



2021 SUSTAINABILITY REPORT



PAN AMERICAN
— SILVER —

TABLE OF CONTENTS

Our Company at a Glance	3
About this Report	4
Highlights	6
President and CEO's Message	7
Board Chair's Message	9
Our Sustainability Journey	11
About Pan American Silver	14
Engaging with Communities of Interest	17
Materiality	20
Goals and Performance	22
Sustainability Governance	28
Risk Management	30
ESG Management Approach	34
Performance Monitoring	39
ENVIRONMENT	
Water Stewardship	47
Tailings Facilities and Waste Management	52
Climate, Energy and Greenhouse Gas Emissions Reporting	58
Biodiversity	75
Mine Closure	79

SOCIAL

Health and Safety	83
Relationships with Communities and Indigenous Peoples	88
Socio-Economic Contributions	98
Human Capital Development	108
Inclusion and Diversity	112

GOVERNANCE

Business Ethics	120
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APPENDIX

United Nations Global Compact Principles	126
GRI & SASB Data Tables	128
TCFD Physical Risks Tables	155
GRI Index	158
SASB Index	169
TCFD Index	174
Forward-Looking Statements	176

OUR COMPANY AT A GLANCE

NORTH AMERICA

Corporate Office

Timmins

Dolores

La Colorada
Skarn Deposit

Escobal

(Currently on care
and maintenance)

SOUTH AMERICA

Shahuindo

La Arena

Huaron

Morococha

(Placed on care
and maintenance
in February 2022)

San Vicente

Navidad

Manantial Espejo

- Silver Segment Mining Operations
- Gold Segment Mining Operations
- Development and Advanced Stage Exploration Projects

2021 OPERATING PERFORMANCE

Ag

19.2 Moz

CONSOLIDATED PRODUCTION

\$15.62/oz

GOLD SEGMENT ALL-IN
SUSTAINING COSTS

529 Moz

PROVEN + PROBABLE RESERVES*

2021 OPERATING PERFORMANCE

Au

579.3 koz

CONSOLIDATED PRODUCTION

\$1,214/oz

GOLD SEGMENT ALL-IN
SUSTAINING COSTS

4.2 Moz

PROVEN + PROBABLE RESERVES*

*Complete Reserves and Resources information is available at <https://www.panamericansilver.com/operations/our-operations/reserves-and-resources/>

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 2021 performance.

This report also serves as our United Nations Global Compact Communication on Progress (COP) and demonstrates how we implement the 10 Global Compact Principles into our practices and processes.

Throughout this report, we refer to Pan American Silver Corp. as "Pan American Silver" 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 COIs¹. 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 2021 performance for our 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 their human rights. This report covers our nine mining operations:

Silver segment:

- Huaron in Peru
- La Colorada in Mexico
- Manantial Espejo in Argentina
- Morococha in Peru
- San Vicente in Bolivia



Gold segment:

- Dolores in Mexico²
- La Arena in Peru
- Shahuindo in Peru
- Timmins (Timmins West and Bell Creek) in Canada

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 is in the post-closure phase. 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.

(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) In 2021, Dolores was moved from the Silver Segment to the Gold Segment due to mine sequencing into higher gold grades over the remaining active mine life.

ADDITIONAL DETAILS

Reporting period	Sustainability Report: January 1 to December 31, 2021 Annual Report: January 1 to December 31, 2021
Reporting framework	<p>Pan American Silver is reporting in accordance with the Global Reporting Initiative (GRI) Standards for the period January 1 to December 31, 2021. Information and data relevant to the GRI Mining & Metals Sector Disclosures are included in this report. The GRI index can be found here.</p> <p>This report was prepared in alignment with the Sustainability Accounting Standards Board (SASB) Standard. The SASB index can be found here.</p> <p>It contains information in consideration of the Taskforce on Climate-related Financial Disclosures (TCFD) reporting framework, which is disclosed in the “Climate, Energy and Greenhouse Gas Emissions” section of this report.</p> <p>This report also serves as our annual Communication on Progress for the United Nations Global Compact (UNGC) and documents our implementation of the 10 UNGC Principles. An overview table of Pan American Silver’s Implementation of the 10 UNGC Principles can be found here.</p>
Restatements of information	Any restatements of data from previous reports are identified in the footnotes of the relevant data tables.
Data and assurance	<p>Data was reviewed internally at both on-site and corporate office levels. Certain economic data was extracted from our 2021 audited annual financial statements.</p> <p>Data is reported using the metric system and US dollar currency.</p>
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 .



HIGHLIGHTS

 <p>ZERO SIGNIFICANT ENVIRONMENTAL INCIDENTS</p>	 <p>1,242,545 HOURS OF SAFETY TRAINING IN 2021</p>	 <p>\$11.2 MILLION IN COMMUNITY INVESTMENTS</p>	 <p>11% GHG EMISSION REDUCTION COMPARED TO 2021 BASE CASE</p>	 <p>10% REDUCTION IN WATER USE COMPARED TO 2021 BASE CASE</p>
 <p>SOCIAL MINE CLOSURE STANDARD WAS DEVELOPED</p>	 <p>100% OF EMPLOYEES AND CONTRACTORS RECEIVED TRAINING ON THE FIRST MODULE OF OUR "BUILDING RESPECT TOGETHER" PROGRAM</p>	 <p>37.5% OF OUR BOARD MEMBERS ARE WOMEN, INCLUDING OUR BOARD CHAIR</p>	 <p>85 ACHIEVED NET POSITIVE 85 HECTARES OF REHABILITATED OR RESTORED LAND</p>	

Note: The 2021 base case is our projected 2021 water use, energy use, GHG emissions, and waste generation, as calculated using our life of mine plans adjusted for annual production guidance.

MEMBERSHIP AND 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.

SUSTAINABILITY-LINKED CREDIT FACILITY

In 2021, we renewed and amended our \$500 million credit facility to include a pricing component linked to our ESG performance as assessed by two external ESG ratings agencies—MSCI and S&P Global. We are proud to be the first Canadian mining company to announce a credit facility of this kind. In addition to aligning our ESG performance to our cost of capital, this financial mechanism serves as another driver for continuous improvement of our ESG practices.

Also in 2021, we improved our MSCI rating and S&P Global score, which resulted in a favorable pricing adjustment for a Sustainability-Linked Credit Facility.

For more information, please see the Financial Statements in our 2021 Annual Report, available on our [website](#).

PRESIDENT AND CEO'S MESSAGE

MICHAEL STEINMANN // PRESIDENT AND CEO

Pan American Silver has always been guided by our view that a well-managed mining company employs sustainable business practices, prioritizes the health and safety of its people and communities, and invests in its assets to generate long-term returns for shareholders. We focused on these principles during another year marked by the challenges of the COVID-19 pandemic.

Operating performance and the impact of the COVID-19 pandemic

Latin America continued to be hit hard by the COVID-19 pandemic during 2021, with vaccination programs rolling out later than in North America. Pan American Silver partnered with UNICEF Canada's GiveAVax campaign to provide global equitable access to COVID-19 vaccines through the distribution of vaccines to low- and middle-income countries, with particular emphasis in Peru and Guatemala. We also facilitated access to vaccinations for employees who chose to be vaccinated.

We remained vigilant by adhering to the comprehensive protocols recommended by governments and Pan American Silver health professionals to slow the spread of the virus. The pandemic and these protocols reduced workforce deployment levels, and impacted our production, costs and progress on capital projects.

In 2021, both silver and gold production rose 11% over 2020 levels, with all-in sustaining costs of \$15.62 per ounce for the Silver Segment and \$1,214 per ounce for the Gold Segment.



Improving ESG performance and reporting

Operating in an ethical, responsible, and sustainable manner is reflected in our policies and guidelines that formalize how we must conduct our business. Of utmost importance is the safety of our people, and we are deeply saddened by four fatalities that occurred at our operations during 2021. We are determined to improve safety performance at our narrow vein underground mines where these fatalities occurred. In Peru, we recently completed a third-party assessment of the progress made under a behaviour based safety system. That process has helped identify methods to enhance safety awareness and emphasize a focus on performing work safely in our operations.

We made improvements in our environmental performance in 2021, reducing GHG emissions by 11% and achieving our target of reducing energy consumption by 7% compared to the 2021 base case. We also reduced water consumption by 10% compared to the 2021 base case, and we achieved a net positive impact on vegetation and biodiversity across all our sites.

On the social front, we continue to actively engage with communities to better understand their priorities and to invest in initiatives that will provide them with lasting benefits. At the same time, we are supporting diversity and inclusion within our workforce. We completed the first module of our Building Respect Together program during the year.

In 2021, we published our first report under the UN Global Compact, describing our progress and commitment to the Ten Principles. Our PAS Guatemala subsidiary joined the UN Global Compact at the country level. In addition, we have implemented the United Nations Voluntary Principles on Security and Human Rights standards at all our sites over the past year.

“IN 2021, OUR RATINGS BY THE MAJOR ESG RATING AGENCIES IMPROVED ACROSS THE BOARD COMPARED WITH PRIOR YEARS.”

Our efforts to improve our ESG performance and reporting are being recognized. In 2021, our ratings by the major ESG rating agencies improved across the board compared with prior years.

Outlook for our business

Pan American Silver is in a strong financial position to invest in growth and support returns to shareholders, while generating economic value for the people in the regions where we operate. In 2021, our operations generated \$1,633 million in revenue, of which \$1,310 million was spent in wages, supplies, services and taxes that benefited national, regional and local economies. In addition, the Company distributed \$72 million to shareholders in 2021.

We expect operating performance to improve in 2022 with higher production from operations, as the impact of the COVID-19 pandemic on workforce deployment lessens. Cost pressures, supply chain disruptions and shipment delays are global effects from the pandemic and are likely to persist for some time.

Our diversified portfolio includes the potential for growth. In 2022, we plan further drilling at our La Colorada Skarn project, and to advance engineering studies to consider development of the deposit through larger, bulk mining methods.

The ILO 169 consultation process for the already built Escobal mine in Guatemala began in 2021, with a series of pre-consultation meetings held over the course of the year and into 2022. The Ministry of Energy and Mines in Guatemala is leading the consultation process with the Xinka Indigenous peoples and our PAS Guatemala subsidiary is a participant in this process. Completion of the consultation is required for reinstatement of the mining license at Escobal. The timing for completion of the consultation process has not yet been determined.

Our Navidad project remains a long-term development project with a large silver resource. Development of this project requires zonification under legislation that would allow open pit mining in certain zones in the province of Chubut, Argentina.

Industrial demand for silver is expected to grow because it is a necessary component in the manufacture of solar panels, electric vehicles and other electronics.⁽³⁾ With a strong outlook for silver demand in the transition to an electrified, low-carbon economy, and some of the best projects in the world to deliver meaningful growth in silver production, Pan American Silver offers investors a unique opportunity to invest in silver.

In closing, I would like to thank Pan American Silver founder and Chair, Ross Beaty, who retired from the Board of Directors in 2021, for his contributions and counsel over the years. We welcomed Gillian Winckler as the new Board Chair, who has a strong background in mining, finance and ESG matters.

I would also like to thank our employees and contractors across the Pan American Silver organization for their commitment and resilience during another year challenged by the COVID-19 pandemic.

Pan American Silver has the team, the assets and the vision to continue creating value for our stakeholders.



Michael Steinmann, President and CEO

May 5, 2022

**“I WOULD ALSO LIKE TO
THANK OUR EMPLOYEES
AND CONTRACTORS
ACROSS THE PAN AMERICAN
SILVER ORGANIZATION
FOR THEIR COMMITMENT
AND RESILIENCE DURING
ANOTHER YEAR CHALLENGED
BY THE COVID-19 PANDEMIC.”**

(3) Silver Institute and CRU International Limited, September 2021

BOARD CHAIR'S MESSAGE

GILLIAN WINCKLER // BOARD CHAIR

This is my first Sustainability Report letter to you as the Chair of Pan American Silver's Board of Directors. I was honoured to succeed Ross Beaty as Chair of the Company when he retired in May 2021. Ross held the role of Chair since the inception of Pan American Silver in 1994 and was instrumental in building a company that is a world leader in silver production, with a reputation for excellence and a culture of social responsibility and environmental stewardship. The values and vision of Ross and Pan American Silver are ones that are close to my heart and, as the Chair of Pan American Silver, I look forward to building on our strengths, as we continue to mine sustainably and deliver value to our stakeholders.



The past year was challenging for Pan American Silver as COVID-19 continued to impact all our lives, both physically and emotionally. The Latin American countries where we operate were hit particularly hard by the pandemic and our employees, contractors and communities faced incredibly difficult times. The extensive measures that we put in place early in 2020 to protect and support our workers and their communities, as well as the business, were maintained throughout 2021. We are fortunately in a different place now than we were a year ago, as vaccination rates are rising throughout Latin America and better treatment options exist. We are hopeful that 2022 will be much less impacted by the pandemic.

In the past year, we have continued to refine and enhance our approach to ESG and, in this regard, replaced our Health Safety Environment and Communities Committee with our new Communities and Sustainable Development Committee and our Health, Safety and Environment

Committee. The separation of responsibilities into these two committees is fundamentally a recognition of the importance of these aspects of our business.

We also approved two new policies: the Social Sustainability Policy and the Environmental Policy, both reflective of our current thinking and enhanced approach. While we have had a separate Environmental Policy and (formerly) a Corporate Social Responsibility Policy for several years, the new and revised policies more accurately reflect Pan American Silver's current commitments and expectations with respect to the way we do business responsibly and ethically, as well as our alignment with widely recognized international standards. These policies both guide us in how we conduct ourselves and provide detailed objectives against which we can evaluate our social and environmental performance.

We work closely with local communities to promote long-term positive relationships and sustainable economies. In 2021, our primary focus has been on health, education and maintaining local procurement opportunities.

In parallel with sustainable economies, we need sustainable environments, and in this regard, climate change is an important issue. We made progress on our commitment to implement the Task Force on Climate-related Financial Disclosure ("TCFD") recommendations with the publication of our first TCFD-focused disclosure and strategy for further incorporating consideration of climate risks and opportunities into our business model. Our 2021 reporting includes an update on how we manage transition climate risks.

We appreciate the importance of the goal under the Paris Agreement to limit the global average temperature increase this century to below 2.0 degrees Celsius compared to pre-industrial levels, and we continue to work actively on our climate strategy. Early in 2022, the Board approved a corporate target to reduce CO2 emissions by 30% by 2030, based on our 2019 baseline emissions.

“WE WORK CLOSELY WITH LOCAL COMMUNITIES TO PROMOTE LONG-TERM POSITIVE RELATIONSHIPS AND SUSTAINABLE ECONOMIES.”

Another important area of focus for the Board is inclusion and diversity. Pan American Silver has been rolling out its Building Respect Together campaign, which aims to ensure we have a welcoming and inclusive workplace. Pan American Silver has a wonderful, culturally diverse workforce, but the level of participation of both females and under-represented minorities is low. Significant efforts have been made towards hiring, promoting and retaining female workers and educating local women with a view to providing opportunities for participating in mining operations.

Looking ahead, the future is positive. We are well positioned for growth with our world class Skarn project at La Colorada, as well as Escobal in Guatemala, and Navidad in Argentina. We look forward to engaging our stakeholders, and to demonstrating how mining can be conducted responsibly and benefit both the people in the local communities and the region more broadly.

The past year saw a significant amount of regeneration of the Board. Coinciding with Ross' retirement in May 2021, our shareholders elected Jennifer Maki to the Board. We have now had a full year with our two newer directors – Kathy Sendall and Jennifer Maki - both of whom have been making wonderful contributions.

“EARLY IN 2022, THE BOARD APPROVED A CORPORATE TARGET TO REDUCE CO₂ EMISSIONS BY 30% BY 2030, BASED ON OUR 2019 BASELINE EMISSIONS.”

We have an extraordinary team at Pan American Silver that strives for excellence and cares deeply for people and the environment. I am incredibly proud of the way that Pan American Silver 's employees and contractors have managed through the challenges of 2021, and supported each other and their communities. On behalf of the Board, I would like to thank every single employee and contractor for their unwavering commitment, as well as our stakeholders for their ongoing support.



Gillian Winckler, Chair of the Board of Directors

May 5, 2022



OUR SUSTAINABILITY JOURNEY

Q&A WITH STEVE BUSBY, COO AND BRENT BERGERON,
SENIOR VICE PRESIDENT, CORPORATE AFFAIRS AND SUSTAINABILITY

Q: Stakeholder interest in and expectations around sustainability and ESG continue to rise. What does this mean for Pan American Silver?

Brent: We recognize that the ESG aspect of what we do as a company is gaining much more attention from an increasingly broad range of stakeholder groups. For us, this means continuing to formalize and standardize systems to manage ESG performance and risk across the Company. This will enable us to respond more effectively to these growing expectations. At the same time, it's important that we continue to engage with communities, governments, investors, and other stakeholders, so that we understand their priorities and can align our long-term ESG strategy with these priorities. We also take part in global initiatives and industry associations to keep pace with the evolving ESG landscape, to see where our peers are focusing, and so on. We can then reflect on the direction that is most appropriate for our strategy going forward, and that helps us best respond to what's happening at and around our mine sites. This is one way we connect the operational side of our work to the sustainability side.



Steve: We have seen the evolution of these ESG expectations through our own activities and in our reporting. Building on Brent's point, we have been developing a better understanding of commonly accepted industry ESG priorities and metrics and placing significant effort on enhancing our systems to accurately measure and report our performance and improvements in these key areas. We have definitely increased both the amount and transparency of our ESG reporting. We recognize the importance our stakeholders place on their ability to assess our ESG performance. And, increasingly, we're able to demonstrate progress against quantitative targets, both at a site and corporate level. In 2021, for example, we surpassed our consolidated Corporate targeted reduction in water use and met our GHG emissions reduction target.

Q: What does ESG implementation look like at Pan American Silver? What is the Company's current focus?

Steve: ESG implementation at Pan American Silver begins with our corporate teams assimilating annual data collected from extensive monitoring and reporting systems that have been established throughout the organization, along with the feedback we receive from stakeholders, particularly from investors, employees, ESG analysts, regulators, communities, and special interest groups. We then analyze, discuss, propose, and debate with managers from across the Company, and establish our annual operations-level ESG goals and objectives. Through this inclusive process, we endeavour to establish clear, concise, achievable, and meaningful ESG goals and objectives.

Brent: I agree. And we're doing a substantial amount of work to develop and provide sites with corporate standards and guidance to help them understand where our policy commitments and ESG priorities are coming from and guide their performance on the ground. It's also important to

INVESTORS // SAVE THE DATE

Pan American Silver

Annual ESG Update Conference Call
September 22nd, 2022

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

point out that we are bringing ESG considerations into different parts of our business – how we plan operating budgets, how we evaluate risk, how we allocate capital. Strategic ESG conversations are happening at our Board of Directors (“Board”) level as well. We now have a Board committee that deals specifically with community and sustainability issues, which indicates how we’re working to align ourselves internally around these issues.

In 2020, Pan American Silver introduced a set of Sustainability Performance Indicators (SPIs). How are these helping your ESG performance?

Steve: The introduction of SPIs has brought a greater degree of focus to key social and environmental areas of our mining business. We have advanced on benchmarking our performance, creating baselines, and gathering and reporting accurate information, all of which is expanding our site managers’ understanding of their own performance and their contribution to the Company’s results. We now have a system of monthly and quarterly SPI reporting to senior management. SPI performance monitoring certainly gets a lot of my attention, as well as that of our CEO and the Board who review our progress quarterly.

Brent: The introduction of the SPIs has been valuable across many fronts. They’re giving us a clear understanding of the effectiveness of our systems and programs at the site level. At the corporate level, and I agree with Steve here, monthly reporting is proving extremely useful. It’s providing a regular checkpoint and the ability to see outliers and course correct. The next step for us is to dig deeper to understand challenges so that we can set performance objectives to better manage our impacts. For example, we now have good data for the SPI on grievance management. We know that grievances are being recorded and tracked properly. Now we can move forward in terms of improving overall management, such as determining reasonable timeframes for responding to and resolving grievances. We’re already seeing the SPIs driving performance, which is fantastic.

ESG risks, such as environmental and social risk, climate risk, and geopolitical risks, all continue to gain importance within the industry. How is Pan American Silver evolving in its approach to risk management?

Brent: Managing ESG risks goes beyond just managing areas of concern to stakeholders. We manage all risks to our business, but we prioritize our efforts in areas that have the greatest impacts on our company, from both an operational and a financial perspective. At the operational level, our SPIs are helping us do this—they’re helping us focus on areas we can actively manage and set realistic goals where we can deliver results. We also recognize, though, that our operations have to respond to risks resulting from world-wide issues and external factors. For example, in some host countries, we face significant political risks and are seeing an increase in social risks resulting from emerging social pressures. Risks related to climate change and extreme weather events also need to be managed by our sites. We’ve created and standardized the use of risk tools across our operations. We’ve successfully formalized a country risk assessment process that gives us better information about our significant non-technical risks and helps us actively collaborate across sites to manage and mitigate these risks. We’re now in the process of feeding this information into a corporate enterprise risk management system.

Steve: We are facing a broad range of both ESG and non-ESG risks in our business, and we need to be strategic and thoughtful in prioritizing our efforts and assigning our resources. The health and safety of our workers is the primary consideration in the initiatives we undertake. For the past two years, we have put a significant effort into

**“WE HAVE BEEN DEVELOPING A BETTER UNDERSTANDING OF COMMONLY ACCEPTED INDUSTRY ESG PRIORITIES AND METRICS AND PLACING SIGNIFICANT EFFORT ON ENHANCING OUR SYSTEMS TO ACCURATELY MEASURE AND REPORT OUR PERFORMANCE AND IMPROVEMENTS IN THESE KEY AREAS.”
- STEVE BUSBY**

managing workforce health risks related to the COVID-19 pandemic. We implemented comprehensive contact tracing and surveillance programs, including conducting over 400,000 COVID tests to reduce the risks of COVID-19 infection and spread among our workforce. In addition, we supported regional health and medical facilities to further reduce COVID spread in communities near our operations and enhance care for those infected by the virus. Furthermore, we continue to prioritize the behavioral-based pilot safety program in our Peruvian operations to increase safety awareness and reduce potential for COVID fatigue-related impacts following nearly two years of elevated absenteeism and operating under intense bio-safety and physical distancing protocols.

Q: What is the key ESG focus for Pan American Silver as it heads into 2022?

Brent: COVID was certainly our biggest challenge in 2020 and 2021, and we took advantage of some windows of opportunity to travel to sites and reinforce our health and safety messages. I know Steve shares this sentiment, going into 2022, that we hope to have more opportunities to talk to our people face to face and reinforce our ESG priorities. The other thing that we need to remember is that there's still a lot of work to do to evolve our ESG strategy and advance our performance. We've set new SPIs that will prioritize our work in additional ESG areas. Systematically collecting and analysing this information will remain a priority. We continue to develop programs and initiatives to achieve corporate goals in areas such as inclusion and diversity. In collaboration with our sites, we will continue developing standards and guidance to address our ESG priorities and performance expectations.

**“WE ARE BRINGING ESG CONSIDERATIONS INTO DIFFERENT PARTS OF OUR BUSINESS – HOW WE PLAN OPERATING BUDGETS, HOW WE EVALUATE RISK, HOW WE ALLOCATE CAPITAL.”
- BRENT BERGERON**

We still have quite a bit of work to do. It's hard work. And it's necessary work. But it is progressing and I'm proud of what we've accomplished and confident that we're getting there. In conversations with our shareholders and stakeholders, they want to see this progress both in action and in disclosure.

Steve: To build on Brent's comment, we are continuing to develop our baseline data so that we have a fulsome understanding of performance across our business. We've done a lot of work in the past few years to improve the quality of our data: where we're measuring, what we're measuring, and how we're interpreting these measurements. Every year, we gain knowledge and understanding that will help us improve performance and set additional quantitative goals. For example, we developed long-term energy profiles for each of our mines, which are helping us establish meaningful medium-term GHG emissions reduction targets. Of course, COVID will continue to be a challenge for us to manage in 2022 if we continue to incur high levels of absenteeism. Over the last two years of operating during a global pandemic, we have learned that we can't do everything online. While the online communication technologies deployed during the global pandemic have proved invaluable in sustaining our business, our abilities to accelerate ESG initiatives have been limited by a lack of in-person interactions. We can't build or maintain our corporate unity, cohesion, and high morale, which has been a hallmark of our company, to the same degree, without routine face-to-face interactions with our sites and site personnel. We will continue with initiatives to boost morale and manage COVID fatigue during 2022.

ABOUT PAN AMERICAN SILVER

Pan American Silver owns and operates silver and gold mines located in Mexico, Peru, Canada, Argentina and Bolivia. We also own the Escobal mine in Guatemala that is currently not operating. Pan American Silver provides enhanced exposure to silver through a large base of silver reserves and resources, as well as major catalysts to grow silver production.

