁾ (grammes/tonne)	Contained Metal (million ounces)	Grade ⁽³⁾ (grammes/tonne)	Contained Metal (million ounces)
Proven Reserves	-	-	486	39.5	60	174.4
Probable Reserves	-	-	316	225	124	340.5
% of Proven Reserves in or near indigenous land						22.6%
% of Probable Reserves in or near indigenous land						66.1%

Gold	Canada ⁽²⁾		Guatemala ⁽²⁾		Total Company	
	Grade ⁽³⁾ (grammes/tonne)	Contained Metal (thousand ounces)	Grade ⁽³⁾ (grammes/tonne)	Contained Metal (thousand ounces)	Grade ⁽³⁾ (grammes/tonne)	Contained Metal (thousand ounces)
Proven Reserves	2.89	491.0	0.42	34.2	0.61	2,034.6
Probable Reserves	2.74	432.5	0.34	243.8	0.47	1,597.1
% of Proven Reserves in or near indigenous land						25.8%
% of Probable Reserves in or near indigenous land						42.3%

(1) For additional information, see Pan American Silver Corporation Mineral Reserves and Resources tables as of June 30, 2021.

(2) Our Timmins operation in Canada and our Escobal mine (currently on care and maintenance) in Guatemala are located in or near indigenous land.

(3) Average grades of each element are with respect to those mines that produce the element.

Business Ethics & Anti-corruption

SASB EM-MM-510a.2 Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index

Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index⁽¹⁾

Pan American Silver does not operate in any of the countries designated among the 20 lowest rankings in the 2022 Transparency International' Corruption Perception Index.

(1) The 20 countries with the lowest rankings in the Transparency International's Corruption Perceptions Index for 2022, in descending order, are: Somalia, Syria, South Sudan, Venezuela, Yemen, Libya, North Korea, Haiti, Equatorial Guinea, Burundi, Turkmenistan, Nicaragua, Comoros, Chad, Democratic Republic of the Congo, Guinea-Bissau, Congo, Sudan, Eritrea, and Zimbabwe.

Source: <https://www.transparency.org/en/cpi/2022/index/cod>

Supply Chain Risk Management

New and existing critical suppliers that were screened using environmental and social criteria - PAAS specific indicator

New and existing critical suppliers ⁽¹⁾⁽²⁾⁽³⁾⁽⁴⁾		Canada	Mexico	Peru	Bolivia	Argentina	Guatemala	Total
Number of critical suppliers that were screened using environmental and social criteria	2021	66	45	183	9	38	35	376
	2022	14	21	68	12	37	15	167
Number of critical suppliers in the process of being screened using environmental and social criteria		15	24	36	11	9	12	107
Total of new and existing critical suppliers		109	122	298	54	87	79	749
% of critical suppliers that were screened using environmental and social criteria		73%	54%	84%	39%	86%	63%	72%

(1) Suppliers assessed in any of these mines are in the category of critical tier 1 suppliers (high-risk and medium-risk suppliers).

(2) Critical supplier (high and medium risk) is determined through an assessment of factors including transaction amounts, the nature of goods or services supplied, the contractor's record of compliance, and exposure to corruption risks.

(3) Data includes the assessment of all the existing and new critical suppliers at the Company in an effort to standardize the process that was implemented in 2020.

(4) Since the implementation of the supplier due diligence software in 2020, Pan American Silver initiates due diligence as early as possible in the development of a new relationship with a supplier

TCFD PHYSICAL RISKS TABLE

MODELLING PREDICTED CHANGES TO TEMPERATURE AND PRECIPITATION - POST CLOSURE SCENARIOS

Facility	Country	Current Water Requirement	Climate Change Scenario	Year	Predicted Change in Temperature	Predicted Change in Precipitation	Water Risk Atlas Results (Projected Change in Water Supply from Baseline)	Estimated Future Water Availability	Information Source	Comments	Management Strategy
Timmins West and Bell Creek	Canada	Surplus	RCP 2.6	2080's	+1.8 °C	+5%	-	Decrease	OCDP Online Tool		
			RCP 4.5		+3.1 °C	+7%	-				
			RCP 8.5		+5.4 °C	+13%	-				
Dolores	Mexico	Balanced, though a surplus is expected with the growth of the leach pad	-	2030	-	-	Near Normal to a 1.2x Decrease	Decrease	WRA Tool	Estimates of Temperature and Precipitation are based on interpretation of IPCC figures	
			-	2040	-	-	1.2x Decrease		WRA Tool		
			RCP 2.6	2100	+1.0 °C	Little to No Change	-		IPCC 2014 Chapter 26 - North America		
			RCP 8.5		+5.0 °C		-				
Alamo Dorado	Mexico	Mine is Closed	-	2030	-	-	1.2x Increase to Near Normal	Decrease	WRA Tool	Estimates of Temperature and Precipitation are based on interpretation of IPCC figures	Conduct a sensitivity analysis of plus 10-20% on the design flood magnitude for mine closure planning.
			-	2040	-	-	Near Normal to 1.2x Decrease		WRA Tool		
			RCP 2.6	2100	+1.0 °C	Little to No Change	-		IPCC 2014 Chapter 26 - North America		
			RCP 8.5		+5.0 °C		-				
La Colorada	Mexico	Surplus	-	2030	-	-	Near Normal to 1.2x Decrease	Decrease	WRA Tool	Estimates of Temperature and Precipitation are based on interpretation of IPCC figures	Constantly monitor water availability and water use reduction and recycling opportunities where drought is an issue.
			-	2040	-	-	1.2x Decrease		WRA Tool		
			RCP 2.6	2100	+1.0 °C	Little to No Change	-		IPCC 2014 Chapter 26 - North America		
			RCP 8.5		+4.5 °C		-				
Escobal	Guatemala	Surplus	-	2030	-	-	Near Normal	Little to no change	WRA Tool		
			-	2040	-	-	Near Normal		WRA Tool		
			A1B	2100	+3 °C to +5 °C	-5 mm/day , while another model notes the change to be around -10% to -30%	-		IPCC 2014 Chapter 27 - Central and South America		
			A2		+3 °C to +6 °C		24% to -48%				

Facility	Country	Current Water Requirement	Climate Change Scenario	Year	Predicted Change in Temperature	Predicted Change in Precipitation	Water Risk Atlas Results (Projected Change in Water Supply from Baseline)	Estimated Future Water Availability	Information Source	Comments	Management Strategy
Shahuindo	Peru	Deficit, though a surplus is expected with the growth of the leach pad	-	2030	-	-	1.2x Increase	Increase	WRA Tool	The IPCC report presents contradictory results for precipitation under the A1B scenario, with one referenced report presenting a decrease and another presenting an increase.	Conduct a sensitivity analysis of plus 10-20% on the design flood magnitude for mine closure planning. Constantly monitor water availability and water use reduction and recycling opportunities where drought is an issue.
			-	2040	-	-	1.2x Increase		WRA Tool		
			A1B	2100	+2.0°C to +4.5°C	-20% to -30%, while another model suggests +1 mm to + 3 mm/day	-	Little to no change	IPCC 2014 Chapter 27 - Central and South America		
			A2		>3°C	-10% to -30%	-				
La Arena	Peru	Surplus	-	2030	-	-	1.2x Increase	Increase	WRA Tool		
			-	2040	-	-	1.2x Increase		WRA Tool		
			A1B	2100	+2.0°C to +4.5°C	-20% to -30%, while another model suggests +1 mm to + 3 mm/day	-	Decrease	IPCC 2014 Chapter 27 - Central and South America		
			A2		>3°C	-10% to -30%	-				
Huaron	Peru	Surplus	-	2030	-	-	1.2x Increase to 1.4x Increase	Increase	WRA Tool		
			-	2040	-	-	1.4x Increase		WRA Tool		
			A1B	2100	+2.0°C to +4.5°C	-20% to -30%, while another model suggests +1 mm to + 3 mm/day	-	Decrease	IPCC 2014 Chapter 27 - Central and South America		
			A2		>3°C	-10% to -30%	-				
Morococho	Peru	Surplus	-	2030	-	-	Near Normal	Little to no change	WRA Tool		
			-	2040	-	-	Near Normal		WRA Tool		
			A1B	2100	+2.0°C to +4.5°C	-20% to -30%, while another model suggests +1 mm to + 3 mm/day	-	Decrease	IPCC 2014 Chapter 27 - Central and South America		
			A2		>3°C	-10% to -30%	-				

Facility	Country	Current Water Requirement	Climate Change Scenario	Year	Predicted Change in Temperature	Predicted Change in Precipitation	Water Risk Atlas Results (Projected Change in Water Supply from Baseline)	Estimated Future Water Availability	Information Source	Comments	Management Strategy
San Vicente	Bolivia	Deficit	-	2030	-	-	Near Normal to 1.2x Increase	Increase	WRA Tool		
			-	2040	-	-	Near Normal to 1.4x Increase		WRA Tool		
			A1B	2100	+2.0°C to +4.5°C	-20% to -30%, while another model suggests +1 mm to +3 mm/day	-	Decrease	IPCC 2014 Chapter 27 - Central and South America		
			A2		>3°C	-10% to -30%	-				
Navidad	Argentina	Deficit during construction, then the mine is expected to operate in a surplus	-	2030	-	-	1.2x Decrease	Decrease	WRA Tool		
			-	2040	-	-	1.2x Decrease		WRA Tool		
			A1B	2100	+2 °C to +4 °C	+20 % to +30% while another model suggests +0.3 mm/day to +2.0 mm/day	-	Decrease	IPCC 2014 Chapter 27 - Central and South America		
			A2		+3 °C to +4.5 °C	+0.5 to +1 mm/day	-				
Manantial Espejo	Argentina	Surplus	-	2030	-	-	1.2x Decrease	Decrease	WRA Tool		
			-	2040	-	-	1.2x Decrease		WRA Tool		
			A1B	2100	+2°C to +4 °C	+20 % to +30% while another model suggests +0.3 mm/day to +2.0 mm/day	-	Increase	IPCC 2014 Chapter 27 - Central and South America		
			A2		+3 °C to +4.5 °C	-	-				