Pan American Silver has a 28-year history of operating in Latin America, earning an industry-leading reputation for sustainability performance, operational excellence, and prudent financial management. We are headquartered in Vancouver, BC and our shares trade on NASDAQ 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. Our strategy to achieve this vision is to:

- Generate an attractive return on invested capital through the safe, efficient, and environmentally sound development and operation of our assets.
- Constantly replace and grow our reserves and resources through targeted near-mine exploration and 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 fulfill our vision, we attract, develop, and retain a sector-leading team of mining professionals. Our team has a deep knowledge and experience in all aspects of our business, which enables us 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



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 are working with the Silver Institute to improve the general understanding of the unique and vitally important role of silver in low-carbon energy solutions, and in 2021 the Silver Institute began working on a report on silver in the future low-carbon economy which will be released this year. For more information, visit the Silver Institute website at www.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



JEWELRY

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)



JEWELRY

Globally, jewelry is the primary use of gold



ELECTRONICS

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

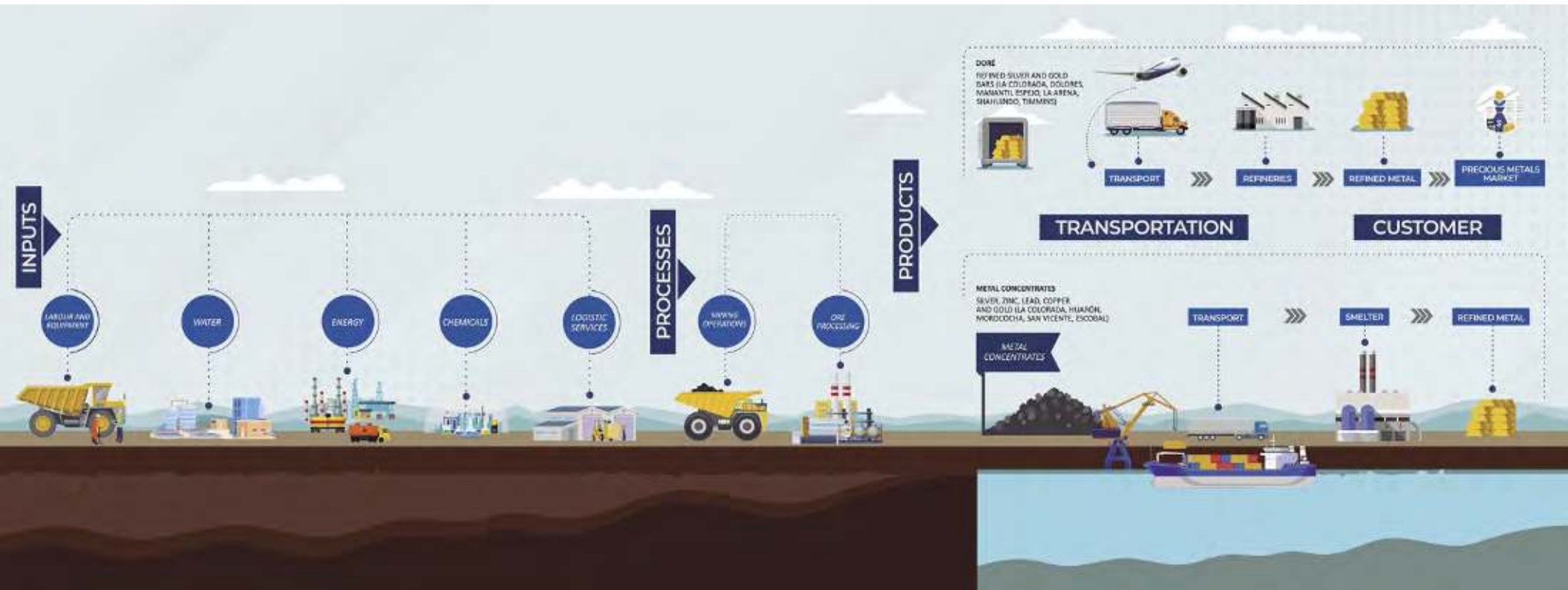


INVESTING

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

OUR SUPPLY CHAIN

Mining requires a reliable 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 silver). 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 best-practice-based processes, tools, and resources 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 and dialogue, 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
- Better allocate resources and direct sustainability investment

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
- Annual ESG survey of our investor community
- Community and worker response and grievance mechanisms at each operation

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.

In 2021, we had a 16% increase in survey participation. A total of 2,214 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 1,910 in 2020. The top priority topics identified in the 2021 survey included:

- Health and safety
- Job security
- Ongoing communication with stakeholders
- Training, education, and career development
- Environmental programs and management

The priority topics identified such as health and job security remained similar to the topics identified the previous year most likely due to ongoing concerns related to the impacts of the COVID-19 pandemic. Human capital and environmental-related topics became more important to our COIs in 2021. The annual COI survey results are a key input in our materiality process.

ESG INVESTOR SURVEY

In 2021, we also conducted an investor-specific survey to identify the ESG topics of highest importance to this COI group when rating Pan American Silver's performance in investment decisions. These topics were:

- Climate, GHG emissions, and energy efficiency
- Health and safety
- Tailings and mineral waste management
- Water management

The ESG investor survey results also served as an input in our materiality process.

The table below lists our key COIs, their key interests, perceptions and/or concerns raised through the COI and ESG surveys, 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 2021
Our employees <ul style="list-style-type: none"> • Meetings and huddles • 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"> 1. Health and safety 2. Job security 3. Competitive salaries 4. Environmental impact resulting from transportation (noise, dust, etc.)
Our contractors <ul style="list-style-type: none"> • Meetings and huddles • 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"> 1. Health and safety 2. Job security 3. Ongoing communication

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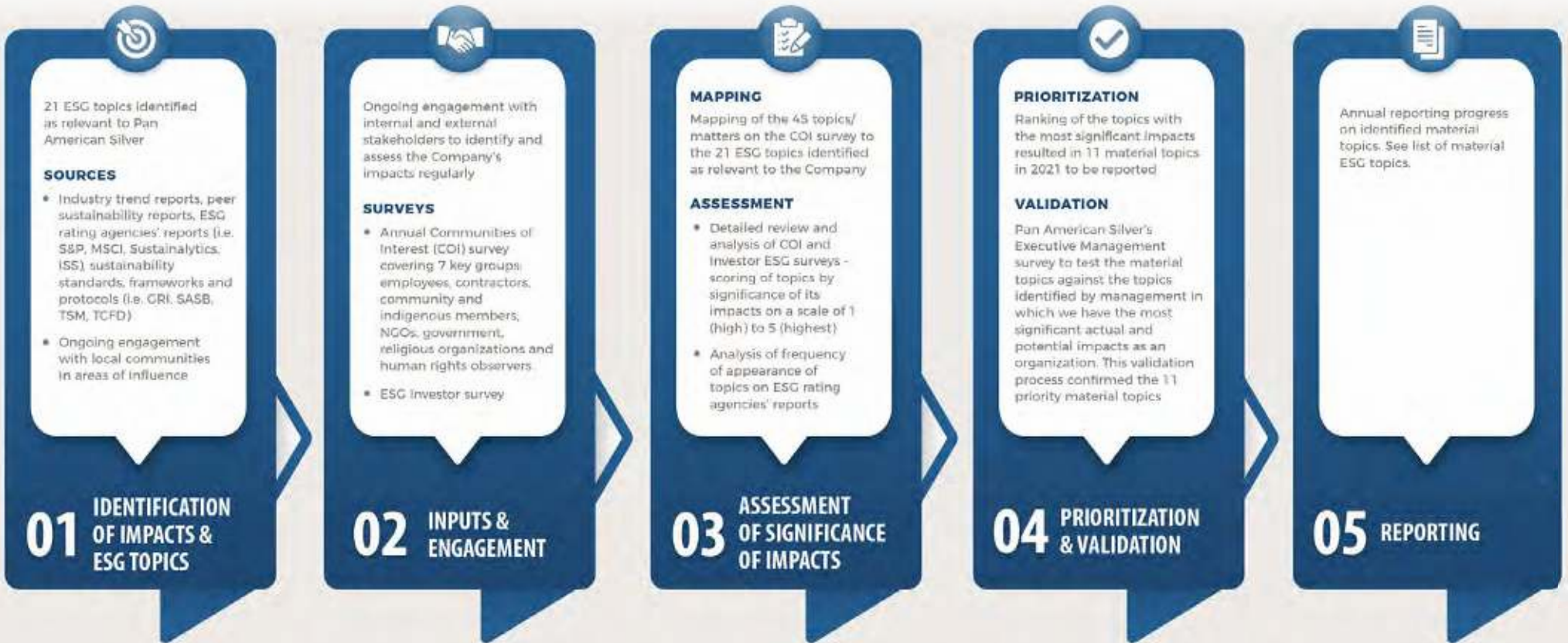
Communities of interest	Types of engagement	Key interests/concerns raised in 2021	
Investors	<ul style="list-style-type: none"> • Annual ESG Call • Quarterly calls • Quarterly and annual reporting • Roadshows • Conferences 	<ul style="list-style-type: none"> • Meetings, phone calls and emails • Engagement surveys • Website • Annual shareholder meeting 	<ol style="list-style-type: none"> 1. Climate, GHG emissions and energy efficiency 2. Health and safety 3. Tailings and waste management 4. 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"> 1. Health and safety 2. Job security 3. Water discharge and spills 4. Investment in community development
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"> 1. Health and safety 2. Equal opportunity and equal pay 3. Preventing child and forced labour
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. Health and safety 2. Respect for Indigenous Peoples 3. Equal opportunity and equal pay
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. Health and safety 2. Local employment opportunities 3. Training, education, and career development
Human Rights Observers	<ul style="list-style-type: none"> • Meetings • Face-to-face interactions • Engagement surveys • Website 		<ol style="list-style-type: none"> 1. Equal opportunity and equal pay 2. Mine closure impact on employment opportunities 3. Water discharge and spills

MATERIALITY

This report covers our 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 and ESG investor survey also serve as key inputs 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.

2021 MATERIALITY PROCESS



2021 MATERIAL TOPICS

ENVIRONMENT	SOCIAL	GOVERNANCE
WATER STEWARDSHIP	HEALTH AND SAFETY	BUSINESS ETHICS
TAILINGS FACILITIES AND WASTE MANAGEMENT	RELATIONSHIPS WITH COMMUNITIES AND INDIGENOUS PEOPLES	
CLIMATE, ENERGY, AND GREENHOUSE GAS EMISSIONS	SOCIO-ECONOMIC CONTRIBUTIONS	
BIODIVERSITY	HUMAN CAPITAL DEVELOPMENT	
MINE CLOSURE	INCLUSION AND DIVERSITY	

Some material topics are categorized and reported differently from our previous report. These differences reflect minor changes in our overall sustainability approach and materiality process. Recognizing the universality of human rights, we have removed human rights as a standalone material topic and added an overarching human rights management approach. Responsible supply chain is now included under sustainability risk management, and business ethics is once again a standalone material topic. Social acceptance is now called Relationships with communities and Indigenous Peoples.

Although not included as a material topic, the COVID-19 pandemic has had a significant impact on our company and the world. Details on the impacts of the pandemic on our business, COIs and our response are discussed where they are relevant to a material topic.



GOALS AND PERFORMANCE

We set ESG goals to focus our efforts in key areas and continually improve our performance.

2021 PERFORMANCE

In 2021, we published annual goals in both our 2020 Sustainability Report and our 2020 Communication on Progress. The table below consolidates these goals and details our performance.

TARGET ACHIEVED: ✓ TARGET NOT MET: ✗

2021 Goals	2021 Performance	Commentary
ENVIRONMENT		
Achieve zero significant environmental incidents (SEIs) at our operations.	✓	No SEIs at our operations.
Improve bi-annual environmental audit performance.	✗	Achieved zero Level A audit findings, but B and C level findings increased at our Dolores mine.
Reduce water use by 6% compared to the 2021 base case.	✓	10% water use reduction through use of additives for road watering, recycling and higher-than-average net precipitation.
Continue post-closure activities at Alamo Dorado and conduct interim reclamation projects at our active operations.	✓	Continued post-closure activities at Alamo Dorado and progressive closure work at Manantial Espejo and La Arena.
Achieve 80 hectares net positive impact on vegetation and biodiversity across all our sites.	✓	Achieved net positive impact of 85 ha of rehabilitated or restored land.
Reduce 11% of non-rock related waste compared to the 2021 base case.	✗	3% decrease in non-rock related waste. Target not met due to unforeseen amounts of waste being generated by investment projects and pandemic-related activities.
Reduce 0.3% of energy consumption compared to the 2021 base case.	✓	7% reduction in energy consumption through changes to waste rock haulage and energy optimization projects.
Reduce GHG emissions by 11% compared to the 2021 base case.	✓	11% reduction in GHG emissions through changes to waste rock haulage and energy optimization projects.
Achieve Level A Towards Sustainable Mining (TSM) ⁽⁴⁾ performance for all protocols at all operations.	✗	Achieved level A at 4 out of 9 sites. Remaining sites achieved 95% or greater progress towards Level A.
100% action plans implementation for all the TSM environmental protocols.	✓	100% of action plans completed.

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































CONTINUED ⇩

2021 Goals	2021 Performance	Commentary
SOCIAL		
Achieve zero fatalities.	X	Four fatalities.
Maintain Lost Time Injury Frequency (LTIF) of 0.90 or less.	X	LTIF rate of 0.96 per million hours worked.
Maintain Lost Time Injury Severity (LTIS) of 525 or less.	X	LTIS rate of 872.
Achieve zero new social disputes at our operations.	✓	No new social disputes.
Resolve all medium and high-risk grievances by the end of 2021.	✓	Resolved all high-risk grievances; one medium-risk grievance received late in 2021 remained open in Peru.
Review community response mechanism system performance at Mexican operations; expand the internal auditing of response mechanisms to all mines.	✓	Reviewed community response mechanism system performance at La Colorada and Dolores. Expanded the internal audit of response mechanisms to La Colorada, Dolores, Huaron, Morococha, Shahuindo, and La Arena.
Develop a corporate Social Closure Standard, aligned with the TSM Mine Closure Framework, the social closure requirements of the International Council for Minerals and Metals' (ICMM) Integrated Mine Closure, Good Practice Guide (2019), and Performance Expectation.	✓	Finalized and approved Social Closure Corporate Standard.
Achieve Level A in TSM Aboriginal and Community Outreach Protocol.	✓	Achieved level A in the TSM Aboriginal and Community Outreach Protocol at all operations.
Begin the implementation of the new TSM Indigenous and Community Relationships Protocol.	✓	Conducted a gap analysis and trained all sites on the new protocol requirements.
Continue to expand our community engagement activities based on open dialogue and transparency, following international best practices.	✓	Increased participation of stakeholders in our annual COI survey. Conducted open dialogue with local communities regarding the tailings dam project at the San Vicente mine in Bolivia.
Improve access to quality education in the communities near our mines.	✓	Completed the construction of Cachachi Primary School near Shahuindo in coordination with the District Municipality of Cachachi. Donated technological equipment - 449 tablets, 20 projectors and 20 laptops - to the Cajabamba Education Authority near Shahuindo..
Continue to improve access to health care in the communities near our mines in coordination with local government priorities.	✓	Completed renovations at the health center in Colonia Orion near La Colorada mine. All sites ran health campaigns in accordance with local commitments.








































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2021 Goals	2021 Performance	Commentary
Continue to develop additional, alternative economic opportunities in communities near our mines.	✓	Continued an 8-year project that seeks to build the capacity of 500 local avocado producers near Shahuindo mine. Expanded family agriculture projects near La Colorada and Dolores mines. Expanded a program to improve livestock genetically in Loma Colorada near San Vicente mine.
Continue the development of community training programs that attract new talent to operations.	✓	Continued implementing the Women's Talent Stewardship Program in the communities near our Peruvian mines. Launched a similar program near our mines in Mexico.
Complete the first phase of our Building Respect Together program, covering 70% or more of our workforce.	✓	Completed the first module of the BRT program, covering 100% of our employees and contractors.
GOVERNANCE		
Train 400 key employees on corruption risks.	✓	480 key employees from all jurisdictions completed a training course.
Certify 100% of Board members, officers, executives, and senior management under the Anti-Corruption Policy and the Code of Ethical Conduct.	✓	All directors, officers, and employees, who received the request, were certified for compliance with the Anti-Corruption Policy and the Code of Ethical Conduct (290 individuals in total).

2022 GOALS

2022 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	 Human Rights 1,2
Reduce water use by 1% compared to the 2022 base case.	Water Stewardship		 Environment 7,8,9	 Human Rights 1,2
Reduce energy use by 3% compared to the 2022 base case.	Climate, Energy, and Greenhouse Gas Emissions	 	 Environment 7,8,9	 Human Rights 1,2
Reduce GHG emissions by 3% compared to the 2022 base case.	Climate, Energy, and Greenhouse Gas Emissions		 Environment 7,8,9	 Human Rights 1,2
Continue post-closure activities at Alamo Dorado and conduct interim reclamation projects at our active operations.	Mine Closure	 	 Environment 7,8,9	 Human Rights 1,2
Achieve 100 hectares of reforestation or revegetation across all our sites.	Biodiversity	 	 Environment 7,8,9	 Human Rights 1,2
Reduce non-rock related waste generation by 4% and increase recycled/reused waste by 11% compared to the 2022 base case.	Tailings Facilities and Waste Management	  	 Environment 7,8,9	 Human Rights 1,2
Improve bi-annual environmental audit performance.	All environmental material topics	   	 Environment 7,8,9	 Human Rights 1,2

CONTINUED 

2022 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 of 0.90 or less.	Health and Safety	 	 Labour 3,4  Human Rights 1,2
Maintain a LTIS of 525 or less.	Health and Safety	 	 Labour 3,4  Human Rights 1,2
Achieve zero new social disputes at our operations.	Relationships with Communities and Indigenous Peoples	   	 Human Rights 1,2
		   	 Labour 3,4,5,6
Resolve all medium and high-risk grievances received through our community response mechanism within the target timeframe ⁵ .	Relationships with Communities and Indigenous Peoples	   	 Human Rights 1,2
		   	 Labour 3,4,5,6
Continue expanding our socio-economic programs and projects in the communities near our mines.	Socio-economic Contributions	  	 Human Rights 1,2
		 	 Labour 6

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

CONTINUED 

2022 Goals	Related Material Topics	Prioritized UN SDGs	UNGC Principles		
Complete the second module "Awareness" of our Building Respect Together program, covering 100% of our workforce.	Inclusion and Diversity	 	 Labour 3,4,5,6	 Human Rights 1,2	
Implement our Human Capital Development management system at our operations.	Human Capital Development	  	 Labour 3,4,5,6	 Human Rights 1,2	
Conduct sustainability audits at the operations in Argentina, Mexico, and Canada.	Relationships with Communities and Indigenous Peoples		 Labour 3,4,5,6	 Human Rights 1,2	
GOVERNANCE					
Train 400 key employees on Anti-Corruption policy.	Business Ethics		 Anti-corruption 10	 Human Rights 1,2	
Assess 150 critical suppliers using our supplier due diligence system.	Business Ethics		 Anti-corruption 10	 Labour 3,4,5,6	 Human Rights 1,2
Commence external verification of TSM performance at our operations.	<ul style="list-style-type: none"> Water Stewardship Tailings Facilities and Waste Management Climate, Energy, and Greenhouse Gas Emissions Biodiversity Health and Safety Relationships with Communities and Indigenous Peoples Human Capital Development 	       	 Human Rights 1,2	 Labour 3,4,5,6	 Environment 7,8,9

SUSTAINABILITY GOVERNANCE

BOARD OF DIRECTORS

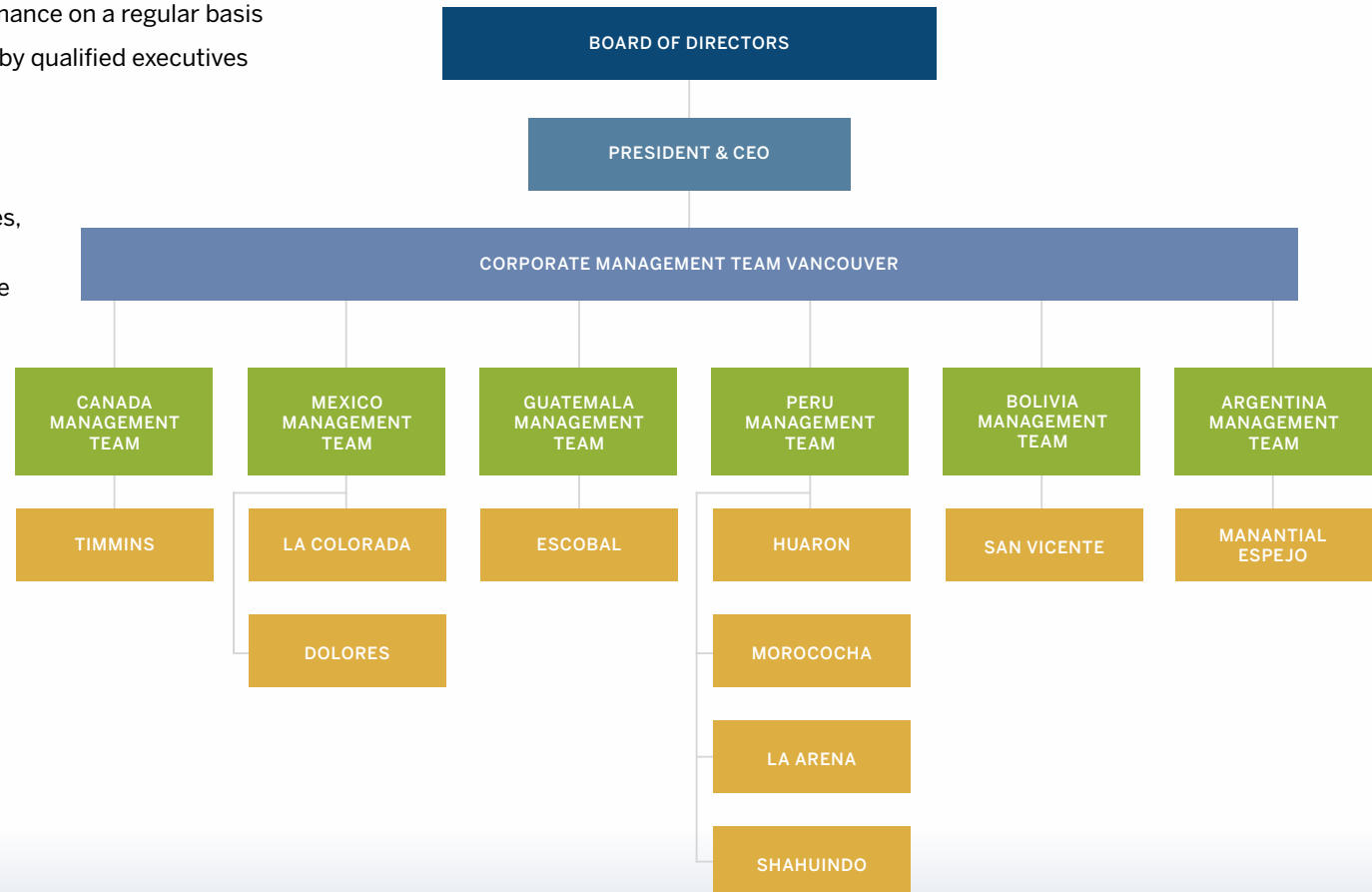
Good governance is critical for effective corporate performance and plays a major role in protecting COI interests and maximizing stakeholder value. Our Board oversees the direction and strategy of the business, guided by Pan American Silver’s values, legislative and other governance standards, stock 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. In 2021, the Board of Directors established a new committee, the Communities and Sustainable Development Committee (CSD Committee), to increase our focus on ESG-related issues, policies, practices, and disclosures. The 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 and ESG performance and matters relating thereto on a quarterly basis and reports to the Board.
- The HSE Committee provides policy direction and oversight of the Company's performance on safety and on technical matters relating to the environment. 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 instability, 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
- Relationships with Indigenous Peoples
- Employee recruitment and retention
- Employee/labour relations
- Environmental legislation and regulations
- Government regulation
- Information and cybersecurity
- Taxation

QUARTERLY RISK MANAGEMENT PROCESS



Whenever these risks relate to a material topic, we discuss our management approach within the relevant report section. Material risks 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 project planning and permitting processes, well before any mining activities occur. These risks are systematically managed, and the effectiveness of controls are tested periodically all the way through the 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.

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. We are currently developing the implementation plan for an enterprise risk management system, which we intend to roll out company wide in 2022.

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 is 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 damage to 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 virus outbreaks, accidents, fires, spills, security incidents, infrastructure failure, and natural disasters.

Our Crisis and Communications Management Plan set standardized, minimum requirements and procedures for sites to identify, prepare for, and manage emergencies and crises. These guidelines, which exceed the TSM requirements, are a component of a structured, uniform approach to business continuity procedures across our operations. We review our crisis plans and conduct one tabletop and one scenario-based exercise annually, which improves the ability of our teams to respond efficiently and effectively.

We are currently working to improve our training in order to produce a more coordinated response across our operations, regions, and corporate office. A digital crisis platform is being implemented to provide automated advisories, help us improve the consistency and speed of our communications, and therefore, our response.

EMERGENCY PREPAREDNESS AND CRISIS MANAGEMENT AT PAN AMERICAN SILVER

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

Board of Directors – provides direction as 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 – teams in each jurisdiction manage 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, who 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. 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 suppliers⁶ 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.

We conduct annual due diligence reviews. Our service provider conducts ongoing monitoring of corruption-related risks and alerts us of any concerns.

Complying with our 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 to better understand the risk and determine whether the risk factor is still outstanding. 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.



To date, we have screened nearly 400 tier 1 critical suppliers from across our areas of operations. Another 250 critical suppliers are currently completing our due diligence process. These suppliers constitute 80% of our expenditures and/or provide goods critical to our business. We have begun the process of registering local suppliers in the system. For more detailed information of the critical suppliers data, please see the [Supply Chain Risk Management data table](#).

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.

(6) 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.

As noted, 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

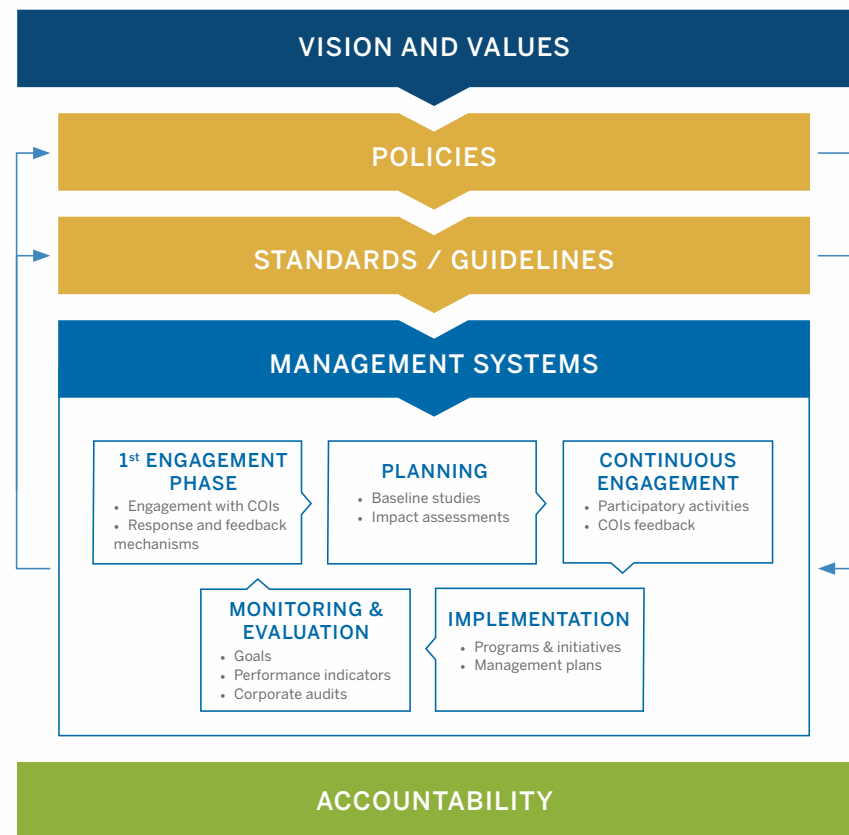
Pan American Silver has adopted policies, standards, and guidelines that articulate the way our directors, officers and employees are expected to behave and guide our business. Our Global Code provides the foundation for responsible business conduct and defines the key principles for operating ethically 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.