GRI INDEX

Statement of use	Pan American Silver has reported in accordance with the GRI Standards for the period January 1 - December 31, 2022
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standard	GRI G4 Mining & Metals Sector Supplement

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
GENERAL DISCLOSURES					
GRI 2: General Disclosures 2021	2-1 Organizational details	About Pan American Silver Annual Report Annual Information Form			
	2-2 Entities included in the organization’s sustainability reporting	About this Report			
	2-3 Reporting period, frequency and contact point	About this Report			
	2-4 Restatements of information	About this Report			
	2-5 External assurance	About this Report			
	2-6 Activities, value chain and other business relationships	About Pan American Silver Annual Report Annual Information Form			
	2-7 Employees	GRI & SASB Data Tables			
	2-8 Workers who are not employees	GRI & SASB Data Tables			
	2-9 Governance structure and composition	Sustainability Governance Management Information Circular			
	2-10 Nomination and selection of the highest governance body	Management Information Circular			
	2-11 Chair of the highest governance body	Management Information Circular Mandate of the Chair of the Board			
	2-12 Role of the highest governance body in overseeing the management of impacts	Sustainability Governance Management Information Circular Audit Committee Charter			
	2-13 Delegation of responsibility for managing impacts	Sustainability Governance			

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
GRI 2: General Disclosures 2021	2-14 Role of the highest governance body in sustainability reporting	Communities and Sustainable Development Committee Charter Sustainability Governance			
	2-15 Conflicts of interest	Management Information Circular Audit Committee Charter			
	2-16 Communication of critical concerns	Business Ethics - Our Performance			
	2-17 Collective knowledge of the highest governance body	Management Information Circular			
	2-18 Evaluation of the performance of the highest governance body	Management Information Circular Audit Committee Charter			
	2-19 Remuneration policies	Management Information Circular Human Resources and Compensation Committee Charter			
	2-20 Process to determine remuneration	Management Information Circular			
	2-21 Annual total compensation ratio	Not reported	Ratio of the annual total compensation for the organization's highest-paid individual to the median annual total compensation for all employees.	Information unavailable/incomplete	There would be no accurate or meaningful way of determining the real pay ratio described and such a comparison would be of little utility given the multiple jurisdictions the Company operates in (which each have different costs of living, taxation, compensation and benefits practices, currency considerations, inflation rates, etc.). Trying to normalize all such circumstances and external factors to provide an accurate comparison would not be feasible.
	2-22 Statement on sustainable development strategy	President's Message Chair's Message			
	2-23 Policy commitments	ESG Management Approach Human Rights Management Business Ethics - Our Approach Management Information Circular			
2-24 Embedding policy commitments	ESG Management Approach Human Rights Management Business Ethics - Our Performance				

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
GRI 2: General Disclosures 2021	2-25 Processes to remediate negative impacts	ESG Management Approach Human Rights Management Relationships with Communities and Indigenous Peoples - Our Approach			
	2-26 Mechanisms for seeking advice and raising concerns	Business Ethics - Our Performance			
	2-27 Compliance with laws and regulations	GRI & SASB Data Tables	The total number of significant instances of non-compliance with laws and regulations during the reporting period other than those related to environmental non-compliance.	Information unavailable/incomplete	We are currently only reporting environmental non-compliances, but we plan to expand our disclosure next year to include all significant instances of non-compliance with laws and regulations (if any).
	2-28 Membership associations	ESG Management Approach GRI & SASB Data Tables			
	2-29 Approach to stakeholder engagement	Engaging with Communities of Interest Relationships with Communities and Indigenous Peoples - Our Approach Security Management - Our Approach			
	2-30 Collective bargaining agreements	GRI & SASB Data Tables			
Topic-Specific Disclosures					
GRI 3: Material Topics 2021	3-1 Process to determine material topics	Materiality Process			
	3-2 List of material topics	Material Topics			
Economic performance					
GRI 3: Material Topics 2021	3-3 Management of material topics	Socio-economic Contributions – Our Approach			
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	Socio-economic Contributions – Our Performance GRI & SASB Data Tables			
	201-2 Financial implications and other risks and opportunities due to climate change	Climate, Energy and Greenhouse Gas Emissions Reporting Annual Information Form Annual Report			

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
Market presence					
GRI 3: Material Topics 2021	3-3 Management of material topics		Inclusion and Diversity - Our Approach		
GRI 202: Market Presence 2016	202-2 Proportion of senior management hired from the local community		Inclusion and Diversity - Our Performance GRI & SASB Data Tables		
Indirect economic impacts					
GRI 3: Material Topics 2021	3-3 Management of material topics		Socio-economic Contributions – Our Approach		
Procurement practices					
GRI 3: Material Topics 2021	3-3 Management of material topics		Socio-economic Contributions – Our Approach		
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers		Socio-economic Contributions – Our Performance GRI & SASB Data Tables		
Anti-corruption					
GRI 3: Material Topics 2021	3-3 Management of material topics		Business Ethics - Our Approach		
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption		Business Ethics - Our Performance		
	205-3 Confirmed incidents of corruption and actions taken		Business Ethics - Our Performance		
Energy					
GRI 3: Material Topics 2021	3-3 Management of material topics		ESG Management Approach Climate, Energy and Greenhouse Gas Emissions Reporting		
GRI 302: Energy 2016	302-1 Energy consumption within the organization		Climate, Energy and Greenhouse Gas Emissions Reporting GRI & SASB Data Tables		
Water and effluents					
GRI 3: Material Topics 2021	3-3 Management of material topics		ESG Management Approach Water Stewardship - Our Approach		
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource		Water Stewardship - Our Approach Water Stewardship - Our Performance		

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
Water and effluents					
GRI 303: Water and Effluents 2018	303-2 Management of water discharge-related impacts	Water Stewardship - Our Approach Water Stewardship - Our Performance			
	303-3 Water withdrawal	Water Stewardship - Our Performance GRI & SASB Data Tables			
	303-4 Water discharge	Water Stewardship - Our Performance GRI & SASB Data Tables			
	303-5 Water consumption	Water Stewardship - Our Performance GRI & SASB Data Tables			
Biodiversity					
GRI 3: Material Topics 2021	3-3 Management of material topics	ESG Management Approach Biodiversity - Our Approach GRI & SASB Data Tables			
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Biodiversity - Our Performance			
	304-2 Significant impacts of activities, products and services on biodiversity	Biodiversity - Our Performance			
	304-3 Habitats protected or restored	Biodiversity - Our Performance GRI & SASB Data Tables			
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	Biodiversity - Our Performance			
GRI G4: Mining & Metals Sector Supplement	G4 MM1 Amount of land (owned or leased, and managed for production activities or extractive use) disturbed or rehabilitated	Biodiversity - Our Performance GRI & SASB Data Tables			
GRI G4: Mining & Metals Sector Supplement	G4 MM2 Total sites requiring biodiversity management plans	Biodiversity - Our Performance			

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
Emissions					
GRI 3: Material Topics 2021	3-3 Management of material topics	ESG Management Approach			
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Climate, Energy and Greenhouse Gas Emissions Reporting GRI & SASB Data Tables			
	305-2 Energy indirect (Scope 2) GHG emissions	Climate, Energy and Greenhouse Gas Emissions Reporting GRI & SASB Data Tables			
	305-3 Other indirect (Scope 3) GHG emissions	Climate, Energy and Greenhouse Gas Emissions Reporting GRI & SASB Data Tables			
GRI 305: Emissions 2016	305-4 GHG emissions intensity	Climate, Energy and Greenhouse Gas Emissions Reporting			
	305-5 Reduction of GHG emissions	Climate, Energy and Greenhouse Gas Emissions Reporting			
Waste					
GRI 3: Material Topics 2021	3-3 Management of material topics	ESG Management Approach Tailings Facilities and Waste Management - Our Approach			
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	Tailings Facilities and Waste Management - Our Performance			
	306-2 Management of significant waste-related impacts	Tailings Facilities and Waste Management - Our Approach Tailings Facilities and Waste Management - Our Performance			
	306-3 Waste generated	Tailings Facilities and Waste Management - Our Performance GRI & SASB Data Tables			
GRI G4: Mining & Metals Sector Supplement	MM3 Total amounts of overburden, rock, tailings, and sludges and their associated risks	GRI & SASB Data Tables			