ESG MANAGEMENT FRAMEWORK



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.

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.

ENVIRONMENTAL AND SOCIAL MITIGATION HIERARCHY



RESPECTING HUMAN RIGHTS

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

- United Nations Universal Declaration on Human Rights
- UNGPs on Business and Human Rights
- OECD Guidelines for Multinational Enterprises
- TSM: Aboriginal and Community Outreach Protocol⁽⁷⁾
- 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

HUMAN RIGHTS MANAGEMENT

At Pan American Silver, respect for human rights has guided our relationships with our COIs, especially local communities, throughout our history of operating in the Americas. The work we do affects people and ecosystems in the areas of influence surrounding our operations. We take steps to understand the linkages between the impacts of our activities and human rights, progressively implement proper measures to respect human rights, and conduct ongoing due diligence. This allows us to identify, avoid, mitigate, and account for actual or potential negative risks and/or impacts. Our focus is on upholding human rights, respecting the traditions and cultures of local communities, and supporting vulnerable groups.

Our [Global Human Rights Policy](#) sets out our commitment to respect human rights and is intended to provide guidance on the standards of conduct that must be followed by our directors, officers, and

⁽⁷⁾ 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: Aboriginal and Community Outreach Protocol at: <https://mining.ca/resources/guides-manuals/tsm-aboriginal-and-community-outreach-protocol-2017/>

employees. The policy applies to any third parties acting on behalf of or representing Pan American Silver. We adopted the Social Sustainability Policy in November 2021, which replaced the existing Corporate Social Responsibility Policy. The new [Social Sustainability Policy](#) also contains explicit commitment to respect and support internationally recognized human rights laws and standards. Collectively, our key [ESG policies and standards](#) are intended to help us develop the Company's goals, policies, and programs as they relate to communities, sustainable development, and social matters, including human rights matter and to engage in processes to mitigate any adverse human rights impacts of our activities. Accountability for human rights matters lies with the General Counsel and our Human Rights Officer, and is overseen by the CSD Committee.

Human Rights Assessments

We have several processes that help us identify both actual and potential human rights risks and impacts resulting from our activities, as well as opportunities for respecting and enhancing such rights.

These include:

- Ongoing engagement with COIs
- Participatory processes, including baselines, cultural studies, and perception assessments that help us understand the priorities and concerns of host communities
- Community and employee response mechanisms, which provide systems through which community members and workers can voice concerns regarding perceived or actual impacts of our operations and receive a response from the Company
- Site-level social teams that work with local professionals, including social workers, teachers, and health practitioners, to identify and manage potential human rights risks and concerns

We implement a range of programs intended to uphold and support identified salient human rights.

Programs supporting human rights		
Category	Salient Right	Examples of our programs
Labour	<ul style="list-style-type: none"> • Equality • Non-discrimination 	The Building Respect Together program is helping us build safe, respectful, and inclusive work environments, free from discrimination.
	<ul style="list-style-type: none"> • Peaceful assembly and association • Safe and healthy working conditions 	Behaviour-based safety programs , currently in the pilot phase at several operations, are designed to encourage workers to take a more active role in their own safety.
Social and Economic	<ul style="list-style-type: none"> • Adequate standard of living • Education 	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.
	<ul style="list-style-type: none"> • Equality • Health • Non-discrimination • Participation in cultural life 	
Security	<ul style="list-style-type: none"> • Peaceful assembly and association • Life, liberty, personal security 	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.
Environment	<ul style="list-style-type: none"> • Clean water and sanitation 	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, taking into account our interactions with other users, COIs, and ecosystems.

Our social teams conduct educational trainings with specific community groups such as women, youth, families, and vulnerable people, on topics including access to education and career opportunities; domestic violence and 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 our memberships and commitments, we work to support human rights in our industry and the countries in which we operate. For example:

- We have a 3-year, \$1.5 million partnership commitment with UNICEF Canada to provide support in the areas of health and education to vulnerable children and families in the Latin American countries where we operate.
- We are part of the Voluntary Principles on Security and Human Rights (VPSHR) Working Group of Guatemala, a collaboration between the British, Swiss, American, and Canadian embassies, civil society, human rights defenders, and companies. The objective is to promote awareness of the VPSHR and support companies in its implementation.
- We are working with a civil society group in Peru to support the development of a national action plan for business and human rights.
- We are implementing the BlackNorth Initiative's CEO pledge by supporting inclusion at the university level in Canada through two fundings; 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.

Due Diligence Processes

Our Global Human Rights Policy commits us to conduct reasonable ongoing human rights due diligence. Our due diligence approach is primarily embedded within our existing risk processes and systems, which include:

- 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
- Country-level risk assessments—Identify and assess environmental, social/community, and labour risks that present actual or potential human rights impacts

- Supplier screening—Requires suppliers to have human rights policies and provide examples of implementation
- Security contractor assessments—Review the relationships of armed private security contractors with public security entities
- Acquisitions and joint venture approvals—Require human rights risk assessments

Where the direct consultation with rights holders has not been possible as part of a due diligence process, we have worked with civil society groups to evaluate our practices.

Embedding Human Rights

As salient human rights issues differ at each of our operations, we train management and social teams to develop tools and training appropriate to the context of each site. Our objective is to educate our workforce on human rights issues and the related expectations set out in our policies. Our employees are at the forefront of our engagement with community members. If they can recognize the actual and potential impacts of our activities on human rights, they will also be able to act to uphold and respect those rights. We have incorporated human rights awareness into our employee onboarding, as well as our ongoing employee training. Training on the VPSHR is compulsory for all Security and External Affairs teams, and for all employees who work with security providers.

RESPONSIBLE SECURITY MANAGEMENT

Over the past several years, we have been implementing a structured, auditable security management framework that aligns with the VPSHR and other international human rights best practices. A core component of this approach is our Pan American Silver Security and Human Rights Standard, which is aligned with the VPSHR and incorporates UNICEF Canada's Child Rights and Security Checklist, as well as elements of the World Gold Council Conflict-Free Gold Standard. The Standard has four components:

- A security and human rights risk assessment and register
- Stakeholder Engagement
- An implementation toolkit for security providers
- Guidance in managing relationships with public security groups

In 2021, all but one operation implemented the standard—the remaining operation is on track to implementation in early 2022. Going forward, we plan to review and enhance components of the Standard so that operations can embed it in their daily activities.

We continue to conduct gap assessments of our security practices against the requirements of the VPSHR and UNICEF Canada's Child Rights and Security Checklist. We have completed external assessments at our Escobal operation in Guatemala as well as our two operations with armed security forces: La Colorada and Dolores in Mexico. In 2022, operations in Peru will be externally assessed.

We are also working on becoming a signatory member of the Voluntary Principles Initiative (VPI), with a decision expected from the VPI in 2022.

The World Gold Council Conflict-Free Gold Standard provides us with an approach for identifying and eliminating the risk that our gold production may cause, such as support or benefit unlawful armed conflict or contribute to violations of human rights. We have determined that our Mexican operations are located in conflict-affected regions, given the high levels of organized crime.⁽⁸⁾ Based on this determination, we completed a gap assessment of the Conflict-Free Gold Standard requirements and

introduced procedures to manage and mitigate risks. In 2022, an external auditor will assure our compliance with the Standard. We are applying the relevant and beneficial elements of the Standard across all our operations, whether they are located in conflict affected regions or not.

Training of Security Contractors

Security at our operations is generally 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, as well as the security of our employees. Our goal is to only deploy armed, private security where and when it is deemed necessary to protect our people, and to reduce access to weapons at those locations as much as possible.

Before giving their employees access to our sites, we require companies supplying contract security personnel to provide them with human rights training that is in line with international best practice standards and covers the content of our Global Human Rights Policy. We review this training to ensure it meets our standards. We also conduct additional due diligence on this training. Every month, we review a sample of training records from security employees. Every four months, we conduct a review process 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 during which the issue must be rectified. The requirement to meet the VPSHR is a component of all new contracts for security services. We are also implementing requirements for security contractors to have International Code of Conduct Association certification.

In 2021, 100% of Pan American Silver security employees and independent security contractors at all sites received human rights training.

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

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 2022 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 supporting 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.

SPIs Covered in 2021

Environmental incidents	Waste management
Environmental audits	TSM performance
Water use	Social risk management
Energy use	Community grievance and request management
GHG emissions	Community investment
Biodiversity conservation	



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 focusing 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](#).

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.

Our 2021 goal was for all operations to achieve level A in all TSM protocols. All operations achieved level A on four TSM protocols. Fatal accidents at Huaron, San Vicente, La Colorada and Morococha prevented these operations from achieving Level A on the safety protocol. Morococha, Huaron and Timmins did not meet Level A on the tailings management protocol in 2021 due to management system improvements that are in progress. Timmins is currently at level B on the water and biodiversity protocols and is working to increase COI engagement to achieve level A.

Annual 2021 progress is shown in the table below:



Site	TSM Level Goal 2021	Tailings	Energy	Biodiversity	Water	Safety	Crisis Communications	Aboriginal and Community Outreach ⁽¹⁾	Child and Forced Labour	Average ⁽²⁾
Timmins	A	95%	100%	92%	83%	100%	100%	100%	100%	96%
Dolores	A	-	100%	100%	100%	100%	100%	100%	100%	100%
La Colorada ⁽³⁾	A	100%	100%	100%	100%	75%	100%	100%	100%	97%
La Arena	A	-	100%	100%	100%	100%	100%	100%	100%	100%
Shahuindo	A	-	100%	100%	100%	100%	100%	100%	100%	100%
Huaron ⁽³⁾	A	86%	100%	100%	100%	75%	100%	100%	100%	95%
Morococha ⁽³⁾	A	92%	100%	100%	100%	75%	100%	100%	100%	96%
San Vicente ⁽³⁾	A	100%	100%	100%	100%	75%	100%	100%	100%	97%
Manantial Espejo	A	100%	100%	100%	100%	100%	100%	100%	100%	100%
Average		96%	100%	99%	98%	89%	100%	100%	100%	98%

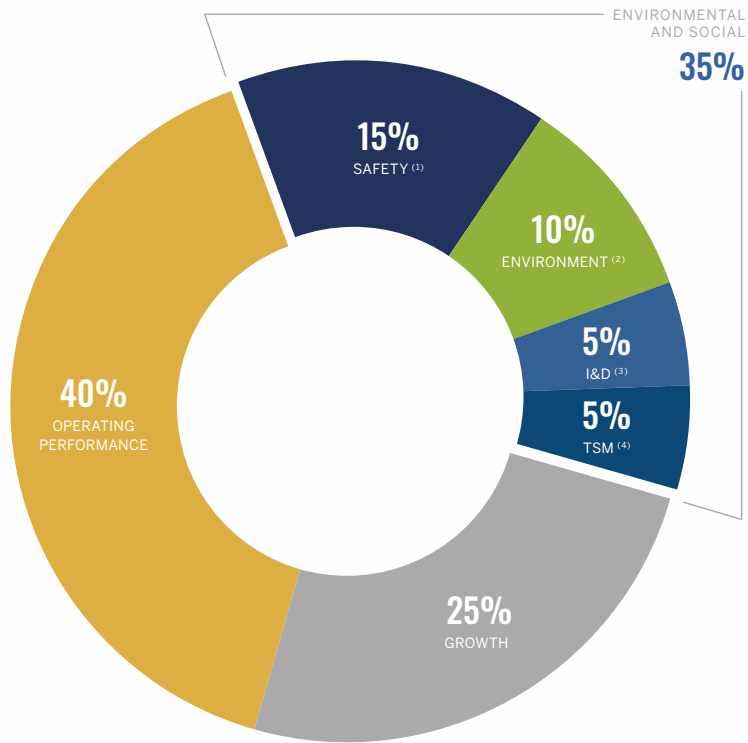
(1) In 2021, we began the implementation of the new Indigenous and Community Relationship Protocol (which replaces the Aboriginal and Community Outreach Protocol) and achieved an average completion of 70% across all our sites.

(2) Average percentage completion of protocol criteria.

(3) Completion of level A on safety protocol affected by fatal accident.

PERFORMANCE-BASED COMPENSATION

SENIOR MANAGEMENT'S 2021 PERFORMANCE-BASED COMPENSATION



- (1) Lost time injury frequency (LTIF) and lost time injury severity (LTIS) targets.
- (2) Significant Environmental Incidents ("SEIs").
- (3) Inclusion & Diversity by percentage of women employees in the total workforce.
- (4) Level of performance of Mining Association of Canada's TSM standard.

Our 2021 annual incentive plan for senior management⁽⁹⁾ 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.

(9) Includes executive officers, vice presidents, country managers, directors, operation and unit managers.



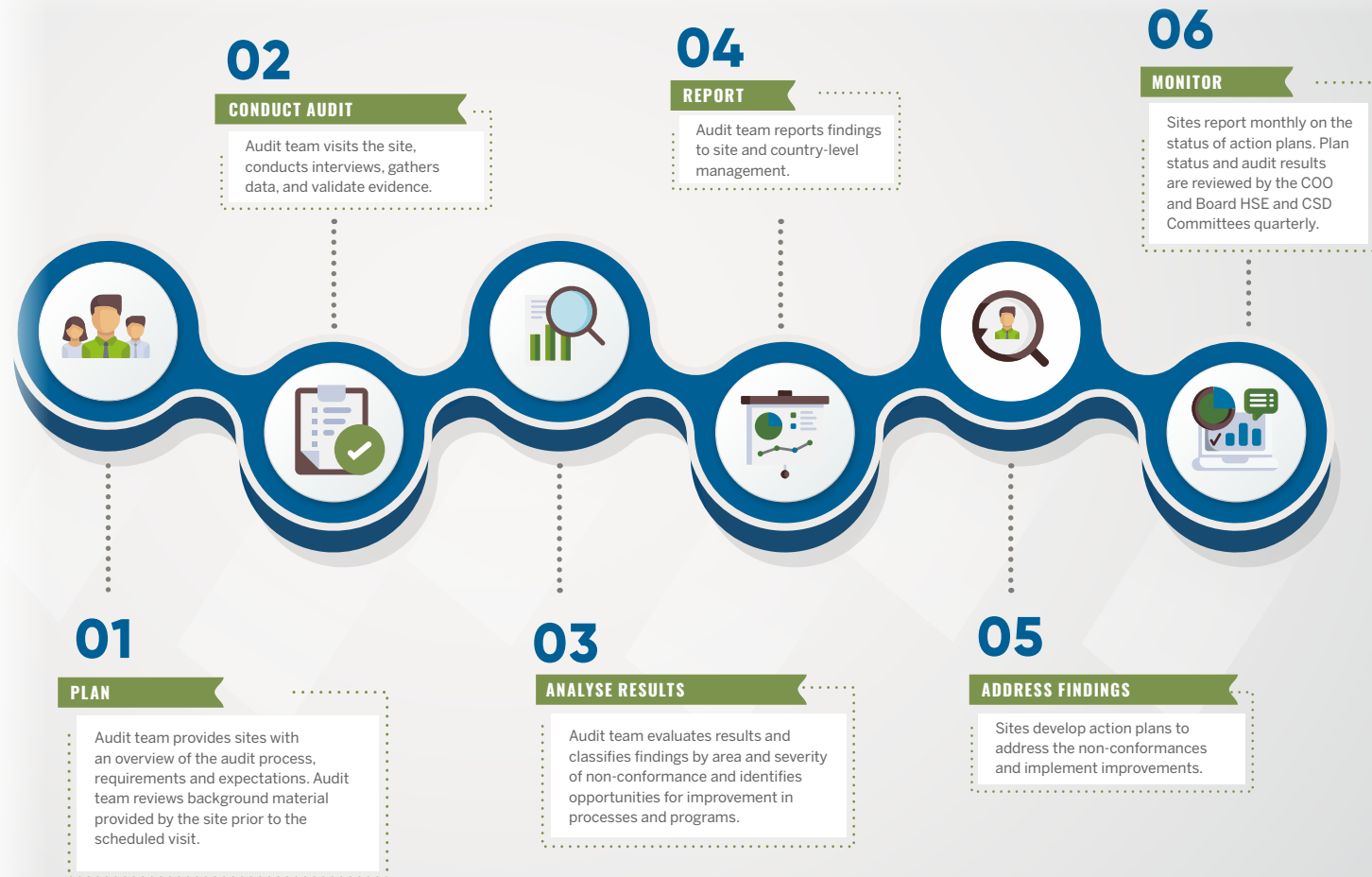
ESG AUDITS

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

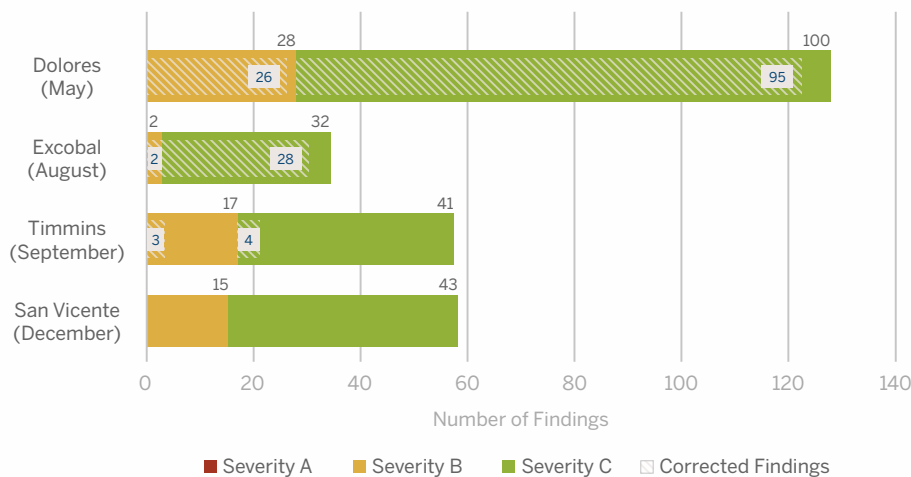


Environmental Audits

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

In 2021, we conducted environmental audits at Dolores, Timmins, and San Vicente, and internal tailings audits for TSM at La Colorada, Huaron, and Morococha. No significant non-conformances were identified in any of the audits. However, we had a high number of low-severity non-conformances relating to issues such as waste management, handling of chemicals, and minor spills. We attribute the high number of minor non-conformances to changes in our audit methodology, which increased our focus on site management systems, as well as the ongoing effects of the pandemic on our operations, including worker shortages and covid fatigue.

ENVIRONMENTAL AUDIT PERFORMANCE 2021



(1) Audits in Timmins and Escobal were conducted for the first time in 2021.
 (2) The audit in San Vicente was conducted in December, therefore, there was not enough time to correct any findings by the end of 2021.
 (3) 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.
 (4) 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.
 (5) 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

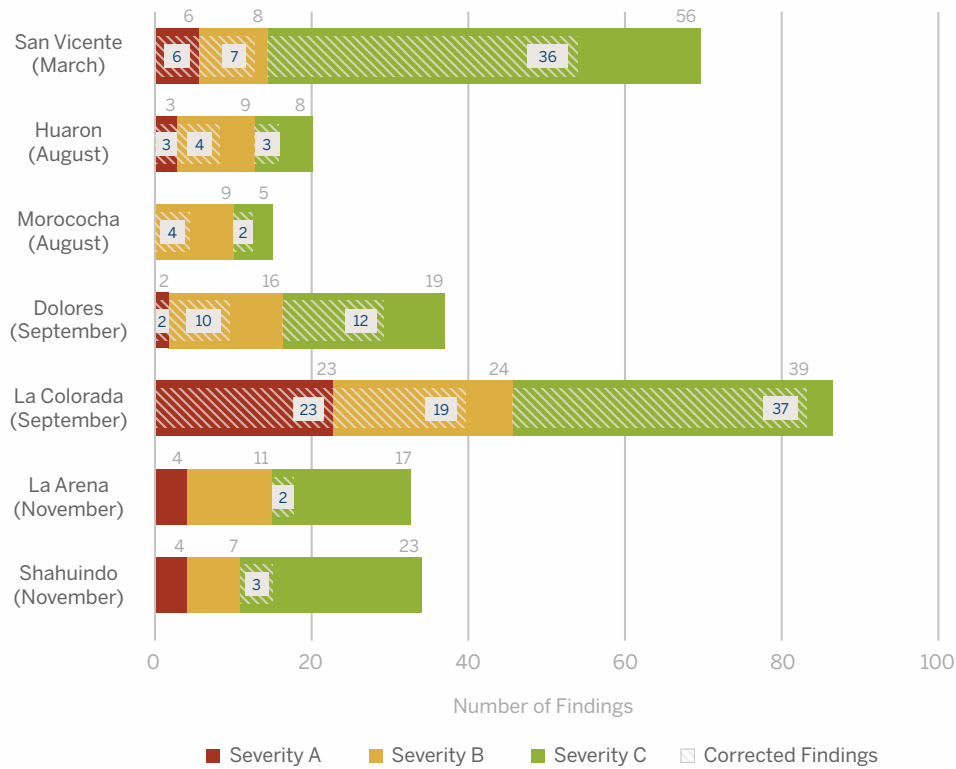
We conduct sustainability audits to evaluate and monitor our social performance by reviewing the capacity of our social teams, the effectiveness of our community programs and processes, and the conditions of our mining camps. Topics covered include labour and human rights, inclusion and diversity practices, community and Indigenous engagement, social impact and risk assessment, community investment, and social mine closure. We also audit performance on our SPIs. The audits are conducted by human resources and social team members from across the Company. Our audit framework is based on the ISO 26000 guidance standard on social responsibility and incorporates Pan American Silver’s policy commitments, as well as international best practices from:

- International Council for Minerals and Metals’ (ICMM) 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 2021, internal teams conducted sustainability audits at our mines in Mexico, Peru, and Bolivia. Most findings were of low severity. Identified improvement opportunities included the conditions of some common area mine facilities such as camps and dining areas, underground facilities, including bathrooms and dining areas, and hygiene and cleaning practices. Opportunities to improve social management team procedures were also noted.

In 2021, we conducted the first sustainability audit at La Colorada. Eighty-six findings were identified, and 92% of these were addressed by the end of the year. A follow-up audit will be conducted in 2022.

SUSTAINABILITY AUDIT PERFORMANCE 2021



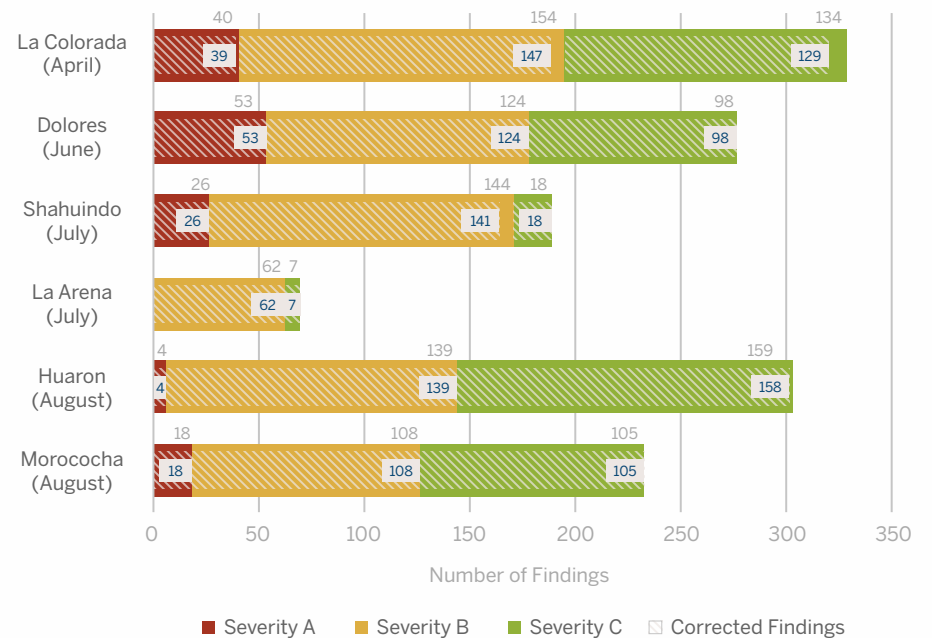
- (1) The audits in La Arena and Shahuindo were conducted in late November, therefore, there was not enough time to correct any findings by the end of 2021.
- (2) High Severity applies to non-conformance audit findings that, if not corrected, may have a critical impact on the Company's reputation and/or a high economic impact.
- (3) Moderate Severity applies to non-conformance audit findings that, if not corrected, may have a moderate impact on the Company's reputation, and/or a potential economic impact.
- (4) Low Severity applies to non-conformance audit findings that, if not corrected, may have a low potential impact on the Company's reputation.

Safety Audits

We conduct annual audits of all health and safety programs, and we remediate all identified health and safety findings.

In 2021, our corporate safety audit program remained paused due to COVID-related restrictions. However, internal safety audits were conducted at Morococha, Huaron, La Arena, Shahuindo, Dolores, and La Colorada by teams from other Pan American Silver sites within the same country. By the end of the year, operations had remediated all serious findings from previous safety audits and over 99% of all findings.

SAFETY AUDIT PERFORMANCE 2021



- (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 Sustainable Development Goals (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⁽¹⁰⁾ 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 2021, we have aligned the objectives of these prioritized SDGs with our [2022 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](#).