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
Employment					
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Capital Development - Our Approach Inclusion and Diversity - Our Approach			
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Human Capital Development - Our Performance Inclusion and Diversity - Our Performance GRI & SASB Data Tables			
Labour/management relations					
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Capital Development - Our Approach			
GRI G4: Mining & Metals Sector Supplement	MM4 Number of strikes and lockouts exceeding one week's duration, by country	Human Capital Development - Our Performance GRI & SASB Data Tables			
Occupational health and safety					
GRI 3: Material Topics 2021	3-3 Management of material topics	Health & Safety – Our Approach			
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	Health & Safety – Our Approach			
	403-2 Hazard identification, risk assessment, and incident investigation	Health & Safety – Our Approach Health & Safety – Our Performance			
	403-3 Occupational health services	Health & Safety – Our Approach Health & Safety – Our Performance			
	403-4 Worker participation, consultation, and communication on occupational health and safety	Health & Safety – Our Approach			
	403-5 Worker training on occupational health and safety	Health & Safety – Our Approach Health & Safety – Our Performance			
	403-6 Promotion of worker health	Human Capital Development - Our Performance			
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Health & Safety – Our Approach Health & Safety – Our Performance			
	403-9 Work-related injuries	Health & Safety – Our Performance GRI & SASB Data Tables			

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
Training and education					
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Capital Development – Our Approach			
Diversity and equal opportunity					
GRI 3: Material Topics 2021	3-3 Management of material topics	Inclusion and Diversity - Our Approach			
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	Inclusion & Diversity – Our Performance GRI & SASB Data Tables			
Non-discrimination					
GRI 3: Material Topics 2021	3-3 Management of material topics	Inclusion and Diversity - Our Approach			
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	Inclusion & Diversity – Our Performance	Corrective actions taken	Confidentiality constraints	In 2022, three allegations of workplace discrimination were made, all of which were resolved in a timely manner. For confidentiality reason, we do not disclose the details of these allegations.
Freedom of association and collective bargaining					
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Rights Management Human Capital Development - Our Performance			
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	As of December 31, 2022, the right to exercise freedom of association and collective bargaining was not a significant risk for any of our operations or high-risk suppliers.			
Child labour					
GRI 3: Material Topics 2021	3-3 Management of material topics	ESG Management Approach Human Rights Management Security Management			
GRI 408: Child Labour 2016	408-1 Operations and suppliers at significant risk for incidents of child labour	As members of MAC, we have committed to respecting the rights of our workers and not engaging in or supporting the practice of child labour. As of December 31, 2022, child labour was not a significant risk for any of our operations or our high-risk suppliers.			

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
Forced or compulsory labour					
GRI 3: Material Topics 2021	3-3 Management of material topics		ESG Management Approach		
			Human Rights Management		
GRI 409: Forced or Compulsory Labour 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labour		As members of MAC, we have committed to respecting the rights of our workers and not engaging in or supporting the practice forced labour. As of December 31, 2022, forced labour was not at a significant risk for any of our operations or high-risk suppliers.		
Security practices					
GRI 3: Material Topics 2021	3-3 Management of material topics		Security Management - Our Approach		
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures		Security Management - Our Performance GRI & SASB Data Tables		
Rights of indigenous peoples					
GRI 3: Material Topics 2021	3-3 Management of material topics		Relationships with Communities and Indigenous Peoples - Our Approach		
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples		Relationships with Communities and Indigenous Peoples - Our Performance		
Local communities					
GRI 3: Material Topics 2021	3-3 Management of material topics		ESG Management Approach Relationships with Communities and Indigenous Peoples - Our Approach Socio-economic Contributions - Our Approach		
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs		Relationships with Communities and Indigenous Peoples - Our Performance Socio-economic Contributions - Our Performance		
	413-2 Operations with significant actual and potential negative impacts on local communities		ESG Management Approach All material topics		

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
GRI G4: Mining & Metals Sector Supplement	MM5 Total number of operations taking place in or adjacent to Indigenous Peoples' territories, and number and percentage of operations or sites where there are formal agreements with Indigenous Peoples' communities	Relationships with Communities and Indigenous Peoples - Our Performance GRI & SASB Data Tables			
	MM6 Numbers and description of significant disputes relating to land use, customary rights of local communities, and indigenous people	Relationships with Communities and Indigenous Peoples - Our Performance			
	MM7 Grievance mechanisms used to resolve disputes relating to land use, customary rights of local communities, and indigenous people	Relationships with Communities and Indigenous Peoples - Our Performance			
Artisanal and small-scale mining					
GRI G4: Mining & Metals Sector Supplement	MM8 Number and percentage of company operating sites where artisanal and small-scale mining takes place on, or adjacent to, the site	Relationships with Communities and Indigenous Peoples - Our Performance			
Relocation					
GRI G4: Mining & Metals Sector Supplement	MM9 Sites where resettlement took place, the number of households resettled in each, and how their livelihoods were affected in the process	Relationships with Communities and Indigenous Peoples - Our Performance GRI & SASB Data Tables			
Closure planning					
GRI G4: Mining & Metals Sector Supplement	MM10 Number and percentage of operations with closure plans	Mine Closure - Our Performance Annual Report			

SASB INDEX

TOPIC	SASB CODE AND ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	REFERENCE	COMMENTARY
Greenhouse Gas Emissions	EM-MM-110a.1 Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Quantitative	Metric tons (t) CO ₂ Eq Percentage (%)	GRI & SASB Data Tables	
	EM-MM-110a.2 Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and analysis	N/A	Climate, Energy and Greenhouse Gas Emissions Reporting	
Air Quality	EM-MM-120a.1 Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N2O), (3) SOx, (4) particulate matter (PM10), (5) mercury (Hg), (6) lead (Pb), and (7) volatile organic compounds (VOCs)	Quantitative	Metric tons (t)	(1) - (7) GRI & SASB Data Tables	
Energy Management	EM-MM-130a.1 (1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Quantitative	Gigajoules (GJ)	(1) - (2) GRI & SASB Data Tables	
Water Management	EM-MM-140a.1 (1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Quantitative	Thousand cubic meters (m ³) Percentage (%)	(1) GRI & SASB Data Tables (2) GRI & SASB Data Tables	
	EM-MM-140a.2 Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Quantitative	Number	Water Stewardship - Our Performance	
Waste & Hazardous Materials Management	EM-MM-150a.4 Total weight of non-mineral waste generated	Quantitative	Metric tons (t)	GRI & SASB Data Tables	
	EM-MM-150a.5 Total weight of tailings produced	Quantitative	Metric tons (t)	GRI & SASB Data Tables	
	EM-MM-150a.6 Total weight of waste rock generated	Quantitative	Metric tons (t)	GRI & SASB Data Tables	
	EM-MM-150a.7 Total weight of hazardous waste generated	Quantitative	Metric tons (t)	GRI & SASB Data Tables	
	EM-MM-150a.8 Total weight of hazardous waste recycled	Quantitative	Metric tons (t)	GRI & SASB Data Tables	

TOPIC	SASB CODE AND ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	REFERENCE	COMMENTARY
Waste & Hazardous Materials Management	EM-MM-150a.9 Number of significant incidents associated with hazardous materials and waste management	Quantitative	Number	Tailings Facilities and Waste Management - Our Performance	
	EM-MM-150a.10 Description of waste and hazardous materials management policies and procedures for active and inactive operations	Discussion and analysis	N/A	Tailings Facilities and Waste Management - Our Approach Tailings Facilities and Waste Management - Our Performance	
Biodiversity Impacts	EM-MM-160a.1 Description of environmental management policies and practices for active sites	Discussion and analysis	N/A	ESG Management Approach Biodiversity - Our Approach Climate, Energy and Greenhouse Gas Emissions Reporting Mine Closure - Our Approach Tailings Facilities and Waste Management - Our Approach Water Stewardship - Our Approach	
	EM-MM-160a.2 Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, (3) under treatment or remediation	Quantitative	Percentage (%)	(1) - (3) Tailings Facilities and Waste Management - Our Performance	
	EM-MM-160a.3 Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Quantitative	Percentage (%)	(1) - (2) Biodiversity - Our Performance	Zero. We do not have any operations or mineral reserves in or near endangered species habitat, areas designated as having high biodiversity value, or having protected conservation status
Security, Human Rights & Rights of Indigenous Peoples	EM-MM-210a.1 Percentage of (1) proved and (2) probable reserves in or near areas of conflict	Quantitative	Percentage (%)	(1) - (2) GRI & SASB Data Tables	
	EM-MM-210a.2 Percentage of (1) proved and (2) probable reserves in or near indigenous land	Quantitative	Percentage (%)	(1) - (2) GRI & SASB Data Tables	

TOPIC	SASB CODE AND ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	REFERENCE	COMMENTARY
Security, Human Rights & Rights of Indigenous Peoples	EM-MM-210a.3 Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	Discussion and Analysis	N/A	Risk Management ESG Management Approach Human Rights Management Relationships with Communities and Indigenous Peoples - Our Approach Relationships with Communities and Indigenous Peoples - Our Performance Socio-economic Contributions - Our Approach Inclusion & Diversity - Our Approach Inclusion & Diversity - Our Performance Mine Closure - Our Approach Business Ethics - Our Approach	
Community Relations	EM-MM-210b.1 Discussion of process to manage risks and opportunities associated with community rights and interests	Discussion and Analysis	N/A	Risk Management ESG Management Approach Human Rights Management Relationships with Communities and Indigenous Peoples - Our Approach Socio-economic Contributions - Our Approach Water Stewardship – Our Approach Tailings and Waste Management – Our Approach Mine Closure - Our Approach Business Ethics - Our Approach	
	EM-MM-210b.2 Number of non-technical delays	Quantitative	Number, Days	365 days for Escobal 300 days for Morococho	<p>The Escobal mine is currently on care and maintenance while the government of Guatemala conducts the court-mandated International Labour Organization (ILO) 169 consultation process.</p> <p>The Morococho mine was placed on care and maintenance in late February 2022 as a requirement to move the processing facilities to allow for the expansion of a neighboring mine.</p>