(10) 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 (sdindex.org).

ENVIRONMENT



ZERO

SIGNIFICANT ENVIRONMENTAL INCIDENTS



11%

REDUCTION IN GHG EMISSIONS COMPARED TO THE 2021 BASE CASE



10%

REDUCTION IN WATER USE COMPARED TO THE 2021 BASE CASE



85

ACHIEVED NET POSITIVE 85 HECTARES OF REHABILITATED OR RESTORED LAND



7%

REDUCTION IN ENERGY USE COMPARED TO THE 2021 BASE CASE



ENVIRONMENTAL POLICY

LAUNCHED UPDATED POLICY

WATER STEWARDSHIP

WHY IS WATER STEWARDSHIP IMPORTANT?

Water is one of our most basic human needs and, in many parts of the world, water resources are increasingly under stress. Minimizing impacts to natural water flows in streams and aquifers helps maintain the health of regional ecosystem. Water is a key input for mining and mineral processing, and mining activities have the potential to affect both local water quality and availability.

In some regions where Pan American Silver operates, the demand for water resources is intensifying due to population growth, economic development, and the potential effects of climate change. To better manage water risks and meet the needs of other water users, we develop catchment-wide assessments and aim for collaborative water stewardship. Effective and collaborative water stewardship is key to manage our water risks and impacts and to respect the rights of other water users, which is beneficial to build trust and long-term relationships with host communities.

ANALYST CENTER



Material topic: Water

What's included in this section:

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

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

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

Prioritized SDGs: 6

Potential Risks and Impacts:

- Water access for local communities
- New or stricter water regulations
- Accidental discharges potentially affecting water quality
- Water required by the mining processes could affect watersheds and other water users
- Alteration of underground and surface water quality

For additional information, see these data tables: 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 (2021 Water Performance and 2022 Water Goals by Operating Mine)

OUR APPROACH

We strive to minimize freshwater use and avoid negative impacts on water resources. Water management considerations are integrated into mine operation and closure plans. Our management of water-related risks includes the consideration of and engagement with other users within the catchment. 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
- Plans to 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
- Participatory water monitoring programs at our Peruvian and Canadian operations involve community representatives from around our mine sites
- Training is provided to relevant employees, contractors and community members related to their management plans and conservation objectives
- 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

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; while 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 Committee has oversight of the technical and regulatory aspects of our water management programs and practices, and receives quarterly reports.
- As part of its ESG mandate, the Board CSD Committee provides oversight relating to the impact of water-related matters on other users, including COIs where applicable.

OUR PERFORMANCE

Effective water stewardship requires us to engage and collaborate with other watershed users. The implementation of the TSM Water Stewardship protocol has been a catalyst in driving our operation management team to increase their engagement with COIs. Our site environment teams partnered with our site social teams to engage with local communities to enhance knowledge of our mines water catchments, our operational impacts and to better understand the relevance of water for socio-economic, cultural, and traditional use perspectives. The lessons learned from this engagement help to establish on-site water management systems and improve the effectiveness of our engagement with COIs on water-related issues. Our operations in Peru and Escobal mine in Guatemala took part in watershed committees organized by government authorities and comprised watershed users, including communities, agriculture, and other industries.

We have been developing our Water Management Corporate Standard, which will establish minimum water stewardship requirements for all operations. We completed an internal review of our water data collection framework, which identified opportunities to improve our water use accounting systems. As a result, we developed new procedures and systems to improve the accuracy, quality and consistency of our water reporting, which have been applied when preparing the data for this report and will also be incorporated into our Water Management Corporate Standard.

Water Quality

We invested in improvements to water and wastewater treatment facilities during 2021 to increase efficiency and, in some cases, provide additional treatment capacity. In 2021, we also advanced the construction of a new water treatment plant at Shahuindo for the Merinos water catchment, and we are expanding our domestic water treatment plant at La Colorada. Water discharge ponds at Timmins were also expanded to improve our overall water treatment capacity and efficiency.

There were no incidents of non-compliance with water quality permits, standards, or regulations at our operations in 2021. We recorded two reportable spills at Timmins during the year which were contained within our operating area and immediately cleaned, avoiding impacts to water quality. More details on these spills are included in the [GRI & SASB data tables](#). No enforcement, penalties or fines related to water management were received in 2021.

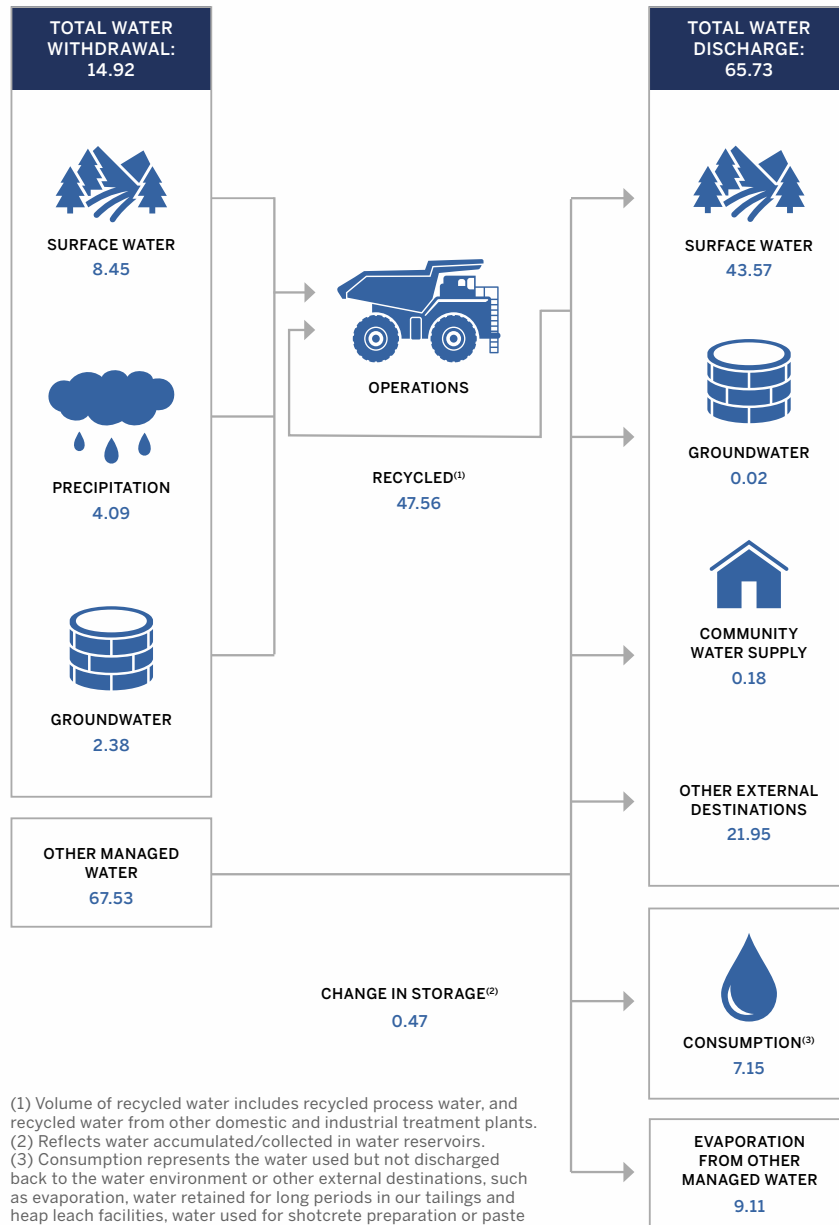
Water Use

All operations set annual goals to reduce water use through site-based projects and initiatives that increase recycling and reduce water usage. Through these initiatives, and higher-than-average net precipitations at some of our locations, we reduced our water use by 1.3 million m³, 10% compared to the 2021 base case, and exceeded our 6% reduction goal. For example:

- San Vicente achieved a 17% reduction in freshwater withdrawal for mineral processing compared to our base case by increasing its use of recycled water from the tailings storage facility.
- Shahuindo trialed the use of certain additives, including a molasses-based additive produced from local sugar cane businesses, to reduce the amount of water used in road watering for dust control by 23% compared to our base case. The reduction of road watering through the use of additives increased water availability for downstream communities and allowed us to meet air quality standards for dust emissions at the site.

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

COMPANY-WIDE WATER BALANCE (MILLION M³)



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, surface water sources such as lakes or rivers. Occasionally, we manage water discharges from other companies as an input. Eighty-two percent of our company-wide water balance is other managed water—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. For ore processing, we use “new” water and water recycled from our process plants, water treatment plants, tailings facilities, and heap leach pads. In 2021, 81% of all water used for ore processing was recycled water. Some of the water that we discharge is used to support local agriculture or is provided directly to local communities to help meet their water needs. Water retained long-term in our tailings and heap leach facilities, used for shotcrete and paste backfill, and water evaporated is counted as water used. In 2021, we improved our ability to estimate evaporation and water contained in consolidated tailings and leach pads.

Our Dolores mine in Mexico, located in the Yaqui River catchment, is our only operation in a catchment with extremely high baseline water stress.⁽¹¹⁾ The freshwater withdrawal at Dolores is 13% of our corporate total and 11% of our total freshwater use for mineral processing. The mine saw a water use intensity of 0.15 m³/tonne of ore processed in 2021. The impact of the Dolores mine on water availability is negligible with a total water use being less than 0.1% of the natural recharge at the Yaqui River catchment.⁽¹²⁾ Nevertheless, we continue to implement initiatives to reduce our freshwater extraction.

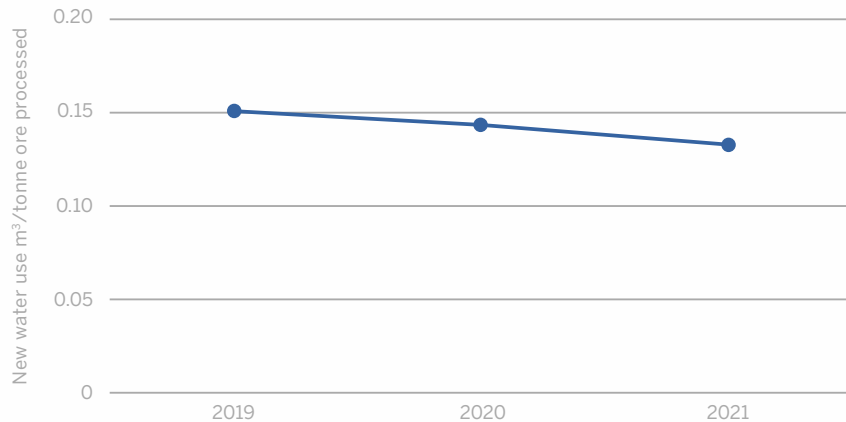
(11) As identified by the World Resources Institute.

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

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. The combined water use intensity of our operations, excluding Huaron and Morococha, was 0.13 m³/tonne of ore processed, a reduction from our 2020 intensity of 0.14 m³/tonne. This change is primarily due to the improvements in our accounting methodology, increases in production, and efforts to increase our efficiency. Water use intensity at Huaron and Morococha was 3.78 m³/tonne of ore processed, a reduction of 0.21 m³/tonne compared to 2020.⁽¹³⁾

WATER INTENSITY⁽¹³⁾



NEXT STEPS

- Finalize and rollout the Water Management Corporate Standard
- Update water balances and physical climate change risk assessments at each site
- Evaluate the development of medium to long-term water use targets



(13) 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.

TAILINGS FACILITIES AND WASTE MANAGEMENT



ANALYST CENTER

Material topic: Tailings and Waste Management

What's included in this section:

- Tailings and heap leach facilities management
- Pan American Silver operating tailings storage facilities, dams, heap leach pads
- Tailings facilities construction methods
- Technological Innovation
- Waste rock
- Non-mineral Waste

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

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

SASB indicator: 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

Prioritized SDGs: 3, 6, 12

Potential Risks and Impacts:

- Failure or leakage of tailings facilities and heap leach operations resulting in impacts on human and ecosystem health, property, and community livelihoods
- Spills, acid rock drainage, or metal leaching resulting in water and soil contamination
- Alteration of natural drainage patterns while mining with open-pit methods
- Physical stability of mine workings, of sterile rock deposits, and of tailings facilities

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

WHY ARE TAILINGS FACILITIES AND WASTE MANAGEMENT IMPORTANT?

Mining operations generate both mineral and non-mineral waste. 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 from them. Therefore, safe management of tailings facilities has become a global priority for the mining industry, governments, communities, insurers, and investors.

Non-mineral waste includes domestic and industrial hazardous and non-hazardous wastes that are produced through mining activities. The proper management of these waste products is also necessary to mitigate potential risks to people and the environment.

At Pan American Silver, our aim is to minimize such impacts. Responsible management of our tailings facilities, heap leach pads, and waste rock is a priority to protect the health and safety of our workers, local communities, and ecosystems. We also recognize the importance of non-mineral waste management to promote the efficient use of natural resources through material reuse and recycling, and the reduction of hazardous and non-hazardous waste generation at the source.

OUR APPROACH

We manage mineral waste by designing, building, operating, maintaining and closing tailings storage facilities, water dams, heap leach pads, and waste stockpiles in accordance with the TSM Tailings Management Protocol and the Canadian Dam Association (CDA) Guidelines. We conduct routine inspections, geotechnical and environmental monitoring, safety reviews, risk assessments, audits, and independent 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
- Site-specific emergency preparedness and response plans are aligned with facility risk assessments and linked to the Corporate Crisis and Communications Plan. Such plans cover interactions with local authorities and first responders. Emergency simulations are conducted periodically

- Predictive modeling 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

Monitoring and evaluation

- Dam safety inspections to assess facility conditions are conducted at least monthly by technical staff
- Dam safety reviews are conducted at least annually by the external Engineer of Record (EoR) to assess the stability and safety of facilities
- Independent tailings storage facilities safety reviews to assess facility risk and identify improvements are conducted every five years by an independent reviewer
- Management system reviews are conducted annually by internal teams in coordination with the Vice President of Mineral Processing, Tailings & Dams, to identify opportunities for improvement
- TSM Tailings Management Protocol self-assessments are conducted annually by each site to ensure the compliance of its tailings management system with the TSM protocol
- 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 implement 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 is 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. This third-party reviewer provides Pan American Silver with independent, objective, expert commentary, advice, and recommendations to help identify, understand, and manage risks associated with tailings facilities, as well as the implementation of the tailings management system.

OUR PERFORMANCE

Tailings and Heap Leach Facilities Management

We store tailings and heap leach pads in specialized, engineered facilities using construction methods that vary according to the context and local conditions of each operation. Our facilities and infrastructure are designed for stability and have the capacity to withstand credible extreme weather, floods or seismic events. During 2021, Pan American Silver managed seven operating tailings facilities, five heap leach pads, one dry stack tailings facility at the Escobal mine, and one large water storage dam at Dolores.

Our focus is on continuous improvement of our management framework, which consists of four phases: planning, implementation, monitoring and surveillance, and reviews and assurance.

In 2021, we continued to strengthen our management systems and our commitment to the implementation of the TSM Tailings Management Protocol with the aim of achieving of TSM level A scores at all operations. At the end of 2021, four out of seven operating tailings facilities had met this objective; the remaining three are expected to achieve Level A in early 2022. Collectively, operations have met 96% of the 350 TSM Level A tailings protocol criteria.

TAILINGS MANAGEMENT FRAMEWORK



Also in 2021, we conducted:

- Safety reviews (conducted by the Engineer of Record) at all seven tailings facilities, the water dam and heap leach facilities
- Internal audits and follow-ups at four tailings facilities and implemented all recommendations
- Tailings management reviews at all seven tailings facilities, water dam, and heap leach facilities

PAN AMERICAN SILVER OPERATING TAILINGS STORAGE FACILITIES, DAMS, HEAP LEACH PADS

#	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⁾
3	La Colorada (Presa #6)	Mexico	Operational	Downstream/Modified Upstream/Centerline	Significant ⁽³⁾
4	Huaron (Presa #5)	Peru	Operational	Centerline	High to Very High ⁽⁴⁾
5	Morococha (Huascacocha)	Peru	Operational	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) Dam Breach Analysis being updated

(4) High for fair weather scenario and Very High for flood induced scenario

The full table can be found in the [GRI and SASB Data Tables section](#).

We continue to conduct independent dam safety reviews on a rolling five-year basis. In 2021, we completed the independent review at Huaron, finding that the facility is in good working condition and well maintained. The independent dam safety and closure review of the dry tailings storage facility at Alamo Dorado was postponed due to COVID-19.

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

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 TSM Tailings Management Protocol and the CDA Guidelines and found minor gaps, as well as areas where TSM and CDA requirements exceed those of the GISTM. MAC has updated elements of its protocol to address some of these gaps and better align with the GISTM and is determining the need for additional updates. We are committed to implementing the TSM standard at all of our operations and we continue to support MAC's efforts in aligning the TSM Tailings Management Protocol with the GISTM through active participation in MAC's Tailings Working Group.

Technological Innovation

Our real-time monitoring system at La Colorada integrates systems for monitoring geotechnical instrumentation such as piezometers, inclinometers, drain flows, and settlement monuments by means of an Automatic Mechanical Total Station (AMTS). Following the successful implementation of such monitoring system, Timmins, Huaron, and Escobal are all implementing similar dam instrumentation automation programs. We are also testing satellite-based techniques to monitor the conditions of our critical facilities on a regular basis.

Such remote access to real-time data and visualization of variables, trends, and alarms by the responsible engineers and engineers of record allows the monitoring of our facilities at any time, from anywhere. This technology enhances our ability to ensure geotechnical stability, reduces the potential for catastrophic failures and can provide an early warning allowing us to take action and avoid major incidents.

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 occur. We actively manage these risks to prevent the formation of ARD at all seven sites through the design of our facilities and, where necessary, we use

active or passive water treatment systems that neutralize acid drainage and prevent downstream water contamination.

Our initiatives to predict and manage ARD include:

- 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 and minimize the erosion and infiltration of waste rock dumps, which will in turn reduce the occurrence of ARD. Additional information can be found in the [Mine Closure section](#).
- In 2021 at La Arena, which is in the later stage of its mine lifecycle, we completed geochemical studies to determine the potential for ARD from the waste dumps, leach pad, and pit lake to affect water quality during the post-closure phase. We are planning a new water treatment plant to manage long-term water quality at the site.
- At Dolores, we continued testing to characterize and model potential acid generating rock during closure and post-closure in 2021. This information will inform whether ARD might occur at the site and influence future water quality monitoring and closure planning.

We occasionally reuse waste rock as backfill in some of our underground operations and construction materials for certain surface infrastructure, including tailings storage facilities, roads, and platforms for buildings and equipment. In 2021, we generated 70,704,739 tonnes of waste rock and 4,772,371 tonnes of tailings and were able to reuse 21% of the waste rock and 10% of tailings residue for these items.

Non-mineral Waste

Some activities at our operations—mining, blasting, mineral processing, among others—generate hazardous and non-hazardous industrial waste materials that require end-of-life recycling or disposal. Under our decentralized operating model, each operation has waste management plans and procedures and implements measures to reduce waste generation and manage significant 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 2021, we had no significant incidents associated with hazardous materials and waste management.

Our four mines in Peru have partnerships with ANIQUEM (Asociacion de Ayuda al Niño Quemado), which provides rehabilitation to children suffering from serious burn injuries. Through ANIQUEM's Recycle to Help program, the mines donate recyclable waste, such as cardboard and electronic equipment, which is then sold, and the profits are used to support children. In 2021, Pan American Silver Peru donated 68 tonnes of recyclable waste which supported the medical treatment for 36 children.

TYPES OF WASTE AND DISPOSAL METHODS 2021—COMPANY WIDE

Waste Managed and Disposed				
(tonnes)	Typical Waste Types	2021	2020	2019
Hazardous or dangerous waste - secured landfill	Used oils and solvents, batteries, reagent packaging	2,644	1,574	1,713
Non-hazardous inert waste—landfill	Concrete, brick, masonry, and non-recyclable plastic and wood.	155	363	468
Domestic waste to landfill	Food waste, soiled paper and plastics	5,409	3,221	3,533
Reuse	Tires, scrap metal, wood	696	221	58
Recycling	Scrap metal, glass, plastics, wood, used oil	5,299	2,894	3,257

We predicted that both hazardous and domestic waste would increase substantially in 2021 due to COVID-related waste (some of which is considered hazardous in some of our jurisdictions), and to an accumulation of recyclable inert waste that we could not transport off site because of certain mandated lockdowns that occurred around some of our operations in 2020. Taking these factors into account, we were able to reduce domestic and industrial waste by 3% from the base case predicted for 2021,⁽¹⁴⁾ but fell short of our 11% reduction goal. This was primarily due to our underestimation of COVID-related medical waste and waste generated by investments in construction projects. In addition, some sites were delayed in advancing initiatives that would have reduced waste and increased recycling volumes during 2021. These activities are being scheduled for 2022.

NEXT STEPS

- Achieve and/or maintain Level A on the TSM Tailings Management Protocol at all tailings facilities
- Conduct an independent tailings storage facility review at San Vicente and an independent dam safety and closure review at the Alamo Dorado dry stack tailings facility
- Reduce waste generation through contaminated soil remediation, awareness training, and increased waste reuse and recycling

(14) The 2021 base case is our projected 2021 waste generation, as calculated using our life of mine plans adjusted for annual production.

CLIMATE, ENERGY AND GREENHOUSE GAS EMISSIONS REPORTING

WHY ARE CLIMATE, ENERGY AND GREENHOUSE GAS EMISSIONS IMPORTANT?

The impact of anthropological global warming is a global 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 solutions to reduce emissions, transform energy supply, and optimize land use.

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 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 addition, in 2020 we adopted the TCFD reporting recommendations in our 2020 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 indicator: 201-2; 302-1; 305-1; 305-2; 305-3; 305-4; 305-5

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

Prioritized SDGs: 13

UNGC Principles: 1; 2; 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 (2021 Energy Performance and 2022 Energy 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, combined with the expected increase in adoption of electrification and the outlook for lower emission intensity electricity generation. 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 and developing additional targets to further reduce our current long-term energy profile estimates
- Incorporating the Task Force on Climate Related Financial Disclosure's (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 5, 2022

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 primarily through its Board CSD Committee, as well as through the Board HSE Committee, and directly by management. The Board of Directors, largely through its Committees, reviews 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, largely through committees, reviews and monitors management's reports and activities to ensure that the main risks and opportunities to the Company related to the environment are identified by management and that appropriate resources are allocated by management to address these risks and opportunities.

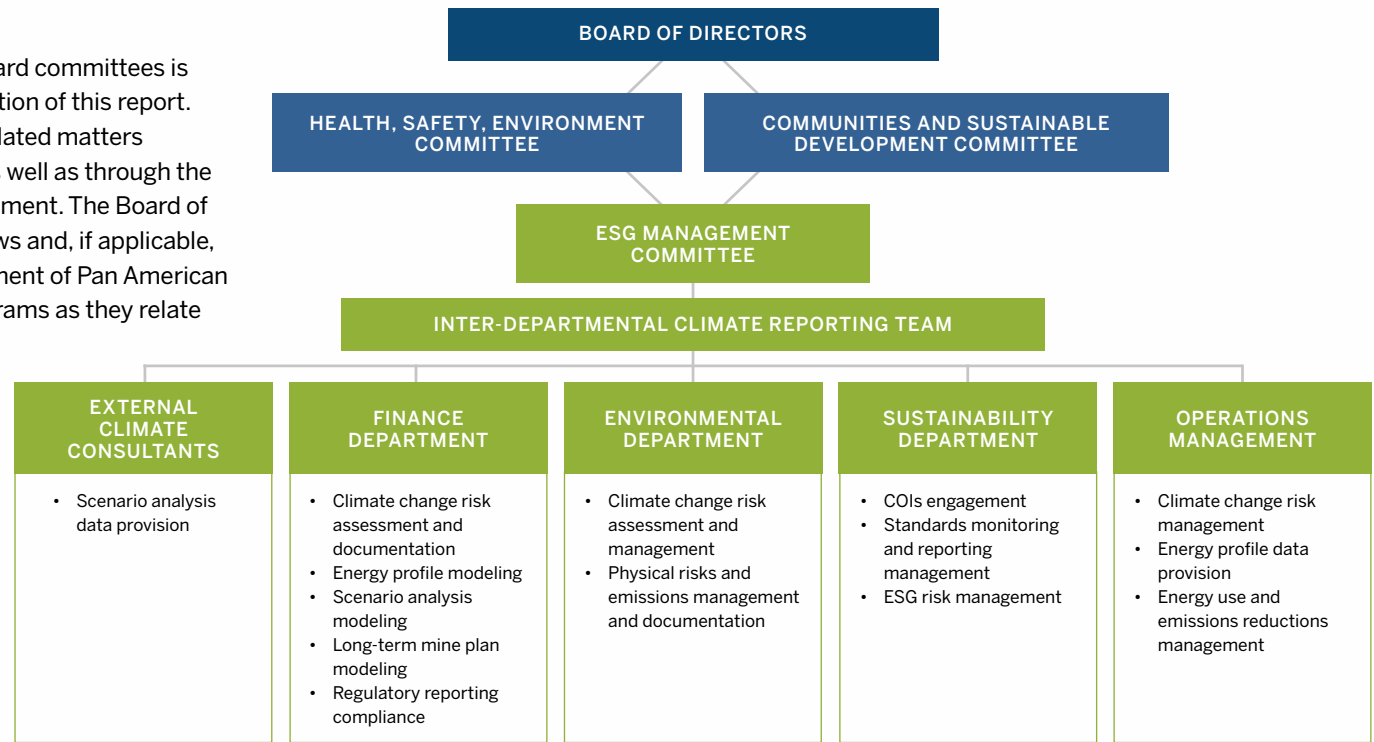
Management Level

In 2019, we formed a Climate Change Committee with senior management to oversee our sustainability reporting framework, the implementation of the TCFD recommendations and our commitments to the World Economic Forum's CEO Climate Leaders Alliance.

In 2020, we expanded this committee and re-named it as the ESG Management Committee as described in the [Sustainability Governance](#) section of this report. This ESG Management Committee develops policy and standard recommendations to our Board, reviews the results of our current performance, evaluates risks and strategies, and agrees on reporting metrics and targets.