TOPIC	SASB CODE AND ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	REFERENCE	COMMENTARY
Labour Relations	EM-MM-310a.1 Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees	Quantitative	Percentage (%)	GRI & SASB Data Tables	
	EM-MM-310a.2 Number and duration of strikes and lockouts	Quantitative	Number, Days	GRI & SASB Data Tables	
Workforce Health & Safety	EM-MM-320a.1 (1) MSHA all-incidence rate, (2) fatality rate, (3) near miss frequency rate (NMFR) and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees	Quantitative	Rate	(1) - (2) GRI & SASB Data Tables (3) Not reported (4) Health & Safety - Our Performance	(3) PAAS does not collect near miss frequency rate (NMFR) data at the corporate level. This data is collected and managed at the site level. (4) We provide the total number of training hours provided to all employees and contractors. We do not provide average hours of health, safety, and emergency response training, or breakdown training between employees and contractors.
Business Ethics and Transparency	EM-MM-510a.1 Description of the management system for prevention of corruption and bribery throughout the value chain	Quantitative	N/A	Risk Management Business Ethics - Our Approach Business Ethics - Our Performance	
	EM-MM-510a.2 Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Quantitative	Metric tons (t) saleable	GRI & SASB Data Tables	Zero. Pan American Silver does not operate in any of the countries designated among the 20 lowest rankings in the 2021 Transparency International Corruption Perception Index.
Tailings Storage Facilities Management	EM-MM-540a.1 Tailings storage facility inventory table: (1) facility name, (2) location, (3) ownership status, (4) operational status, (5) construction method, (6) maximum permitted storage capacity, (7) current amount of tailings stored, (8) consequence classification, (9) date of most recent independent technical review, (10) material findings, (11) mitigation measures, (12) site-specific EPRP	Quantitative	Various	(1) - (12) GRI & SASB Data Tables	
	EM-MM-540a.2 Summary of tailings management systems and governance structure used to monitor and maintain the stability of tailings storage facilities	Discussion and Analysis	N/A	Tailings and Heap Leach Facilities Management - Our Approach	
	EM-MM-540a.3 Approach to development of Emergency Preparedness and Response Plans (EPRPs) for tailings storage facilities	Discussion and Analysis	N/A	Tailings and Heap Leach Facilities Management - Our Approach	
Scale of the Business	EM-MM-000.A Production of (1) metal ores and (2) finished metal products	Quantitative	Metric tons (t) saleable	(1) - (2) GRI & SASB Data Tables	
	EM-MM-000.B Total number of employees, percentage contractors	Quantitative	Number Percentage (%)	GRI & SASB Data Tables Human Capital Development - Our Performance	

TCFD INDEX

TCFD RECOMMENDATION		REFERENCE
Governance		
Disclose the organization's governance around climate-related risks and opportunities.	a) Describe the board's oversight of climate-related risks and opportunities.	Climate, Energy and Greenhouse Gas Emissions Reporting – Governance Sustainability Governance – Governance Structure Risk Management – Risk Assessments
	b) Describe management's role in assessing and managing climate-related risks and opportunities.	Climate, Energy and Greenhouse Gas Emissions Reporting – Governance Sustainability Governance – Governance Structure Risk Management – Risk Assessments
Strategy		
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	Climate, Energy and Greenhouse Gas Emissions Reporting – Climate Change Strategy Climate, Energy and Greenhouse Gas Emissions Reporting – Climate Risks and Opportunities
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Climate, Energy and Greenhouse Gas Emissions Reporting – Climate Change Strategy Climate, Energy and Greenhouse Gas Emissions Reporting – Climate Risks and Opportunities
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Climate, Energy and Greenhouse Gas Emissions Reporting – Climate Change Strategy Appendix – TCFD Physical Risks Table
Risk Management		
Disclose how the organization identifies, assesses, and manages climate-related risks.	a) Describe the organization's processes for identifying and assessing climate-related risks.	Climate, Energy and Greenhouse Gas Emissions Reporting – Climate Risks and Opportunities Climate, Energy and Greenhouse Gas Emissions Reporting – Initiatives Risk Management – Risk Assessments
	b) Describe the organization's processes for managing climate-related risks.	Climate, Energy and Greenhouse Gas Emissions Reporting – Climate Risks and Opportunities Climate, Energy and Greenhouse Gas Emissions Reporting – Initiatives
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	Climate, Energy and Greenhouse Gas Emissions Reporting – Climate Risks and Opportunities Risk Management – Risk Assessments
Metrics and Targets		
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Climate, Energy and Greenhouse Gas Emissions Reporting – Performance-Metrics and Targets
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	Climate, Energy and Greenhouse Gas Emissions Reporting – Performance-Metrics and Targets GRI & SASB Data Tables
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Climate, Energy and Greenhouse Gas Emissions Reporting – Performance-Metrics and Targets Goals and Performance – 2023 Goals GRI & SASB Data Tables – Environment 2022 Performance and 2023 Goals by Operating Mine