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,

PAN AMERICAN SILVER CLIMATE-RELATED GOVERNANCE STRUCTURE



help identify and define 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 Management Committee or the Board and CSD and HSE Committees.

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 raw materials necessary in excess of the demand satisfied through recycling. 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 in order 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 further integrated climate change into our business objectives and decision-making. In addition, we have been enhancing our analysis and disclosures of transitional risks, with the objective of providing COIs with greater clarity of the potential long-term impacts that climate change may have on our business. This included:

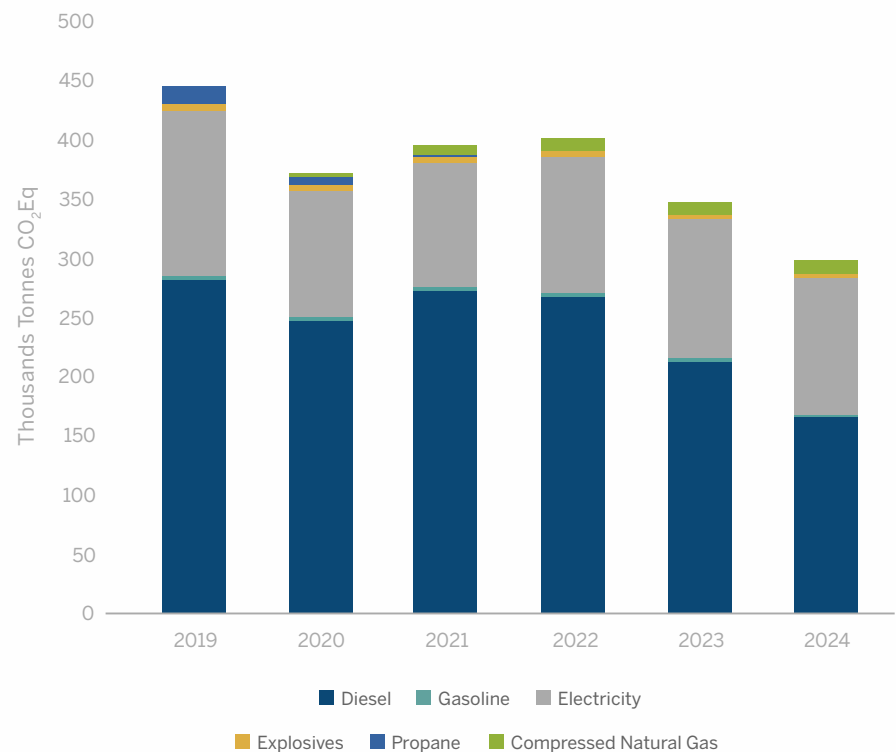
- Developing our first **long-term energy profile**
- Evaluating our long-term plans with **scenario analyses**

Pan American Silver Long-Term Energy Profile

In 2021, we completed the first estimated short and medium-term energy demand and CO₂Eq emissions estimates for all our operations based on our current life of mine plans. This profile provides a forecast of our future annual energy use and diesel consumption in a base case scenario, which

assumes no benefits obtained from further efforts to reduce emission than those already in place. Our base case forecast presented in the graph below highlights our CO₂Eq emission estimates from our existing operating mines. This forecast is based on current mine life expectations, along with planned and approved development projects, and does not assume emissions that may result from extensions of mine life due to successful exploration, which we have experienced in the past. We have also excluded emissions related to our major growth and development projects beyond 2022, such as the development of the La Colorada Skarn project, until we have further clarity on the timing and scale of these projects from engineering studies that are currently underway. Lastly, the estimated CO₂Eq emission forecast assumes continued care and maintenance activities at our Escobal Project which remains subject to the completion of the ILO 169 consultation that is currently underway.

PAN AMERICAN SILVER’S THREE-YEAR CARBON EMISSIONS FORECAST⁽¹⁾⁽²⁾⁽³⁾



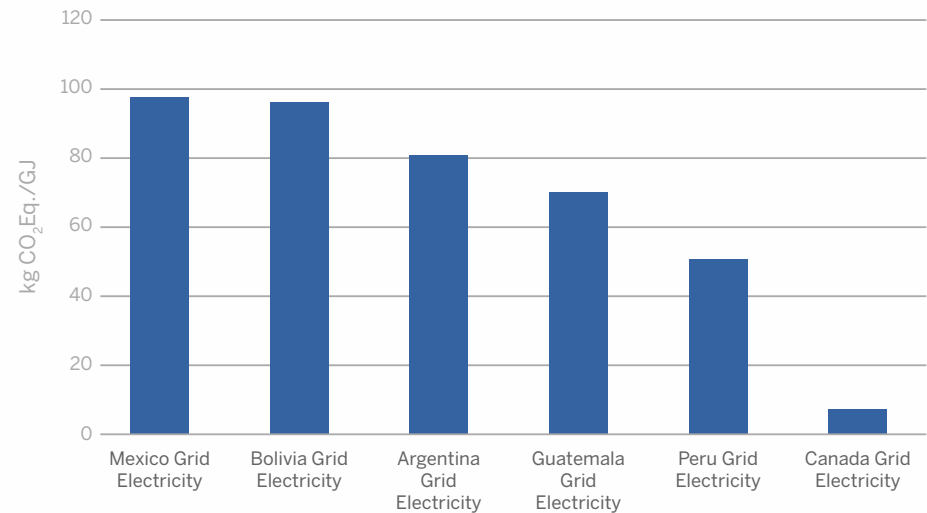
(1) Pan American Silver used National Inventory Report Canada to calculate Direct (Scope 1) GHG emissions.
 (2) Emissions from purchased electricity calculated according to GHG protocol using the (International Energy Agency (IEA) 2021 tool for all the mines except Timmins.
 (3) Emission factor for Timmins provided by the Independent Electricity System Operator (IESO) in Ontario.

“Base case” profile assumptions

Our historic energy use was converted into tonnes of CO₂Eq emissions using the National Inventory Report Canada factors for Direct GHG emissions at our Timmins mines, and according to the GHG conversion protocols using the IEA tool for purchased energy at all our other mines. The purchased electricity emissions factor used for Timmins was obtained by the Independent Electricity System Operator (IESO) in Ontario. Our base case for future CO₂Eq emission profiles used the 2021 emissions conversion factors and does not account for any changes to any jurisdictional electrical grids that may occur, nor does it include assumed direct procurement of renewable electricity other than for operations where such contracts are currently in place.

The various electricity grid emissions factors calculated for 2021 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, which reflects 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. Irrespective, 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.

GRID EMISSIONS⁽¹⁾⁽²⁾ FACTOR BY JURISDICTION



(1) Emissions from purchased electricity calculated according to GHG protocol using the IEA 2021 tool for all the mines except Timmins.
(2) Emission factor for Timmins provided by the Independent Electricity System Operator (IESO) in Ontario.

Using our energy and CO₂Eq emissions profile forecast, we were able to establish our plan for setting medium-term CO₂Eq emission reduction goal and preparing a scenario analysis to consider the financial impact to our business of different climate change scenarios, as discussed in the next section of this report.

Climate Scenario Analysis

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 2019 and 2020 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

Scenarios are not intended to encompass a complete description of the future, but instead emphasize key factors that would impact future developments. We incorporated scenario analysis to determine potential financial impacts of climate change on our business and to provide additional insight on our potential risks and opportunities.

The scenarios were developed to better understand the possible impact on the following variables: (i) metal demand and outlook; (ii) carbon pricing schemes; and, (iii) direct cost impacts from changes in global demand for fossil fuels. We evaluated the impact of these variables on our life of mine plans in order to assess the business impacts to these divergent paths.

In our analysis, we have focused on the transition impacts to silver, copper, lead and zinc metal 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, jewelry, and bank reserve requirements, at this point.

There is a significant positive impact from the transition to a low-carbon economy on the demand for metals needed for the technologies required for alternative energy solutions and storage. In both the Divergent Net Zero and Nationally Determined Contributions scenarios, demand for silver, zinc and copper is expected to go up considerably from current levels. These metals are critical for the transition and Pan American Silver is poised to benefit from increased demand for these metals under those scenarios, given its significant mineable reserves and resources in those metals, including in its growth catalysts and development projects such as the La Colorada skarn project, the Escobal mine currently in care and maintenance, Navidad, and the La Arena sulphides project – all of which have significant resources in at least one of silver, zinc and copper. We will continue to assess the resilience of our business to climate change as we manage our business through the transition.



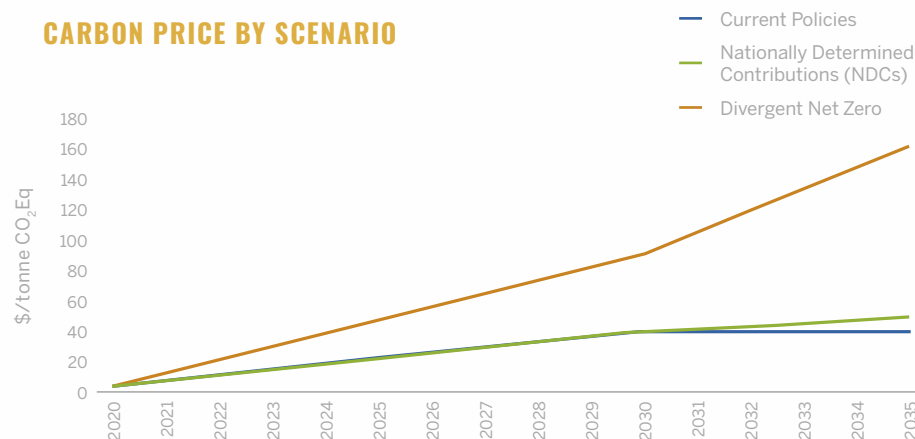
SCENARIO ANALYSIS RESULT

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	↓	

Source: Vivid Economics, Company Analysis

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.

CARBON PRICE BY SCENARIO



Source: Vivid Economics

We will continue to refine and enhance our scenario analysis in future TCFD reports, 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.

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 Management Committee for presentation to the Board.

We will 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 for each of our current operations and projects. The scenarios considered in the analysis and evaluation of the latest global climate models included a Paris Agreement-aligned two degrees Celsius (IPCC RCP 2.6) scenario and an extreme case six degrees Celsius scenario (IPCC RCP 8.5).

The primary conclusion derived through analysis of regional climate estimates is that temperatures have been generally increasing at all our sites, except for the San Vicente operation, where temperatures have shown no trend over the last 80 years, and 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. Nonetheless, even at San Vicente and Dolores, any changes in climatic conditions during the current life of mine of each operation are expected to be minor. Since existing operational mine water management plans already account for annual and seasonal variability within the current climate, any future changes should not pose a significant risk to our mines during operations.

There is limited information available regarding the prediction of future extreme weather events. As a result, information available at the time of mine closure should be used to complete additional analysis to assess the potential for increased extreme precipitation and associated design flows well into the future. If no or very limited extreme precipitation information is available, Engineers and Geoscientists of British Columbia (EGBC) recommends adopting an increase in design flood magnitude between 10% and 20% (APEGBC, 2012). This approach is generally consistent with current standard industry practice and reflects the high uncertainty associated with projections of future changes due to extreme precipitation patterns. We have adopted this approach and conducted sensitivity analysis of water management structures for 15% increases in design flood magnitude at our closed Alamo Dorado operation. We will continue to monitor the performance of surface water management structures and the site water balance throughout the post-closure period.

We continue to incorporate sensitivity analysis into planning for mine closure at the rest of our operations with a focus on those nearer to closure including Manantial Espejo and La Arena. The infrastructure at our Morococha operation, currently on care and maintenance, will undergo sensitivity analysis for design flood magnitude.

In 2022 and 2023, we will consider updating our physical risk assessment to consider if material changes surface through the scenarios and models from the 2021 IPCC sixth assessment report (AR6). We plan to include a risk screening methodology to identify and prioritize material risks across all operations, advanced projects, and supply chains. We will also assess annually a quantitative evaluation of the identified material physical risks that should be considered for the time horizons of 2030 and 2050, and further support our climate change adaptation strategies. Where possible, the potential material financial, environmental, operational, and reputational impacts will be evaluated to identify where appropriate strategic responses would be beneficial.








The Coupled Model Intercomparison Project 6 (CMIP6) models and the Shared Socioeconomic Pathways (SSP) scenarios may be used to predict potential climate change impacts and assess the severity and likelihood of climate hazards from changes in weather and climate extremes on our

sites if proven relevant. The selection of scenarios would align with our transitional risk scenario analysis and previous physical risk climate change work based on the Paris Agreement RCP2.6 and 8.5 scenarios, in line with TCFD recommendations.

Working collaboratively with our operation management team, subject matter experts, and relevant site workforce, we plan to identify and monitor each site's potential exposure to material climate change hazards. This collaborative effort will also help us monitor and evaluate the effectiveness of existing operational mine water management plans and consider opportunities to improve these plans, which already account for annual and seasonal variability, emergency response planning and mine closure planning.

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

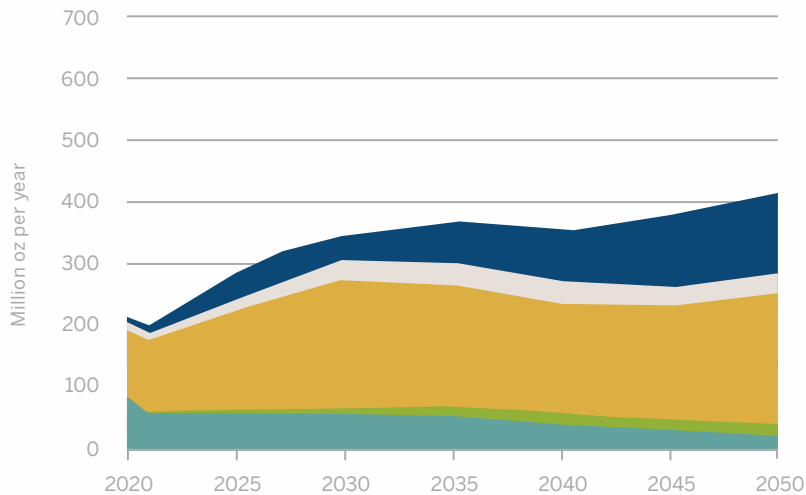
As defined by TCFD, transitional risks arise from policy, regulatory, legal, technological, reputational, and market changes to address mitigation and adaptation requirements to transition to a reduced GHG emission economy. These may have varying levels of financial and reputational risks and exposures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

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

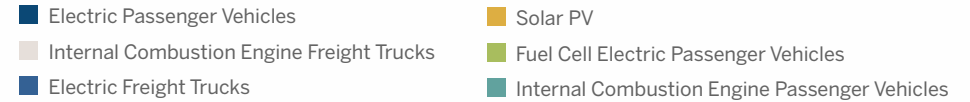
Transition Opportunities

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 also shown to be cost-efficient.

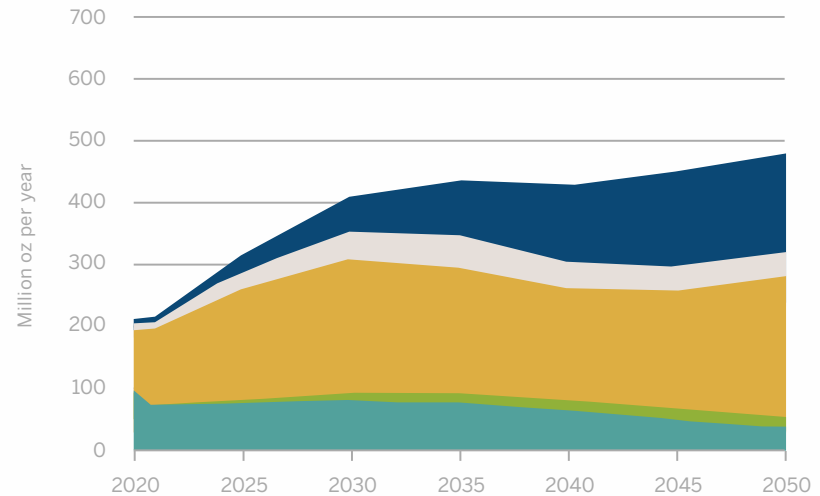
SILVER TRANSITION DEMAND BY DRIVER – CURRENT POLICIES



Source: Vivid Economics

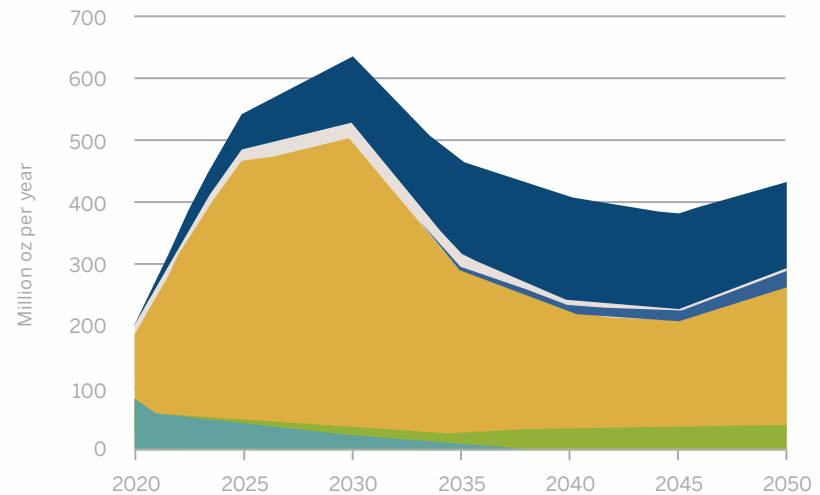


SILVER TRANSITION DEMAND BY DRIVER – NATIONALLY DETERMINED CONTRIBUTIONS (NDCs)



Source: Vivid Economics

SILVER TRANSITION DEMAND BY DRIVER – DIVERGENT NET ZERO



Source: Vivid Economics

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 our climate-related risk and opportunity assessments and strive for transparent disclosures of these through our annual TCFD reporting. 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:
 - 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, and 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 two 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 GHG emissions 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 in our corporate and strategic planning activities. Our annual budgeting process identifies targets for energy use, CO₂Eq emissions, water use, biodiversity, and waste management. This process builds meaningful targets organically from the operators and supervisors at our sites through the organization to strengthen alignment within the Company. Targets are derived from defining viable projects and initiatives generated through the creativity and innovation of our teams. In 2022, we will be further integrating additional environmental goals into our executive compensation through our annual incentive plan, as reported in Pan American Silver's Management Information Circulars.

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 impact on energy use, CO₂Eq emissions, water use, and biodiversity.

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. Typical examples of these type of projects may include deploying more efficient conveyor systems to transport ores, developing and extending existing underground production shafts to cut back on steep haulage distances, adopting electric fleets as they become more widely available and efficient, as well as other similar initiatives.

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 Colorado 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.

2021 Highlights

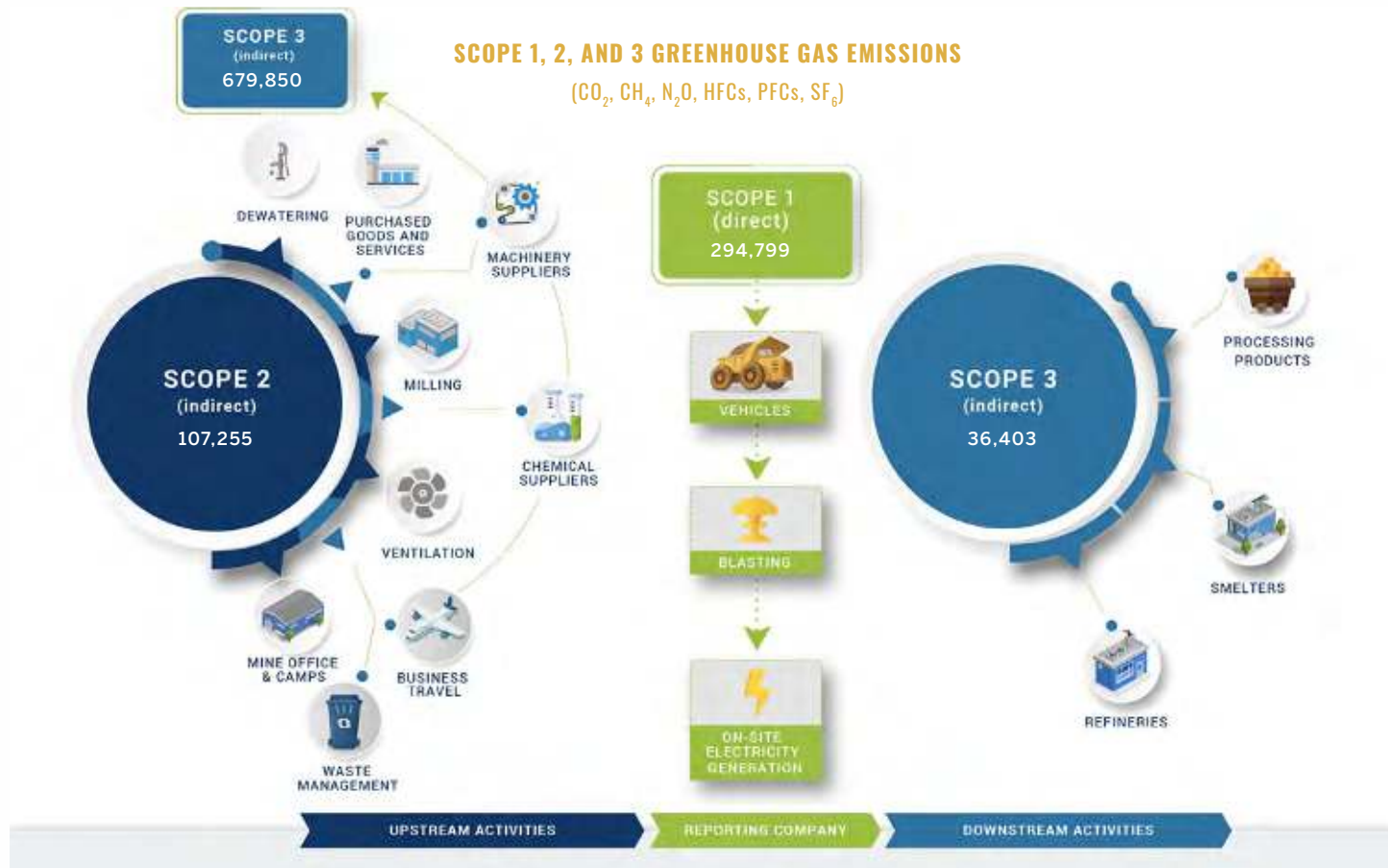
- Achieved our 2021 energy and emissions goals of a 0.3% reduction in energy use and 11% reduction in GHG emission estimates compared to the 2019 base case. Our goals were achieved primarily through a change to our Dolores mine plan where in-pit dumping of waste rock was brought forward in time, as well as other energy and emission reduction projects at all our operations.
- Completed the switch from propane to compressed natural gas at our Timmins operations accounting for an annual reduction estimate of 1,800 tonnes CO₂Eq.
- Certified renewable portion of purchased electricity and offset the remainder at our Escobal mine.
- Completed the grid connection of a remote water treatment plant at La Arena and a camp at Shahuindo, reducing GHG emission estimates at both sites.
- All four Peruvian mines received the third star from the Peruvian Government's voluntary Carbon Footprint program for verification of reductions and reduction initiatives in 2019 and 2020.

GHG emission trends for our operations generally track our energy use. In 2021, our Scope 1 and 2 GHG emissions increased relative to 2020 as expected due to higher production.

GHG Emissions (Tonnes CO ₂ Eq)	2021	2020	2019
Scope 1 – Direct ⁽¹⁾	294,799	274,522	313,361
Scope 2 – Electricity ⁽²⁾	107,255	111,895	143,863
Total Scope 1 and 2	402,054	386,418	457,223
Scope 3 - Value Chain	716,253	618,332	668,098

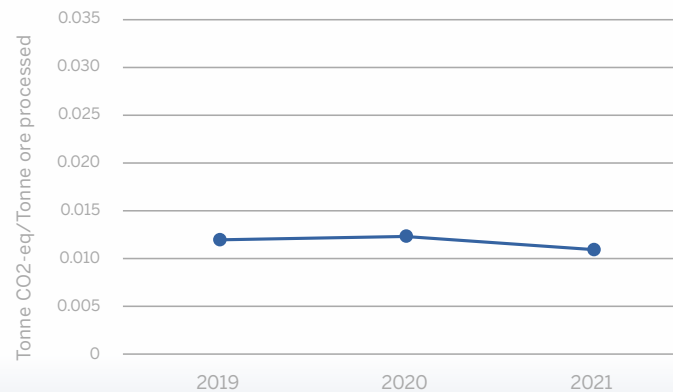
(1) Pan American Silver used National Inventory Report Canada to calculate Direct (Scope 1) GHG emissions. The global warming potential (GWP) used for calculations is based on the information provided by the Government of Canada. Gases included in this calculation are CO₂, CH₄ and N₂O.
 (2) Emissions from purchased electricity calculated according to GHG protocol using the IEA 2021 tool for all the mines except Timmins. Emission factor for Timmins provided by the Independent Electricity System Operator (IESO) in Ontario. Gases included in this calculation are CO₂, CH₄ and N₂O.

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 (36,403 tonnes CO₂Eq for 2021), which was used to complete the Scope 3 estimate. This year, we saw a large decrease in the reported emissions and emission intensity of one of our downstream smelters due to a change in their scope 2 emission estimation using the market-based methodology, which recognized the renewable energy certificate from their utility supplier.



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



In 2021, our GHG emission intensity was slightly lower compared to 2020, reflecting increased efficiency at our mines during the operating period and cleaner electricity grids as countries reduce the carbon footprint of electricity generation by switching to renewable sources.

2022 Targets

Our targets for 2022 were developed through our annual budget development process described above. We have set two specific targets:

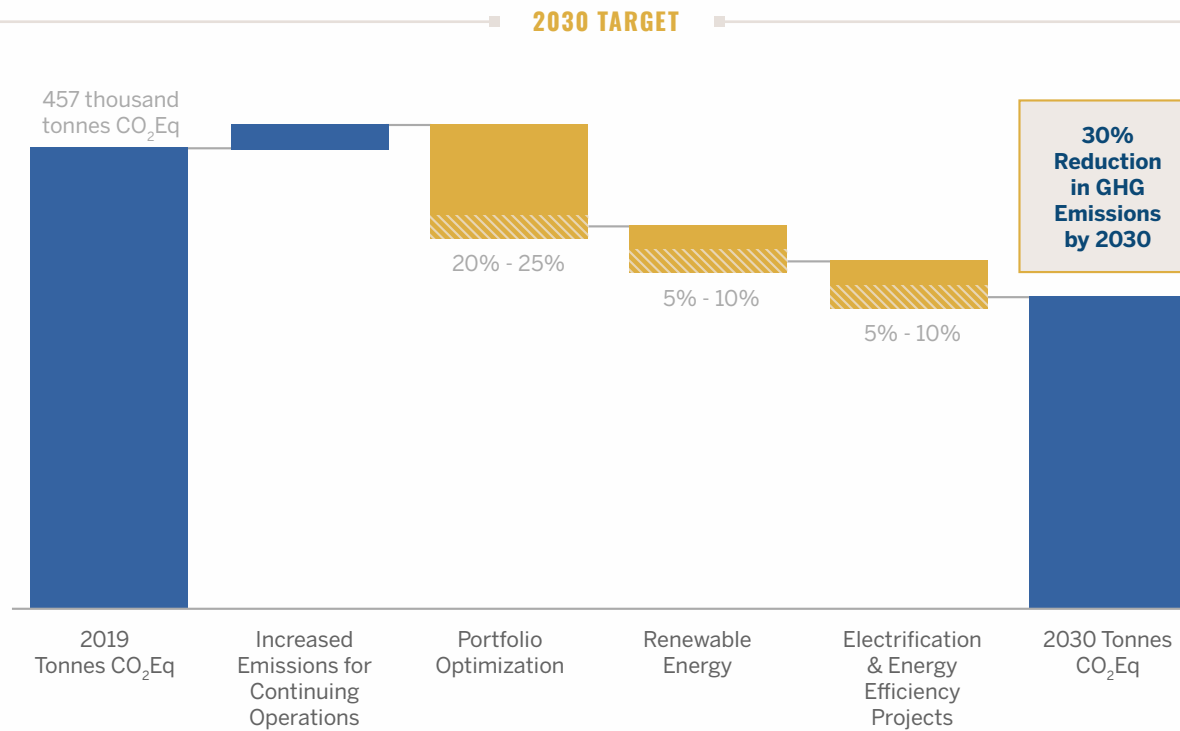
- Reduce GHG emissions by 3% compared to the 2022 base case (2022 base case defined in the [Goals and Performance section](#))
- Reduce energy use by 3% compared to the 2022 base case

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 current operations and project development activities, and is subject to restatement in the case of business development activities or new greenfield development opportunities.



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. Longer term aspirational goals such as net zero emissions in our industry are, at this time, highly dependent on the emergence of new technologies, carbon capture use and storage (CCUS), and the use of verifiable, transparent carbon offsets. We will continue to monitor the development of viable technological and offset solutions to climate change with the intention of reaching net zero emissions in 2050 or earlier.

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)
- Continue to monitor the development of long-term climate models as part of our ongoing physical risk assessments. Update our physical risks assessment in 2022-2023 based on IPCC AR6 report
- Track and update our long-term energy profile quantification as required
- Update scenario analysis and financial impact sensitivity analytics regularly 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
- Implement our corporate Energy, Emissions and Climate Change Standard

BIODIVERSITY

WHY IS BIODIVERSITY IMPORTANT?

The acceleration of economic development and population growth over the past century has had a wide range of effects on the Earth's natural resources and biosphere. Native animals and plants, rivers, aquifers, oceans, air quality, and the global climate have been impacted. Entire ecosystems are compromised to unprecedented levels. 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, and affect overall. Ongoing activities use resources, create disturbances, and generate waste, which can also harm, degrade, or alter ecosystems and affect biodiversity.

At Pan American Silver, we recognize the importance of biodiversity to preserve ecosystems at both a local and global scale. We also recognize the cultural and economic significance of certain species and ecosystems to our host communities. We strive to minimize the impacts of our operations throughout the mining lifecycle with the goal of minimizing net habitat loss over the long term.

ANALYST CENTER



Material topic: Biodiversity

What's included in this section:

- Biodiversity management
- Biodiversity conservation

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

SASB indicator: SASB EM-MM-160a.1; SASB EM-MM-160a.2; EM-MM-160a.3

Prioritized SDGs: 3

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

Potential Risks and Impacts:

- Potential damage to and degradation of ecosystem health and loss of biodiversity
- Alteration of the natural landscapes with a negative impact on the natural flora, and terrestrial and aquatic wildlife
- Alteration of the sensitive ecosystems

For additional information, see these data tables: GRI 304-3/GRI G4 MM1; GRI 3-3 (2021 Biodiversity Performance and 2022 Biodiversity Goals by Operating Mine)

OUR APPROACH

We design, construct, and operate intending to minimize our impacts on biodiversity. Our Environmental Policy sets out our commitment to not explore or develop mines in internationally designated protected areas.⁽¹⁵⁾ Each operation maintains a biodiversity conservation system as part of a site-wide environmental management system and applies a 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 of 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 changes in operations 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 meet community interests
- Training is provided to relevant employees, contractors and community members regarding their management plans and conservation objectives
- Progressive reclamation restores biodiversity through rehabilitating disturbed areas no longer required for mining activities

Monitoring and Evaluation

- The TSM Biodiversity Conservation Management Protocol is used by sites 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 Committee has oversight of matters related to biodiversity policies and practices, and receives quarterly reports

⁽¹⁵⁾ Areas included in the UNESCO World Heritage List and/or International Union for Conservation of Nature (IUCN) Green List (categories I to IV).

OUR PERFORMANCE

Biodiversity Management

Our goal is to minimize net habitat loss over the full mining cycle at each of our operations, measured by hectares impacted, reclaimed and rehabilitated. Our objective is to return the land once disturbed by our activities as close to its natural and beneficial state as possible and create viable habitats for the local native species. In 2021, we achieved a net positive impact of 85 ha (2.5% of disturbed land) on vegetation and biodiversity across all our sites exceeding our corporate goal of 80 ha. By the end of 2021, the accumulated area disturbed and not yet reclaimed by all our operations was 3,389 hectares. We recognize that our annual land disturbances vary depending on the stages of mine developments and progressions. Site performance on annual biodiversity goals can be found in the [GRI & SASB Data Tables](#). Examples of rehabilitation and restoration projects in 2021 include:

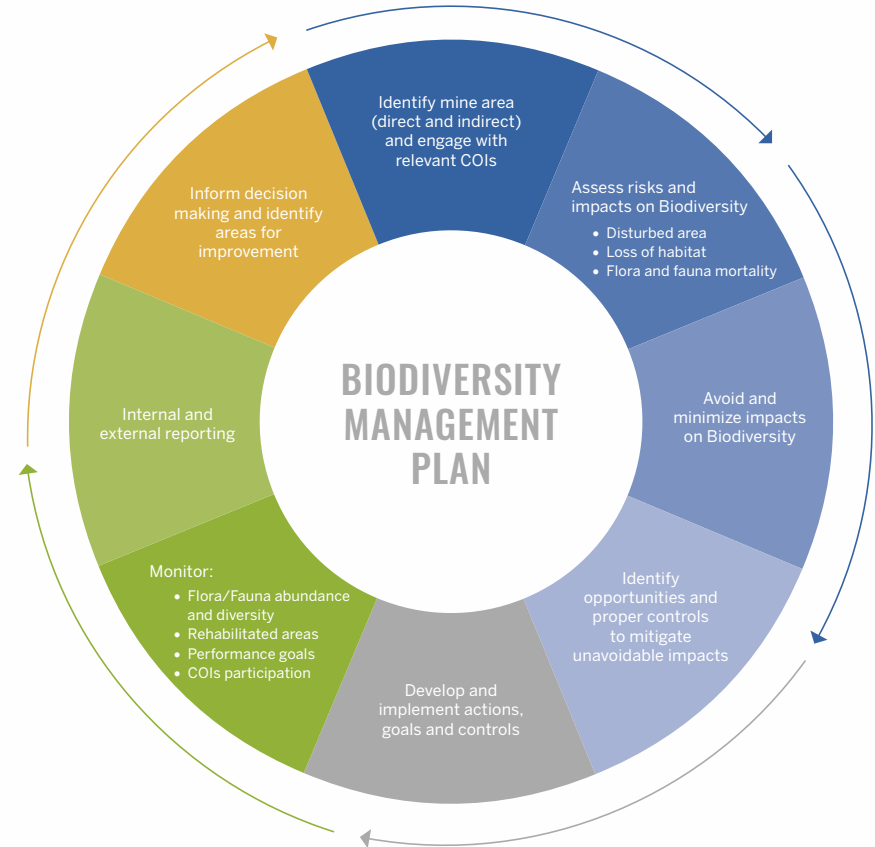
- Reforested 26 ha of land with native species, with a population density of 1,100 individual plants per hectare within the Dolores site
- Rehabilitated 3 ha by planting 3,000 native pine trees in the La Tapia community near La Colorada
- Rehabilitated 6 ha of land disturbed in the construction of a water discharge pond expansion at Timmins

Additional examples of closure rehabilitation work can be found in [Mine Closure](#).

All sites have biodiversity conservation management plans and systems, and we apply a [mitigation hierarchy](#) to avoid or minimize biodiversity impacts. These impacts may result from:

- vegetation clearing resulting in habitat loss
- vehicle strikes on native fauna
- noise, lighting and blasting impacts on fauna
- erosion
- impacts on aquatic habitat

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 have been engaging with COIs to communicate their biodiversity management approach and programs, and to better understand their interests and priorities.

Biodiversity Conservation

None of our mines or mineral reserves are located in or near endangered species habitat, areas designated as having high biodiversity value, or having protected conservation status.⁽¹⁶⁾ Land owned by our Huaron mine in Peru is adjacent to the Huayllay “Stone Forest” National Sanctuary (a natural geological rock formation resembling pillars and other structures). The mine and mineral reserves are located at more than 5km from the Sanctuary boundary, and our nearest infrastructure, a camp and water treatment plant, is located 0.7km from the Sanctuary, next to the town of Huayllay.

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 site actively supports the City of Timmins’ “Bee City” program, a multi-stakeholder initiative committed to develop, restore and preserve pollinator-friendly habitats across the city. The program is part of the City of Timmins’ commitment to improve the sustainability of its community.

Several of our sites also have rescue plans for sensitive plant and animal species as components of their overarching biodiversity management plans. Our personnel are trained in biodiversity management practices and provided with the appropriate tools to carry out these activities. Plans include species identification and monitoring activities. Sites develop rescue and relocation programs with specific goals and objectives to mitigate or minimize impacts on the flora and wildlife. In 2021, our sites successfully completed their programs to rescue and relocate a wide variety of local species.

At some of our operations, we hold extensive areas of land but only use a small portion for our activities. We protect the remaining unused land from ranching, grazing, and hunting activities, which allows natural habitats and species to recover gradually to their pre-impacted states. For example, in Argentina, 57,000 hectares of land adjacent to our operation are protected from regional impacts such as sheep grazing and hunting. Biodiversity surveys on this land over recent years have shown a significant increase in

(16) This is defined as areas listed on the UNESCO World Heritage List and/or IUCN Green List (categories I to IV), or critically endangered or endangered species on the IUCN Red List.

the abundance and diversity of natural flora and fauna. At La Colorada, we continue to restore over 3 hectares of community land that was previously affected by cattle grazing and natural erosion to provide habitat for native fauna to recover its natural pre-impacted state.

PARTNERSHIP WITH NATURE TRUST BC

In 2021, we entered into a partnership with Nature Trust BC and committed to provide US\$1.25M for wetland conservation projects. Under the North American Wetland Conservation Act, our commitment will be matched by both the US and Canadian governments, creating a total of US\$5M in funding over three years. 100% of the funds will go directly to wetland projects rather than administration costs.

The first project to benefit from our commitment is an 18-acre parcel expanding the Nicomen Slough Conservation Area on an oxbow of the Fraser River between Mission and Hope, BC. The wetland area is an important habitat for over 24 species of fish, including Pacific Salmon, Steelhead and Cutthroat Trout, and the threatened White Sturgeon. The land is in an area of continental significance to migratory waterfowl. River otters, muskrats and beavers also share this area with birds, fish, amphibians and plants.

NEXT STEPS

- Continue site-level implementation of Biodiversity and Mine Closure Corporate Environmental Standard
- Continue partnership with Nature Trust BC
- Evaluate the development of medium to long-term biodiversity targets

MINE CLOSURE

WHY IS MINE CLOSURE IMPORTANT?

Mining companies are responsible for managing their impacts not only during mine operations but also after mine closure. In the past, this focus was on the environmental aspects of closure—restoring land to a beneficial state, and ensuring no health and safety risks remained from any mining wastes, equipment, and infrastructure left behind. The industry now recognizes the additional social and economic impacts of closure on host communities and the need for companies to manage these risks and complexities beyond mine closure.

When our mines reach end of life, communities may experience impacts including unemployment, outmigration, and challenges related to a decrease in economic activity in the area. This can create uncertainties within communities and expectations surrounding a closure process, resulting in liabilities and tensions that affect our relationships with host communities. At Pan American Silver, our desire to leave a positive and beneficial legacy means that we consider the environmental and social impacts of closure before and during the operating phase and seek input from local communities, government, and other COIs. Early planning and ongoing COI engagement helps us minimize risks and identify opportunities that create benefits beyond the lifespan of our mines.

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

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

Potential Risks and Impacts:

- New or unanticipated closure, reclamation and remediation costs, and regulatory requirements
- Changes in traditional land-use caused by mining activities and even after our mines are closed and rehabilitated
- Decreased local economic activity
- Changes to social dynamics caused by unemployment and outmigration

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

OUR APPROACH

We start planning for closure in the design phase of a new project. Each operation has a closure plan covering environmental, social, and economic aspects and providing estimated closure costs. We engage with local communities, governments, and other COIs in the creation and/or update of our closure plans to understand their reclamation objectives, identify post-closure land uses, and identify opportunities for economic diversification and sustainable community development.

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, COI 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 and incorporate COI interests, strategies to manage risks and impacts, and reclamation and land use objectives into closure plans
- 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

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, and receive quarterly reports

OUR PERFORMANCE

We are integrating our approach to mine closure, which involves considering the environmental, social, and economic impacts of closure. In 2021, we created our Corporate Social Closure Standard. Additional information on our processes related to the social closure of our mines can be found in the [Relationships with Communities and Indigenous Peoples section of this report](#).

Operations update their closure plans throughout the mine lifecycle to account for stage of life, to incorporate technical, environmental, or social considerations, to meet new regulatory requirements, and/or in response to COI engagement. As of 2021, closure plans are required to align with both our Corporate Environmental and Social Closure Standards. In 2021, our activities included:

- Dolores, Timmins, San Vicente, and La Arena advanced their social closure plans, which included updating baseline studies and perception assessments
- Manantial Espejo, Dolores and La Arena implemented the first phase of the participatory social closure planning and risk analysis with local stakeholders
- Morococha submitted its closure plan update to authorities for approval
- Manantial Espejo's closure plan was submitted to the Argentinian authorities, the first closure plan to be prepared under the new closure regulations of the province of Santa Cruz
- Manantial Espejo achieved Level A on the Cámara Argentina de Empresarios Mineros's Closure Protocol, the TSM-equivalent system in Argentina

In 2021, we conducted progressive closure activities at La Arena and Manantial Espejo. Our aim was to restore the sites into healthy ecosystems that are appropriate for the intended post-mining land use. At La Arena, we completed the progressive closure of 15.5 ha of a waste rock dump. This area was re-vegetated with fast-growing green cover species. The seeds were purchased from local suppliers, thus supporting the local economic development. Revegetation with these species improves the physical stability of the slopes within a short time and will facilitate the spontaneous growth of local species. At Manantial Espejo, we rehabilitated 20.1 hectares

of land, including former roadways, former exploration drilling platforms and waste rock piles, increasing native vegetation coverage.

At Alamo Dorado, we are 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. As part of our maintenance program, we launched a three-year project to improve surface water management through the construction of diversion channels to prevent erosion and the contact of water with potentially acid-generating rock. We have also capped and re-vegetated 3 ha of regraded waste dumps. Capping seals the surface of waste dumps, preventing water penetration, and improves vegetation stabilization, which in turn helps control erosion. This project was highly successful in improving waste dump closure, and we plan to cap and re-vegetate 10 ha in total. In addition, we continue to pilot an innovative passive water treatment system which combines a limestone drain and biological reactor to neutralize acid drainage. We plan to increase the use of this treatment technology after we complete improvements to the waste dump surface water management.

NEXT STEPS

- Preparing Manantial Espejo for active closure and updating its closure plan
- Monitoring and care and maintenance activities at Morococha, and beginning active closure of its process plant and associated infrastructure
- Updating closure plans for La Arena and Dolores, and continuing progressive closure at La Arena

SOCIAL



\$11.2 MILLION
IN COMMUNITY
INVESTMENTS



1,242,545
HOURS OF SAFETY
TRAINING IN 2021



**SOCIAL
SUSTAINABILITY
POLICY**
ADOPTED



100%
OF EMPLOYEES AND
CONTRACTORS RECEIVED
TRAINING ON THE FIRST MODULE
OF OUR "BUILDING RESPECT
TOGETHER" PROGRAM



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



**SOCIAL MINE
CLOSURE**
STANDARD
DEVELOPED

HEALTH AND SAFETY

WHY IS HEALTH AND SAFETY IMPORTANT?

In the industry of mining, potential hazards must be carefully managed. 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 can lead to occupational disease or result in injury. Technology, automation, and improved critical controls and procedures have reduced the rates of disease and injury. However, serious injuries may still occur.

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 & Safety

What's included in this section:

- Safety performance
- Health and safety training and initiatives
- Health and safety culture
- Health and safety audits
- Occupational health

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

SASB indicator: EM-MM-320a.1

Prioritized SDGs: 3, 8

UNGC Principles: 1; 2; 3; 4

Potential Risks and Impacts:

- Industrial accidents due to equipment failure
- Ground falls resulting in worker injuries
- Delayed production
- Loss of social acceptance

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

OUR APPROACH

Safety is always our priority, with safe production being the primary goal at all operations. We strive to prevent workplace injuries by continuously improving our safety systems, training, processes, and adopting leading technologies. As a decentralized company, each operation is responsible for implementing context-appropriate safety management systems and procedures that meet or exceed local regulations, as well as the Company's values and safety objectives. All operations have implemented the TSM Safety and Health Protocol.

Policy

- [Health and Safety Policy](#)

Plans, Programs and Initiatives

- The Pan American Silver Safety Pledge and Cardinal Rules—Set out our fundamental expectations and rules for safety at sites, apply to all employees and contractors, and are incorporated into induction training and safety talks
- Serious Incident Reduction Initiative—Focuses on preventing serious incidents and fatalities through training, culture change, site-specific action plans, and conducting comprehensive investigations of serious incidents
- Health and safety supervisor training program—Provides leadership and technical training for front-line supervisors
- Technical safety training—Provides workers with relevant skills and training
- Industrial hygiene program and occupational health services—Identify, manage and mitigate site-specific occupational health risks
- Joint worker-management health and safety committees—Support the development and implementation of health and safety programs⁽¹⁷⁾
- Behavior-based safety programs—Empower workers to take a more active role in their own safety

(17) Joint worker management committees at certain sites comprise both contractors and employees. At other sites, there are separate committees for employees and contractors.

Monitoring and Evaluation

- Hazard identification and risk assessment—Processes including 5-point safety systems, job safety analysis, field-based risk assessments, and site-level risk analysis. These are applied to identify risks and required controls
- Operational hazard controls—A hierarchy of controls is applied to manage identified risks
- TSM Health and Safety Protocol self-assessments—Require all sites to conduct annual assessments and develop action plans to improve performance continuously
- Corporate Safety Audits—Audits are conducted annually at each mine by a Corporate Safety Department team led by the Director of Health and Safety; high priority findings are elevated to the Chief Operating Officer for immediate action⁽¹⁸⁾

Accountability

- The Management Safety Committee, Director of Safety, and Safety Coordinator lead the implementation of company-wide initiatives resulting from our risk assessment process, safety audit programs, and incident investigations
- Each operation has an Operating Management Team that is responsible for safety
- The Senior Vice President, Technical Services & Process Optimization is responsible for overall safety direction and reporting across the Company
- The Board HSE Committee oversees adherence to the Health and Safety Policy, reviews safety statistics and incident reports, and provides input on the overall safety direction of the Company

(18) Our Corporate Safety Audit Program remained paused during 2021 due to COVID-19 restrictions. However, internal safety audits were conducted at our mines in Peru and Mexico by teams from other Pan American Silver sites within the same country.

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. Despite our efforts, we recorded an increase in both lost time injuries and injury severity during 2021. Tragically, we lost four workers in separate and unrelated incidents at Huaron, La Colorada, Morococha, and San Vicente mines. In each instance, we conducted in-depth root cause analysis that 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 in order to prevent similar incidents from occurring in the future at any of our operating sites.

In 2021, a large focus was on responding to the COVID-19 pandemic and protecting the health and safety of our workers. We recognize that the pandemic has continued to create challenging conditions for our workforce. Since the outset of the pandemic in 2020, we have developed, deployed and adjusted, as required, extensive protocols and processes to create safe conditions for our workforce and limit the transmission of the virus. Since then, we have continued to update our protocols and processes using regulatory requirements, best practices, and expert recommendations. With the onset of the Omicron variant in late 2021, we reverted to stricter protocols, including restricting travel, and requiring antibody passports for site visits moving into 2022.

SAFETY PERFORMANCE⁽¹⁾

	LTIF ⁽²⁾	LTIS ⁽³⁾
2021	0.96	872
2020	0.35	534
2019	1.04	481
2018	1.41	723
2017	1.26	771
2016	0.74	373

(1) Data includes 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 1 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 1 million and divided by the total exposure hours. We count 6,000 lost workdays in the event of a fatal accident.

We track all safety incidents, regardless of severity, and address the identified trends. When a severe incident occurs, we use root cause analysis investigation methods to determine its underlying causes and the controls necessary to prevent and/or mitigate similar incidents in the future. Findings are communicated to management and operating personnel at all our operations. Individual sites track data relating to near misses and high-potential events are investigated. Trends are identified and managed at the country level.

The most common lost time incidents tend to be the result of operating machinery, rock falls, slips and falls, and failure to follow operating procedures. We know that injuries are preventable and require routine reinforcement of controls, refresher training, and personal awareness and accountability.

Health and Safety Training and Initiatives

We develop the skills necessary for our workforce to perform their jobs safely through training programs. In 2021, we provided over 1.2 million training hours to our workforce.

Type of Training	Hours
General Safety	814,885
Mining Induction	208,596
Geotechnical	16,250
Formal Safety Meetings	168,423
Mine Rescue	34,391
Total	1,242,545

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

We also deploy several initiatives to address specific health and safety risks that were identified in trend analysis:

- Hand Safety at Timmins, Huaron, and Morocochoa—is intended to reduce hand injury incidents and severity
- Avoid Being in the Line of Fire (i.e., stay out of harm’s way) at Huaron and Morocochoa—provides the workforce with tools to avoid pinch points and vehicle/personnel interactions on site
- Defensive Driving—provides our workforce with the ability to avoid traffic related incidents on and off site

Operations-level health and safety management systems apply to both employees and contractors. Before conducting work at a site, contractors receive induction and training on health and safety procedures.⁽¹⁹⁾

Health and Safety Culture

One of the ways we work to prevent serious incidents and improve overall safety performance is by creating a safety awareness that prioritizes injury prevention and supports workers in consistently making safe choices. Several operations have or are implementing behavior-based programs to help create this safety awareness.

- The “Good Catches” program at Timmins encourages employees to flag potential safety issues, even minor maintenance issues; these catches are recorded, and issues are addressed.
- The Red Card safety system, implemented at La Colorada and Dolores in 2021, 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 their concerns have been addressed, they return to work, and the details of the actions are recorded in the safety management system.
- Our operations in Peru have implemented a behavior-based program intended to empower workers to take a more active role in their own safety by encouraging and supporting them in making safe choices, both at work and at home. The program focuses on visible leadership, risk management, and safe production, with the intended result being a safety-conscious workforce.

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

In 2021, elements of the behavior-based program were adopted in the La Colorada and Dolores safety management systems in Mexico.

Our workers have the right to refuse unsafe work throughout the Company. Workers can also raise safety-related concerns confidentially and anonymously through PAAS Listens, our employee feedback mechanism.

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.

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, 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 2021, this included:

- Testing fatigue monitoring equipment for haul truck operators at our open-pit mines in Peru and Mexico. This technology helps alert fatigued drivers and reduce the risks of fatigue-related accidents.
- Improving mine ventilation at La Colorada. Despite geotechnical challenges, we were able to replace and augment primary ventilation shafts and install higher capacity auxiliary fans underground during 2021, which increased the overall air flow rate by 50%, further diluting diesel exhaust, and reducing mine temperatures.

- Initiating the construction of a refrigeration plant at La Colorada. The plant, which will be completed in 2022, will cool the air in the mine and decrease operating temperatures.

In addition, we provide medical care on-site, as well as a range of programs to support both the physical and mental health of our workers. Additional information on programs for worker well-being can be found in the [Human Capital Development section](#).

NEXT STEPS

- Increase the focus on fatal risk management at all sites
- Intensify our Corporate Safety Audit Program
- Enhance the safety management system in Mexico



RELATIONSHIPS WITH COMMUNITIES AND INDIGENOUS PEOPLES



ANALYST CENTER

Material topic: Relationships with Communities and Indigenous Peoples

What's included in this section:

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

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

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

Prioritized SDGs: 3, 8

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

Potential Risks and Impacts:

- The opposition to mine operations or development resulting in project or production by the community or Indigenous Peoples, loss of or failure to obtain permits, and/or loss of social acceptance
- Economic dependence or income inequality within local communities, changes to social dynamics, pressures on infrastructure, housing and services, harm to vulnerable groups
- Political or social instability
- New or amended regulations or conventions respecting the rights of Indigenous Peoples affecting the acquisition or our use of land
- Tensions or conflict stemming from differing expectations around the economic benefits of mining activities

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

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 Indigenous Peoples. Expectations for the industry continue to grow. To be successful, mining companies today must navigate various complexities involved in managing risks and impacts and building support for their operations. The industry now 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 trust 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.