FORWARD-LOOKING STATEMENTS

This report contains “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995, and “forward-looking information” within the meaning of applicable Canadian provincial securities laws. All statements, other than statements of historical fact, are forward-looking statements or forward-looking information. Forward-looking statements or information in this report relate to, among other things: whether our approach to sustainability will be successful, and whether we will be able to achieve our goals and objectives related to, among other things, future financial or operational performance; sustainable development, safety, social performance, stakeholder engagement and relationships, human capital development, inclusion and diversity, environmental and tailings facility management, and mitigation of climate change (including with respect to greenhouse gas emissions, energy efficiency, and water management); our ability to ensure that third parties adhere to our policies and/or meet our expectations and our ability to enforce the same; that our compliance, safety, environmental and other risk management programs will continue to be effective, or that any of our programs will be as effective as anticipated at eliminating risks related to our business; the duration and effect of the license suspensions relating to the Escobal mine, as well as the court-mandated ILO 169 consultation process in Guatemala, and the timing and completion thereof; our future expectations with respect to closure plans; our future expectations with respect to climate and

the environment, and the potential future impacts on our mines and other activities, including as it relates to water availability and usage; our ability to successfully complete any capital projects and the expected economic or operational results derived from those projects; and the benefits, diversification and synergies following the completion of the Yamana Transaction.

These forward-looking statements and information reflect the current views of Pan American Silver with respect to future events and are necessarily based upon a number of assumptions that, while considered reasonable by Pan American Silver, are inherently subject to significant operational, business, economic and regulatory uncertainties and contingencies, and such uncertainty generally increases with longer-term forecasts and outlook. These assumptions include: future changes in the environment and climate that may be unanticipated and the impacts on our business, including with respect to water availability and usage; currency exchange rates remaining as estimated; availability of funds for Pan American Silver’s projects and future cash requirements; capital, decommissioning and reclamation estimates; prices for energy inputs, labour, materials, supplies and services (including transportation); no labour-related disruptions at any of our operations; all necessary permits, licenses and regulatory approvals for our operations are received in a timely manner; our ability to secure and maintain title and ownership to properties and the surface rights necessary for our operations and activities; and our ability

to comply with environmental, health and safety, and other laws. The foregoing list of assumptions is not exhaustive.

Forward-looking statements and information involve many known and unknown risks, uncertainties and other factors that could cause actual results or performance to be materially different from the results or performance that are or may be expressed or implied by such forward-looking statements or information, including, but not limited to, factors, such as: metal price fluctuations, fluctuation in the costs of energy, labour, materials and other inputs, fluctuations in currency markets and exchange rates, operational risks and hazards inherent with the business of mining (including environmental accidents and hazards, industrial accidents, and severe weather events); risks relating to the credit worthiness, financial condition or business practices of suppliers, refiners and other parties with whom Pan American Silver does business; inadequate insurance, or inability to obtain insurance, to cover these risks and hazards; employee relationships with, and claims by, local communities and Indigenous Peoples; our ability to obtain all necessary permits, licenses and regulatory approvals in a timely manner; changes in laws, regulations and government practices, as well as other legal or economic developments, in the jurisdictions where we may carry on business, including legal restrictions relating to mining; risks relating to the court-mandated ILO 169 consultation process in Guatemala; the duration and effects of COVID-19 and any other

pandemics on our operations and workforce; and those factors identified under the heading “Risks Related to Our Business” in Pan American Silver’s most recent Form 40-F and Annual Information Form filed with the U.S. Securities and Exchange Commission and with Canadian provincial securities regulatory authorities, respectively. Pan American Silver has attempted to identify important factors, but there may be other factors that cause results not to be as anticipated, estimated, intended or described. Investors are cautioned against attributing undue certainty or reliance on forward-looking statements and information. Pan American Silver does not intend, nor assume, any obligation to update or revise forward-looking statements and information except to the extent required by applicable law.



REPORT FEEDBACK

Any feedback regarding this report is welcome. Please direct your comments or questions to: Brent Bergeron, Senior Vice President, Corporate Affairs and Sustainability; Monica Moretto, Vice President of Social Sustainability, Inclusion and Diversity; or Christian Del Valle, Senior Director Corporate Affairs and ESG Engagement at csr@panamericansilver.com.