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.

Policies

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

Standards and Guidelines

- 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; vulnerable groups that may be disproportionately affected by our activities are included in the COI mapping
- Participatory baselines, cultural studies, and perception assessments, conducted jointly with communities and third parties, create opportunities for effective dialogue and are essential to help
- 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 implementing 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 2021, we created our Social Sustainability Policy. This Board level policy, which replaced our CSR Policy, incorporates international standards and best practices, and is intended to address COI expectations. It formalizes our commitments to work with host communities, manage impacts on them, and contribute to their sustainable development. This policy includes specific commitments regarding Indigenous Peoples, mine closure, resettlement, water use, and cultural heritage. It also commits us to report progress on meaningful social sustainability goals and targets.

We also continued our effort 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 have outlined an approach to COI mapping, engagement planning, and response mechanisms across all operations. We continued to implement our country-level social risk assessment tool which improves our ability to identify proactively and manage potential risks before a serious issue or conflict arises. Throughout the COVID-19 pandemic, this tool has proven valuable in managing the significant risks that each of our operations faced. 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 2021, we developed a Corporate Social Closure Standard, aligned with the TSM Mine Closure Framework, as well as the social closure requirements of the International Council for Minerals and Metals' (ICMM) Integrated Mine Closure, Good Practice Guide (2019), and Performance Expectation 6.1. Our Corporate Social Closure Standard establishes a framework intended to guide operations in developing social closure plans with the participation of local COIs that reflect local conditions, expectations, and legal obligations.

The application of this Corporate Social Closure Standard will help us better identify risks, manage impacts and community expectations, and contribute to creating long-term socio-economic opportunities. To learn more about our mine closure approach and performance, please see the [Mine Closure section](#).

By the end of the year, all our operations had met Level A requirements on the TSM Aboriginal and Community Relationship Protocol and had begun implementing the new TSM Community and Indigenous Relationships Protocol, which adds new requirements, including risk management systems and effective engagement and dialogue with Indigenous Peoples.

We created social SPIs to better measure and actively monitor our performance in key areas:

- Social Risk Management—number of ongoing disputes; number of open and resolved community incidents
- Grievances and Requests Management—status of grievances and requests per mine; grievances and requests received by category
- Community Investment—amount of community investment budget executed

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, in some cases, programs are designed and implemented to close the gaps on findings and address concerns. Our audit framework is based on the ISO 26000 guidance standard on social responsibility and incorporates international standards, industry best practices, and Pan American Silver's policy commitments. Additional details on our sustainability audits and audit performance can be found in the [ESG Management section](#).

We have also been improving our data management system to track our performance on social SPIs and the results of our sustainability audits, and to monitor our social risks. The implementation of this system across all operations is intended to improve data quality, performance, and issue management.

We conduct baseline and impact assessments to identify potential negative impacts on local communities. In 2021, we conducted a baseline study at Shahuindo to assess the impacts of certain community development projects. As part of the social closure planning process, we conducted impact assessments at Manantial Espejo, La Arena, and Dolores. To meet the Environmental Impact Assessment (EIA) requirements, we also completed a perception study at Manantial Espejo.

SAN VICENTE, BOLIVIA: ENGAGING WITH LOCAL COMMUNITIES

Fulfillment of community commitments is a key means of building trust and avoiding disputes. At our San Vicente mine in Bolivia, we needed to obtain four individual community agreements to authorize the expansion of the tailings facility for additional capacity. We engaged with these communities to understand their needs, respond accordingly, and create processes to adopt in order to obtain the communities' authorization to proceed with the expansion. During the expansion process, we received an extraordinary amount of male contractors around the San Vicente community. With the intention of reducing stress around the community where our family camp facilities are located, we set the contractor camp far from San Vicente and provided training to contract workers on the prevention of harassment, with a focus on respect to women, children, and communities. We also developed a procedure for new projects, which requires identification of community impacts (in addition to environmental and security impacts), as well as the development of stakeholder engagement and communication protocols.

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 by working with other departments if needed. If there is an

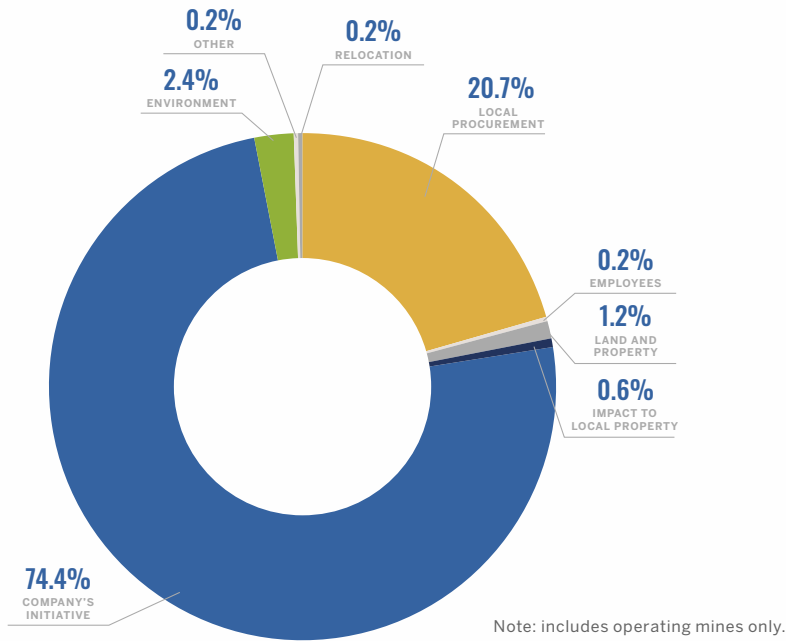


objection or disagreement to the proposed response, the case escalates to an appeal process that involves the mine senior management. The process is overseen by the Vice President of Social Sustainability, Diversity, and Inclusion. The effectiveness of the mechanism is evaluated through our social audit system. 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 to it.

During 2021, we created a specific SPI to track our grievance response within the target timeframe. Our objective is to acknowledge all requests and grievances within 15 days of receipt and resolve them within 90 days of receipt. We averaged 50 days from receipt to closure. Our new data management system will allow us to track and monitor our performance, which we hope will improve both our responsiveness and accountability.

In 2021, we received 1,998 requests and grievances, an increase over the 1,290 received in the previous year. The majority (74%) fell into the category of "Company's Initiatives", which are predominately requests for information about our operational activities or actions related to COVID-19, requests for employment opportunities, and requests for donations. By the end of 2021, we had closed 91% of requests and grievances received, including all high-risk and most medium-risk grievances. Our teams continue to work with the relevant individuals and communities to resolve the remaining 176 low-risk requests and grievances, and one outstanding medium-risk grievance.

GRIEVANCES AND REQUESTS BY CATEGORY - 2021



DUST MANAGEMENT

A key issue for many of our local communities is dust that is generated by our activities such as blasting, crushing, and transportation on gravel roadways. If not properly managed, dust can affect air quality and human health. Dust generated by transport trucks on gravel roadways is a common grievance raised by communities. We actively manage this issue. 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 dust suppression measures. Additional information on non-GHG air emissions is located in the [report data tables](#).

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 AND REQUESTS CATEGORIES

Category	Description
Company's 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.
Employees	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 and 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.
Impact to Local Property	Allegations of property damage resulting from the activities of the mine or its contractors.
Land and Property	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. COVID-19 has created additional community stresses, primarily related to economic uncertainty and the quality of healthcare for vulnerable groups. In 2021, we experienced a few community incidents in the form of temporary road blockades relating to requests for employment. 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 2021, we had no new significant social disputes at our operations; however, we are actively working to address two ongoing social disputes.

As part of an expansion at La Colorada that began in 2015, we built new camp facilities and re-accommodated workers and a group of families who lived on our property. Thirteen families opposed the move and new accommodations, and thus 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 addition, a process was initiated before the Secretariat of Agrarian, Territorial, and Urban Development in Zacatecas to dispute lands legally owned by the Company and declare them as national property.

We have been proactively working with the OHCHR and the families affected to resolve the issues. In 2018, the OHCHR identified areas of concern and opportunities for improvement from a human rights perspective, including improving water, electricity and facilities access, as well as changes to physical security infrastructure. We took immediate steps to address these issues and met with representatives of families and officials from OHCHR and National Human Rights Commission on three occasions prior to 2021.

In 2021, we introduced a process to discuss relocation of the affected families and held our first dialogue directly with them, who invited us to the housing units for the first time since the beginning of the conflict. This has helped us better understand their concerns. We were also able to respond to their requests, including conducting changes to security measures, maintenance on the accommodations and access road, working with the families to hire a schoolteacher, and providing them with access to health care services. We are actively working with the families and the OHCHR, and committed to finding a resolution to this dispute in 2022.

The situation at Escobal is also classified as an ongoing dispute. Prior to our acquisition of Escobal in 2019, its mining license had been suspended by the Constitutional Court of Guatemala due to the Ministry of Energy and Mines' omission to conduct the legally required consultation with the Xinka Indigenous People. The mine is currently on care and maintenance while the government of Guatemala conducts the court-mandated International Labour Organization (ILO) 169 consultation process. We are a participant in the consultation process, as directed by the government. (Additional details on the Escobal mine and the ILO consultation process are provided in the [Escobal Project section of this report](#). Since July 2017, protesters near the town of Casillas have blocked mainly 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 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 recognizes and respects the rights, cultures, heritage, and interests of Indigenous Peoples and endeavors 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 Peoples 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 on site 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⁽²⁰⁾ with Xinka Indigenous Peoples. As a participant, we cooperate and fully support the consultation process.

In 2021, 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.⁽²¹⁾ In addition, the potential exists for conflict between Artisanal and Small-Scale Miners (ASM) and anti-mining groups.

In Peru, 118 groups of informal miners represented by the Asociación de Mineral Artesanal San Blas (AMASBA) are active on land adjacent to the Shahuindo mine. The economic crisis triggered by the COVID-19 pandemic, along with high gold prices, has prompted a recent surge in artisanal mining, and there has been an influx of artisanal miners onto land near Shahuindo.

NEXT STEPS

- Continue implementation of the new TSM Indigenous and Community Relationships Protocol
- Rollout the Social Sustainability Policy
- Implement additional social sustainability performance indicators

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

(21) For more information, please see the Konrad Adenauer Stiftung 2019 report: <https://www.kas.de/documents/269552/0/Minerija+No+Formal+en+el+Per%C3%BA.pdf/945ec083-8ad5-f52d-5817-fd9ce-c51ee04?version=1.0&t=1576608069579>

ESCOBAL PROJECT

The 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 poly metallic 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.

The project 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.

2021 marked the start of the pre-consultation stage of the ILO 169 consultation process, which is being led by the MEM. PAS Guatemala, the Company's subsidiary in Guatemala, participated in three pre-consultation meetings and several working meetings in 2021 as one of the three key participants. This long-awaited process managed to advance slowly amid the challenges of the COVID-19 pandemic. During the year, MEM and Xinka representatives reached several agreements on pre-consultation activities, including a commitment to complete a cultural study. The MEM has not yet established a clear timeline for the consultation process, nor an expected completion date; accordingly, a date for a potential restart of operations at the Escobal mine is not available. Details of the process can be found on the [MEM website](#).

Highlights from 2021

The Escobal operation remained on care and maintenance in 2021. The COVID-19 pandemic continued to impact Guatemala and the communities



around San Rafael Las Flores significantly, with cases surging before the country had access to vaccines.

At the request of local communities and government authorities, PAAS Guatemala provided support during the pandemic where possible. This support included donating antigen rapid test kits to the health department of Santa Rosa, and food rations to people under quarantine. We also provided materials for the COVID-19 vaccination centre, as well as personnel and logistical support for over 360 people in San Rafael Las Flores. In addition, we donated USD 250,000 to aid UNICEF's efforts to ensure vaccine availability, refrigerated distribution, and a vaccination campaign in the country.

During 2021, we continued to have regular contact with the MEM authorities and working meetings with other institutions to prepare information for the ILO 169 consultation process. We believe that our active participation in the

consultation process will foster an open and respectful dialogue, which will help us understand the questions, concerns, and perceptions regarding the Escobal mine.

Feedback from Communities

In 2021, we maintained the community engagement activities that are defined under our environmental management plan. These activities included conducting over five local focus groups and several surveys to get feedback about our activities, the ILO 169 consultation process, and perceptions about the Escobal mine. We also met with key local stakeholders and engaged regularly with national and local institutions.

The most frequent topics that arose through these engagement activities regarded employment opportunities, the possible restart of operations, and information about the ILO 169 consultation process.

We also ask our local employees to help us understand and analyze their perceptions and experiences regarding our activities in the area. In 2021, we conducted six perception surveys with our employees, including one specific to safety leadership.

Also in 2021, we were able to host more visits to the Escobal mine compared to 2020, while remaining in compliance with the local COVID-19 guidelines and restrictions. We held over 55 small group visits, allowing more than 240 people to learn more about our operations and the mineral extraction process in general. Feedback from these visits suggest that this is one of our most impactful activities for informing people about our operations and mining.

Under our partnership agreement, and with the leadership of the municipality of San Rafael Las Flores, the fieldwork for the United Nations Development Program multi-stakeholder innovation platform for sustainable development began in 2021, aiming to achieve the sustainable development goals (SDGs). This fieldwork, which included the involvement of different sectors at the local level (women, youth, Indigenous peoples, the private sector, public institutions, and others), will provide the municipality with key insights and community perceptions to set development priorities.

(22) For more information on the Teaching Institute for Sustainable Development: <https://iepad.es/>

We have also confirmed our membership in the local chapter of the Global Compact, and we will report our progress on the Company's prioritized SDGs from now on.

Human Rights and Security at Escobal

Throughout 2021, we conducted human rights and security training for our management team, our service providers, and contracted security personnel.

In partnership with the Teaching Institute for Sustainable Development (IEPADES in Spanish)⁽²²⁾, a peace and security NGO in the country, we conducted a review of our security and human rights practices. This assessment was carried out through document analysis, interviews, and workshops that helped identify over 16 actions to uphold our commitment towards human rights. These actions stem from recommendations related to inclusion and diversity, adequate planning of future employment policies, a review of our closure plan in terms of social and financial impact, among others. As a follow-up to these commitments, we have enhanced our security facilities, we will continue collaborating with the participatory monitoring program, and continue our work to increase the inclusion of women among our personnel. As of 2021, 41% of the total security guard force and 50% of the leadership of the security guard force are women.

In order to comply with the Voluntary Principles on Human Rights and Security, we have implemented several actions towards the improvement of security management at Escobal. This included training all security personnel on the contents and practices of these principles, adapting uniforms to convey a non-aggressive appearance, and guaranteeing that all personnel have credentials, or are in the process of receiving them from the General Directorate of Private Security Services. The security contractor is also the only company in the country certified under the International Code of Conduct for Private Security.

During 2021, we did not receive any human rights-related claims through our grievance mechanism, nor did we receive any human rights complaints related to our contracted security personnel or security activities. We are assessing human rights impacts under our quarterly risk assessment process and our annual security risk assessment process.

Environmental Performance

Minimizing environmental impacts and, in many cases, enhancing biodiversity in the areas around our operations, are important considerations in our work. We believe we can uphold high standards of environmental control and demonstrate that the mining industry can coexist with biodiversity, providing a healthy and balanced ecosystem.

Over 180 hectares of forest and undisturbed land within our Escobal property boundaries are designated for conservation purposes and have been monitored relative to a biodiversity baseline established in 2009. Over the past 12 years, this long-term monitoring program has identified and recorded an increasing number of native feline species in this area, including jaguarundis, ocelots, and margay. The increasing presence of these felines within our property shows that the availability of prey species, breeding sites, and habitat is sufficient for them to develop and reproduce.

Besides protecting the conservation area, we work to prevent forest fires, and prohibit hunting and extraction of flora and fauna within our mine property. We also provide education and training to our employees and contractors to increase awareness about the importance of protecting biodiversity.

In 2021, the Company donated over 20,000 trees to employees and members of the community to plant and reforest 10 hectares of land within the property. In 2022, we will continue to advance our environmental objectives in the areas of reforestation and preserving biodiversity.

External third-party experts were contracted to help representatives from the Municipality of San Rafael Las Flores gain the knowledge and skills enabling them to take part in our environmental monitoring programs. Twelve participants completed a 40-hour course covering the importance of water for consumption, the characteristics and availability of water resources, and community organization for monitoring and environmental protection. To complement the theoretical portion of the program, plans were made to collect water samples from five points within the municipality

for lab analysis and discussion. In the future, we hope this program will improve transparency and understanding regarding the monitoring of the Company's activities and potential environmental impacts.

We have also continued our efforts towards achieving a Level A in all TSM protocols. In particular, our commitment to the water stewardship protocol provides guidelines for implementing controls and manage risks for water resources on and off-site. As part of this commitment, we participate in the multi-institutional Los Esclavos watershed committee, which encompasses most of the Santa Rosa Department. We hope our participation in this organization will help to improve the understanding and management of water resources across the catchment where Escobal is located.



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 indicator: 3-3; 201-1; 203-1; 203-2; 204-1; 413-1

SASB indicator: EM-MM-210b.1

Prioritized SDGs: 3; 4; 8; 12

UNGC Principles: 1; 2; 6

Potential Risks and Impacts:

- Community opposition to mine operations or development resulting in project or production, loss of or failure to obtain permits, and/or loss of social acceptance
- Economic dependence or wealth disparity within local communities, changes to social dynamics, pressures on infrastructure, housing and services, harm to vulnerable groups

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

OUR APPROACH

We invest directly in host countries and communities through education, training, economic growth, taxes, royalties, wages, infrastructure improvements and local procurement. 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.

Policies

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

Standards and Guidelines

- 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 impact

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, beyond elected officials and formal groups
- 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

Monitor and Evaluate

- 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

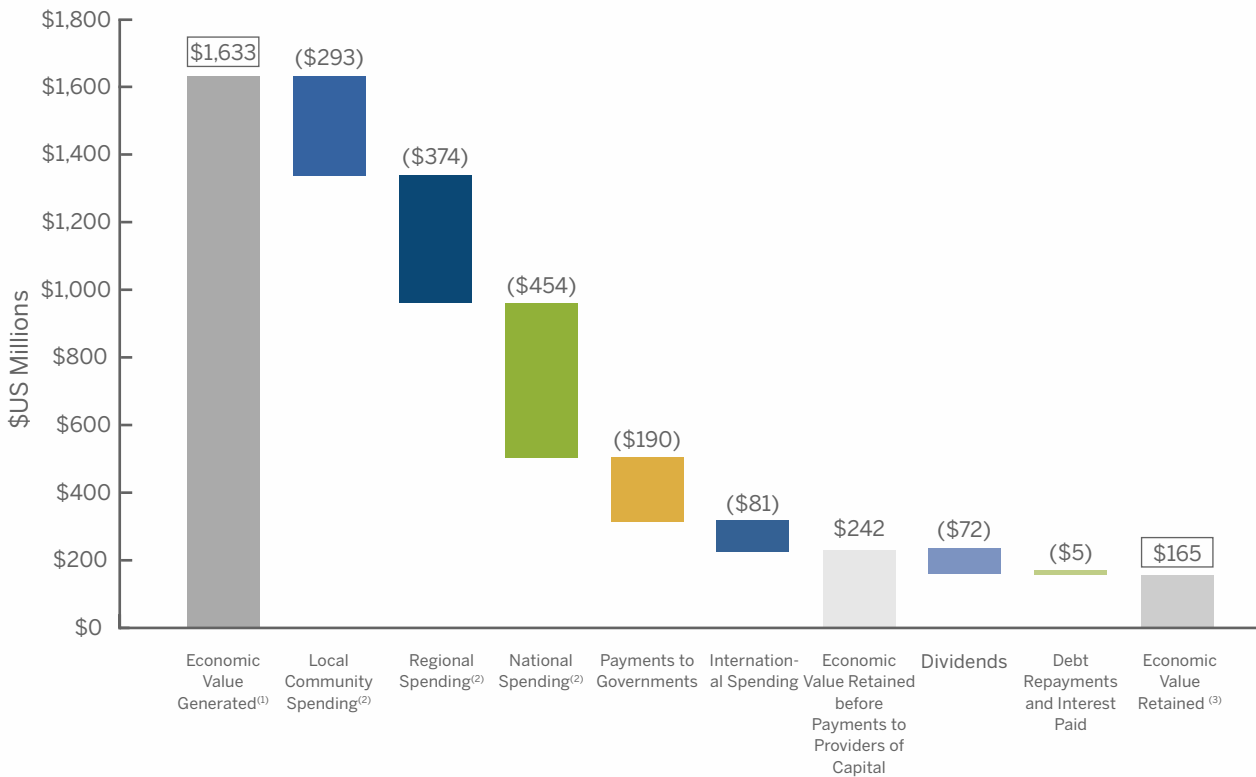
- The Vice President of Social Sustainability, Diversity, and Inclusion leads social sustainability programs at the corporate level
- The Senior Vice President, Corporate Affairs and Sustainability oversees social sustainability in the Company
- The Board CSD Committee has oversight of the Company's community investments

OUR PERFORMANCE

Economic Value Generated and 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. Payments made to governments can be reinvested in social and economic programs that benefit the communities, regions, and countries where we operate. Economic Value Retained can be used for future reinvestments in expansion and growth projects, which ultimately contribute to regional economies.

DIRECT ECONOMIC VALUE GENERATED AND DISTRIBUTED

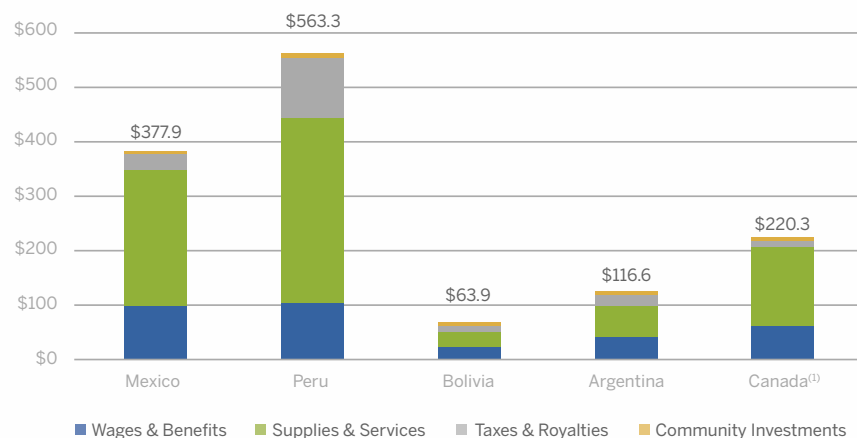


(1) Based on 2021 accrued revenue as per annual Financial Statements for fiscal 2021, dated February 23, 2022.

(2) Our spendings are broken down into four geographical categories; "local", "regional", "national", and "international". The "local" category refers to the expenditures in communities in the direct area of influence. The "regional" category is intended to capture expenditures in the indirect areas of influence within the surrounding regions. The "national" category includes all other areas within a given country that are excluded from either local or regional.

(3) This is the economic value retained by the Company, after expenditures from mining activities, which is typically used for future growth and diversification of the business. Such investments are typically deployed in local economies. Expenditures from mining activities include production costs, royalties, general and administrative expenditures, exploration and project development, income taxes paid, payments for mineral properties, plant and equipment, payment of lease obligations, repayment of construction loans, and reclamation expenditures as described in the annual Financial Statements for fiscal 2021, dated February 23, 2022. Production costs exclude purchase price allocation inventory, fair value adjustments and NRV inventory adjustments.

OPERATING MINES SPENDING BY COUNTRY



(1) Canada amounts only include expenditures from our Timmins West & Bell Creek operations and exclude corporate expenditures.

Our community investments are voluntary contributions that, in addition to a portion of the taxes and royalties paid to governments, provide social 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 met. Budget performance is audited to identify the cause of any delays.

Community Investment and Sustainable Development

Throughout the year, we engaged with communities to better understand the effects of the pandemic and 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, which has increased the number of community members reaching out to us for employment. We recognize these economic challenges, and that we are unable to meet all the demands of our Latin American community members for direct employment. Where possible, we create employment opportunities, both direct and indirect, and 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. 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

We also 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. In 2021, 51% of goods and services (\$421.7 million) were provided by local or regional suppliers.

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 predominately relate to education, skills training, health, and local economic development projects. In these programs, we put an emphasis on vulnerable groups, and we also 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 engagement with COIs or impact assessments.

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 2021, we updated our CDI Toolkit to incorporate, in the development and performance phase, environmental criteria related to water access/availability, climate change, and health and safety. In addition, the CDI Toolkit now allows the team to use SPIs aligned with the UN Sustainable Development Goals.

Local Economic Development Projects

Our local economic development projects support local communities, families, or groups in creating and 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 aim that these programs will be self-sustaining beyond our involvement.

In 2021, we temporarily paused certain projects due to COVID-19 restrictions and resourcing constraints. In other projects, we shifted to online training and providing in person support when it was safe to do so.

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—Supports improvements in the genetic quality of livestock to maximize meat and wool production for personal consumption and sales. In 2021, San Vicente expanded the program to improve breeding practices of the livestock in the Loma Colorada community.
- Nutritional Greenhouse program, Bolivia and Mexico—Provides supplies, training, and capacity building to support the community in greenhouse construction and maintenance, as well as in sustainable food production. Greenhouse projects allow for the production of vegetables and greens in areas where production would otherwise be impossible without specialized techniques.
- Guinea Pig program, Peru—Provides families with training and supplies to increase guinea pig production in the districts of Chungales, Raumate, La Arena, and La Unión.



CASE STUDY

STRENGTHENING THE AVOCADO PRODUCTION CHAIN IN THE CONDEBAMBA VALLEY - SHAHUINDO MINE

Related Priority SDGs:



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 Peru, we are implementing a variety of projects to catalyze socioeconomic development in host communities. These projects are identified through a participatory approach and are consistent with local, regional, and national government administrative priorities and policies.

Since 2020, our Shahuindo mine has been working to boost avocado production in the Condebamba Valley, Cachachi district in Cajamarca province. Our 8-year project **"Strengthening the Avocado Production Chain in the Condebamba Valley"** aims to generate a sustainable income source for 500 local avocado producers through training to improve productive techniques and facilitate the connection between local production, and regional and international markets. The project also coordinates production and commercialization efforts between local avocado producers, private institutions, and local authorities.

We set the following targets to achieve by 2028:

- Train 500 producers in the productive management of avocado cultivation with good agricultural practices (including technical, production-related, organizational, and commercial training)
- Provide 500 producers with personalized technical assistance in avocado cultivation



- Achieve the planting of at least 30 ha of avocados
- Achieve 50 existing hectares technically managed with appropriate agricultural practices
- Establish a minimum of one nursery with improved technical conditions, producing 10,000 seedlings

During the implementation of this project, several challenges were overcome, such as establishing a permanent water collection system for irrigation and the installation of geotanks to improve water use efficiency. Nevertheless, **the project has shown positive results in the first two years, including:**

- 150 producers trained in organizational and commercial skills focused on the avocado market
- 150 producers trained on avocado production and export quality standards
- 90 ha of Hass avocado trees planted
- Five seedling nurseries managed by a local company and a women's group from host communities

Additionally, the project has provided:

- Installation of a modern irrigation system, covering an area of 40 ha and including geotanks with a volume of 42 m³
- Commercial support to export a shipment of 23 tonnes of traditional Hass avocados to China through the agricultural export company MIALVAL
- Generation of 3.39 jobs per producer supported
- Creation of 120 seasonal jobs for women
- Training for 10 groups of entrepreneurial avocado producers

In 2022, we plan to expand avocado production with the likely addition of 50 new producers to the program and to install

new geotanks to meet production needs. Also, as part of a coordination initiative with the Cajamarca Regional Government, production monitoring will be digitalized. We will start to measure the economic impact of the project as of 2022.

Pan American Silver Peru won the 2021 Sustainable Development Award, granted by the National Society of Mining, Petroleum, and Energy, for the positive impact realized in the project's first year.



Health

In 2021, we continued supporting the health, safety, and well-being of communities during the COVID-19 pandemic by providing access to vaccinations for our workforce and vulnerable groups in our communities. We partnered with UNICEF Canada for its GiveAVax campaign which provides global, equitable access to COVID-19 vaccines through the distribution of vaccines to low and middle-income countries. Our donation of USD 750,000 supported the COVAX deployment in Peru and Guatemala.

Our operations continued to respond to COVID-related requests from community and local government in their areas of influence. Support provided include:

- 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
- Provide support in accessing COVID-19 testing and vaccination for host communities

We continued to run our ongoing health programs that are 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 2021, we continued:

- Providing community members with access to health services in areas including general medicine, dentistry, gynecology, laboratory exams, and psychology
- Providing micronutrients to children at risk of anemia due to high levels of malnutrition near our Morococha mine in Peru
- Funding the salaries of health professionals who provide health care to La Arena and Caracmaca communities

In 2021, we also completed the renovation of the health center in the Colonia Orion community near our La Colorada mine in Mexico.

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

In 2021, we provided schools and students with access to quality remote education through donations of laptops, tablets, educational materials, and supplies. In Peru, we donated 449 tables, 20 projectors, and 20 laptops to the Cajabamba Education Authority near our Shahuindo mine.

2021 was the first year in a 3-year, USD 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.

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 2021, our infrastructure projects included upgrading school facilities in Mexico and Peru, and constructing a water treatment and distribution system that will connect 1,500 families with potable water in La Arena.

“WE PARTNERED WITH UNICEF CANADA FOR ITS GIVEAVAX CAMPAIGN WHICH PROVIDES GLOBAL, EQUITABLE ACCESS TO COVID-19 VACCINES THROUGH THE DISTRIBUTION OF VACCINES TO LOW AND MIDDLE-INCOME COUNTRIES. OUR DONATION OF USD 750,000 SUPPORTED THE COVAX DEPLOYMENT IN PERU AND GUATEMALA.”

In Peru, through the Public Works for Taxes (OXI) program, we collaborated with governments and local communities to fund and build infrastructure for communities in need. Through the program, the community and local governments identify necessary infrastructure, and the government funds the project, which is developed by a private company in return of corporate tax relief.

Examples of such projects include:

- Near Shahuindo: The construction of the Cachachi Primary School in coordination with the District Municipality of Cachachi, improvements to the road system in San Marcos district, the construction of Hierba Buena school in Cachachi, and the construction of a bus terminal in Cajabamba.
- Near La Arena: The construction of the Choquizonguillo Health Center in Huamachucho

NEXT STEPS

- Build our capacity to better implement and manage social programs
- Align all community development program KPIs with the SDGs
- Improving real time monitoring and evaluation of projects and commitments through our new management system



HUMAN CAPITAL DEVELOPMENT

WHY IS HUMAN CAPITAL DEVELOPMENT IMPORTANT?

An engaged, skilled, and stable workforce is key to any organization's success. In the mining industry, competition for skilled workers can make it challenging to recruit and retain a productive workforce. The remoteness of mine sites, local demographics, cultural traditions, and differing interests in the new generation of workers can limit the available labour pool. Moreover, increasing automation and the adoption of new technologies is 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 indicator: 3-3; 202-2; 401-1; 403-6; G4 MM4

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

Prioritized SDGs: 3; 4; 5; 8

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

Potential Risks and Impacts:

- Skills shortages and competition for talent
- Shift to automation and high-skilled jobs
- Labour disruptions and work stoppages
- Low productivity and efficiency

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

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.

Policies

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

Plans, Programs and Initiatives

- Our Leadership Development program identifies and develops the Company's current and future leaders⁽²³⁾
- 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)
- Building Respect Together program fosters a respectful, safe, and inclusive work environment
- Site-level union agreements
- 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 has oversight of the Company's human resources strategy

(23) Our Leadership Development Program has been on hold since 2020 due to COVID-19 restrictions.

OUR PERFORMANCE

Our workforce comprises over 13,768 individuals. 48% of our workforce 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.

During the year, we undertook several talent management initiatives, including:

- Creating operation-level talent maps to identify the skills and talent currently present in our core process functions. This allows us to address skills gaps, prepare succession plans, and develop potential future leaders for our operations.
- Piloting a new people development system in Peru. This helps us identify the strengths and development needs of our teams.

We recognize the importance of creating the right working conditions in order to attract and retain diversely talented personnel. Our Building Respect Together (BRT) program is intended to help create the conditions for a respectful and inclusive workplace culture which fosters optimal worker contribution. In 2021, we rolled out this program to our entire workforce, conducting nearly 28,000 training hours for employees and contractors. Additional information on our BRT program can be found in the [Inclusion & Diversity section of this report](#).

On an ongoing basis, each operation provides training to both employees and contractors based on the needs and skill requirements of the mines and to help employees advance in their careers.

Worker Wellness

Since the onset of the COVID-19 pandemic, our focus has been on supporting the health, safety, and wellness of our 13,768 workers and their families. We have taken a people-first approach in our actions and investments, which included:

- Health and safety protocols—we consistently reviewed and revised our operational and biosafety protocols with the help of an expert epidemiologist for changing regulations, new scientific information, and local virus conditions
- Testing—we administered 442,000 COVID tests to workers (before, during, and after shifts)
- Communication—we increased communications with our workforce through an expanded use of digital platforms
- Vaccination—we facilitated worker access to vaccination programs

In 2021, we placed a significant emphasis on ensuring our workforce had access to vaccinations to protect themselves against the COVID-19 virus. Site-level teams worked with national and/or local health authorities to provide logistic support for government vaccination programs and to facilitate access to vaccinations for our workforce. By the end of 2021, almost 96% of our workforce had been vaccinated.

We also recognize that the impact of living nearly two years with the pandemic goes beyond just physical health and safety. COVID-fatigue, resulting from longer shifts, worker shortages, isolation during quarantine, as well as family and economic pressures, has imposed considerable stress upon our workforce. We maintain measures to improve the overall wellbeing of our workforce, including mental health, by providing:

- Medical monitoring of personnel at home and on-site for those who have tested positive or have been exposed
- Dedicated medical phone lines for workers to consult healthcare professionals on COVID 19-related concerns
- Dedicated psychologist phone lines for workers to raise non-COVID-related concerns, including mental health or family issues
- Professional wellness support for families
- Human resources apps that help us engage with employees and check on their wellbeing
- Rapid antigen tests, where allowed by authorities, to reduce worker isolation times

In addition, to help manage the effects of COVID fatigue, our sites developed the Emotional Vaccination program. Each operation has been running activities to boost morale and allow teams to reconnect in a COVID-safe manner. Activities have included barbecues, sports tournaments, fairs, religious celebrations, and team building sessions.

Since the start of the pandemic, we have conducted three surveys with our workforce to get feedback on our response to COVID-19. Survey results from October 2021 showed a high level of worker satisfaction—86% of our workforce was satisfied with the Company's pandemic response.

Worker Engagement

By listening to our workforce, we can become a better company and create a more positive work environment. PAAS Listens is our worker feedback and grievance mechanism through which our workforce can voice concerns, provide feedback, or raise grievances directly to 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 2021, we received 48 employee grievances/concerns. All grievances are reviewed by the Vice President of Human Resources, Operations.

Turnover

We aim to be a lean and efficient company. This approach has helped us retain our employees through market fluctuations, and it has 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. Across the Company, our overall turnover rate in 2021 was approximately 10%, compared to 8% in 2020. Our turnover rates reflect 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 for voluntary turnover. Timmins saw the greatest voluntary turnover in 2021, driven by high industry competition in the region.

Labour Relations

Eight of our nine operations have collective agreements with one or more unions, and 55.5% 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 our 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 during the pandemic. Collaboration with our unions and taking a united and consistent approach to worker health, safety, and wellness have been fundamental in our management of COVID-19 at our sites.

Despite overall positive relationships, strikes and work stoppages can sometimes occur in our industry. In 2021, we had one work stoppage during the collective bargaining process in Morococha.

NEXT STEPS

- Continue supporting our workforce's physical and mental health and safety
- Continue managing COVID-19-related uncertainties in planning and predicting our staffing levels
- Continue implementation of our people development system

INCLUSION AND DIVERSITY



WHY ARE INCLUSION AND DIVERSITY IMPORTANT?

Diversity can contribute to stronger financial and operating performance. Increasingly, having a diverse workforce is an expectation of governments, civil society, investors, and the new generation of workers. In the mining industry however, certain groups such as women and Indigenous Peoples have been historically underrepresented. The industry is being challenged to increase diversity and address conditions that have created long-standing barriers to the hiring and retention of diverse employees. Inclusion and diversity are fundamental to Pan American Silver's long-term success.

We operate mines across the Americas in communities with different cultures, languages, and values, and we want our workforce to represent this diversity. Having a diverse workforce brings a wide array of backgrounds, culture, experience, and knowledge that will be essential to foster necessary innovations and respond to increasingly complex challenges facing the industry. We believe that by building an inclusive organizational culture, our workers will feel safe, valued, have equal access to opportunities, and will fully contribute to the success of the Company.

ANALYST CENTER



Material topic: Inclusion and Diversity

What's included in this section:

- Local Hiring
- Diversity
- Pregnancy and Parental Leave at Timmins
- Equity and Inclusion
- Pay Equity
- Non-discrimination
- Building Respect Together Program

GRI indicator: 3-3; 202-2; 401-1; 401-2; 405-1; 406-1

Prioritized SDGs: 5, 8

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

Potential Risks and Impacts:

- Talent attrition
- Low productivity and efficiency
- Discrimination and lack of equal opportunity

For additional information, see these data tables: GRI 202-2; GRI 401-1; GRI 405-1

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 or 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 employees who represent the local community.

Policies

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

Plans, Programs and Initiatives

- Building Respect Together program promotes a respectful workplace and develops a culture that honours inclusion and diversity
- PAAS Listens provides employees with a mechanism to provide feedback or file grievances directly with the Company
- 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 Evaluating

- 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, have equal access to resources and opportunities, are free from harassment, and can thrive.

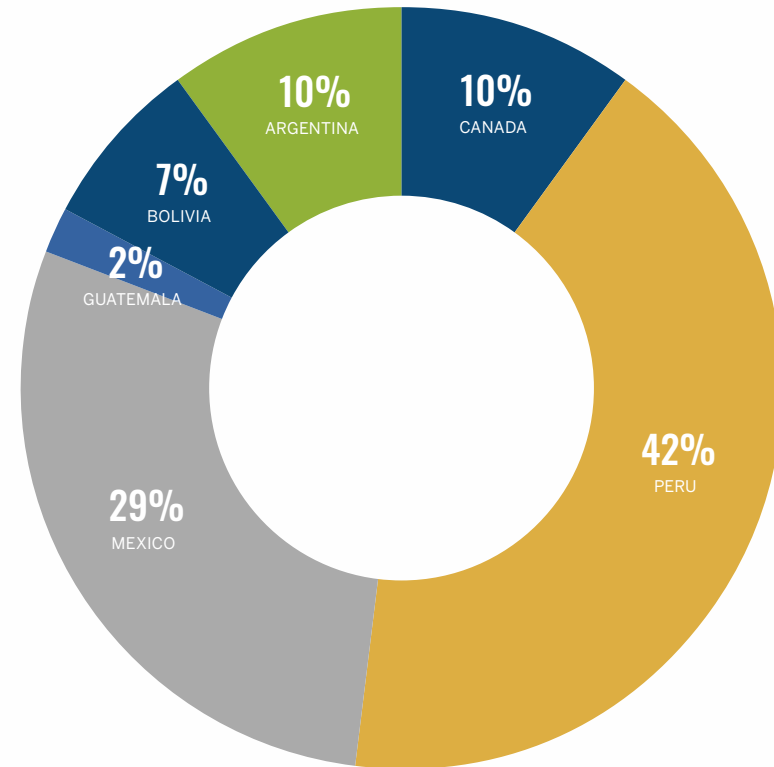
Pan American Silver's Inclusion and Diversity Policy formalizes our commitment to:

- 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 level

Local Hiring

Pan American Silver emphasizes the local hiring of trained and qualified candidates. Local community members make up most of our workforce. In addition, we endeavor to hire senior managers who speak the local language and understand the local culture, to help translate our corporate values into site practices in a way that is appropriate for each site and its local norms. In 2021, 99.7% of our employees and 94.8% of senior management were locals in the countries where the mines are located.

EMPLOYEES BY NATIONALITY



At Timmins operations, approximately 6% of our employees self-identify as being of Indigenous descent, and initiatives are in place to increase this number, including giving hiring priority to qualified Indigenous persons.

Diversity

We see women as drivers of positive long-term change for Pan American Silver. However, mining continues to be a male-dominated industry. Just over 8.6% of our employees are women, a slight increase from 2020. These women primarily work in professional, administrative, and support roles. Just over 11% of our contractors are women.

Women Workforce	
Employees	8.6%
Contractors	11.4%
Total Women Workforce	9.7%

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. In March 2022, we formally set a target for the Company to maintain representation by women on the Board of at least 30%. Three out of our eight Board members are women, including our Board Chair, which represents 37.5% of our Board. Four out of our 14 vice presidents are women. Currently, we do not have female senior vice presidents or executive officers.

We continue to focus on retaining and promoting our existing women employees. At the start of the pandemic, our operations pledged to take steps to support female workers, both employees and contractors, considering the challenges presented by the pandemic, and implemented supports including:

- Work-from home protocols
- Accommodating personal obligations such as at-home child or elderly care when possible
- Establishing social services hotlines to receive concerns such as mental health or family issues

We also rolled out a company-wide maternity leave program that provides equal support to new mothers across the Company. Our corporate maternity leave policy provides 19 weeks of paid leave, which

has significantly increased maternity support in some of our operating jurisdictions. Our Timmins operation has developed a Pregnancy and Parental Leave Policy that provides both pregnancy and parental leave salary top-ups.

In 2021, our efforts resulted in the retainment of 88.7% of our female workforce. Exit interviews indicate that turnover was due to COVID-19-related challenges, including family obligations and health, or better opportunities elsewhere.

Of all employees promoted in the Company in 2021, 12.1% were women. We continue to emphasize the recruitment of women, and in 2021, 18% of new hires were women, the same percentage as in 2020. On a mine-to-mine basis, we are working to identify the barriers that may limit opportunities for employment or advancement within our Company, and opportunities to work with us as contractors or suppliers. Programs and initiatives are being implemented to address to these barriers. Identified challenges include:

- Interconnected and long-standing issues such as cultural biases, and traditional gender roles
- Low turnover at certain sites creating a lack of entry-level positions
- Low numbers of women candidates with mining-related technical training
- COVID-19-related issues, such as extended shifts, lengthy stays on-site, and required quarantines which conflict with family obligations

Women Employees Hired And Promoted		
% Women New Hires	% Women Promoted	% Women Hired and Promoted
18.4%	12.1%	16.2%

Note: Represents the % of new hires that were women and the % of promotions awarded to female candidates

We recognize that to attract qualified women candidates, we must invest in building a female talent pool in career fields related to mining. We have developed programs to educate women on careers in mining and provided those interested with the training and skills needed to work with us directly or with other mining companies. This training can also create contract or local procurement opportunities.

In Mexico, we implemented the first phase of the Women's Talent Stewardship program. Out of eighty-nine women who participated in site visits to La Colorada and Dolores mines, four were hired in La Colorada and one was hired in Dolores.

In Peru, we launched the Women's Talent Stewardship program in partnership with CETEMIN (Mining Technology Center), to provide technical training to eligible female candidates from communities near the Shahuindo and La Arena mines. Specialty areas chosen by participants included occupational health and safety, and metallurgical and chemical processes. Eighteen women (out of thirty-five) graduated from the program, and eight were hired to complete an internship of three months in 2021.



PREGNANCY AND PARENTAL LEAVE AT TIMMINS

Mining is a major industry in and around Timmins, Ontario, where our Timmins operation is located. With a shortage of skilled workers, competition for talent is high, which has resulted in higher turnover at Timmins than at our other operations. To respond to this challenge, our Timmins operation looked for talent retention opportunities. Previously, the Company did not offer paid maternity leave, while local competitors offered at least some paid leave. Offering paid maternity and paternity benefits was identified as a way of meeting talent retention strategies along with the Company's inclusion and diversity objectives.

In 2021, Timmins created its Pregnancy and Parental Leave Policy, which offers top-up payments to employees on leave and extends benefits beyond those provided by government employment insurance. The policy is intended to support new parents, regardless of gender, in managing new family responsibilities. The benefits apply to eligible salaried and hourly employees.

Salaried Employees

- Pregnancy leave—Top-up benefits to 100% of pre-leave weekly base salary for 17 weeks
- Parental leave—Top-up benefits to 80% of pre-leave weekly base salary for 8 weeks

Hourly Employees

- Pregnancy leave—Top-up of \$250 per week, for up to 17 weeks
- Parental leave—Top-up of \$250 per week, for up to 8 weeks

The program has been well received by employees, and eight employees benefited from the policy in 2021. Timmins will continue to evaluate the policy's effectiveness and make changes, as required, to provide supportive and competitive benefits.

Equity and Inclusion

The COVID-19 pandemic brought to light systemic social inequities across the globe. It also placed additional pressures on vulnerable and marginalized groups in our workplaces, in the businesses that supply our operations, and in local communities. In 2021, we took steps to further our inclusion and diversity commitments and support for these groups.

We recognize the importance of increasing the dialogue within the Company on what it means to respect the cultural values, beliefs, traditions, and rights of Indigenous Peoples. In 2021, we held an online Lunch and Learn session with 150 participants from all of our mines in recognition of Indigenous Peoples Day. The intent was to introduce our workforce to the concept of reconciliation and build awareness of the work our Timmins operation is doing to meet its commitments to local First Nations. Our guest speaker was Chief Chad Boissoneau of the Mattagami First Nation, who spoke about his personal experience and the experience of Mattagami First Nation in working with the mining industry.

We also included a new question in our annual COI survey, giving employees the opportunity to self-identify as members of an Indigenous Community. Currently, 15% of our total workforce self-identify as Indigenous.

Our Traditional Indigenous Practices Leave program is available to all Timmins operation 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.

We continue to advance the goals of the BlackNorth Initiative's CEO pledge to address barriers for all racialized communities, Indigenous Peoples, the LGBTQ+ community, women, and persons with disabilities.

In 2021 the Company established the Pan American Silver Equity and Inclusion Award in Science scholarships totalling \$10,000, which 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 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. Pan American Silver established this award after taking the BlackNorth Initiative CEO Pledge to combat anti-Black systematic racism and promote diversity and inclusion in the workplace.

PARTNERSHIP BETWEEN PAN AMERICAN SILVER AND SPECIAL OLYMPICS BRITISH COLUMBIA

In 2021, we launched a 3-year commitment with the 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.

Support from Pan American Silver and other partners has enabled Special Olympics BC to enrich the lives of over 5,200 athletes across BC. Through its health program, Special Olympics BC focuses on the following priorities:

- increase the sustainability of health programs and access to follow-up care
- improve the health status of athletes by offering health and wellness programming and ensuring at least 20% of Special Olympics athletes are enrolled in a yearly wellness program
- increase the awareness and education of health professionals on treating individuals with intellectual disabilities
- create health programs for the athletes' families and caregivers
- train and empower athlete leaders to become health and nutritional advocates

Pan American Silver's commitment will contribute to Special Olympics BC efforts to reduce the health disparities between people with intellectual disabilities and the general population.

Pay Equity

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.

Non-discrimination

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 2021, two allegations of workplace discrimination were made, both of which were resolved in a timely manner.

Building Respect Together Program

We believe that respect is the foundation for building an inclusive organizational culture in which diversity is the norm and individuals are safe, valued, treated fairly, and receive equal opportunity to develop and advance. Our Building Respect Together program is the foundation of our approach to build and foster this inclusive culture.

The program is dialogue-based and facilitated by over 111 employee volunteers across our sites. We believe that open dialogue around these topics is the best way to foster positive change. The program also includes specific content to promote a greater understanding and protection and respect for women's rights.



The program consists of three modules:

Teamwork & Managing Differences – Communicating effectively

Respect – Establishing respectful understanding

Awareness – Developing assertiveness and empathy

In 2021, we trained 100% of our employees and contractors on the Respect module—just over 13,000 individuals and over 29,000 training hours. We also restructured the program, reduced the number of modules from five to three, incorporated the original Self-esteem and Teamwork modules into a new module: Teamwork and Managing Differences. In 2022, we will begin rolling out the second module: Awareness. In addition, we will incorporate messaging from our Building Respect Together program in our day-to-day induction processes and practices.

As a result of our training, we saw an increase in the number of related concerns and grievances received through our PAAS Listens worker feedback system. We attribute this to our workers having a better understanding and clearer expectations around respect in the workplace.

NEXT STEPS

- Roll out the second module of the Building Respect Together program
- Implement programs and practices to increase the hiring of women
- Roll out a management study on inclusion and diversity to better understand and identify barriers and opportunities

GOVERNANCE



480

KEY EMPLOYEES TRAINED
ON CORRUPTION RISKS



100%

OF BOARD MEMBERS, OFFICERS,
EXECUTIVES, AND SENIOR
MANAGEMENT CERTIFIED UNDER THE
ANTI-CORRUPTION POLICY AND THE
CODE OF ETHICAL CONDUCT



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, influence peddling, etc. Corruption can affect host communities by redirecting funds that would otherwise support social services or local infrastructure development. This concern is driving industry initiatives to increase transparency on payments made to governments. Globally, the industry is also experiencing increased pressure from the public, governments, and other stakeholders to address not only its own impacts, but to identify and manage the risks stemming from its business relationships.

As a Canadian company listed on the TSX and NASDAQ stock exchanges, 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 it is the case in Latin America, where political and economic conditions can be complex and challenging. We focus on conducting our activities ethically and transparently, and to 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
- Cybersecurity

GRI indicator: 3-3; 205-1; 205-3

SASB indicator: EM-MM-510a.1; EM-MM-510a.2

Prioritized SDGs: 12

UNGC Principles: 1; 2; 4; 5; 6; 10

Potential Risks and Impacts:

- Fines, penalties, 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

For additional information, see these data tables: EM-MM-510a.2

OUR APPROACH

Our Global Code of Ethical Conduct 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.

Policies

- [Global Code of Ethical Conduct \(the Code\)](#)
- [Global Anti-Corruption Policy \(the Policy\)](#)
- [Supplier Code of Conduct \(the Supplier Code\)](#)

Standards and Guidelines

- Gifts and Hospitality Guidelines, which provide guidance to employees dealing with government officials.

Plans, Programs 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's protocols, specific to each country, require management approval so that all donations made align with our values, and that the Company does not derive direct benefits.

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 made through the Whistleblower hotline
- Compliance certification with the Code and the Policy is required from the Board, officers, executives, and senior management²⁴ 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 Director 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 also provides oversight regarding the compliance with the Code

(24) 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.⁽²⁵⁾ We may also request certification from employees in certain functions. In 2021, 294 individuals provided certifications.

Anti-Corruption

We assess operations for risks related to fraud and corruption regularly. 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. In the operating jurisdictions where the risk of corruption is high, we take additional measures to manage these risks.⁽²⁶⁾

In 2021, our focus was on strengthening and standardizing our anti-corruption and compliance processes and controls across all operations. Our efforts included:

- Training and campaigns to improve our workforce's understanding and level of confidence in using our Whistleblower hotline system
- Anti-corruption training for 480 mid-level management members from all operations
- Anti-money laundering training for 300 employees at La Arena and Shahuindo
- Ongoing implementation of our donations protocol, which requires management approval to confirm that the purpose of the donation aligns with our values and that the Company derives no direct benefit
- Enhancement of control mechanisms for contract bidding processes

⁽²⁵⁾ 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.

⁽²⁶⁾ Guatemala, Bolivia, Mexico, Peru, and Argentina are identified in Transparency International's 2021 Corruption Perception Index as being at high risk for corruption.

Supplier Risk

Our main corruption risk lies with our third-party contractors and suppliers. Our supplier due diligence system helps us screen and monitor supplier risk. We screen all mid- and high-risk suppliers for a range of risks, including those related to bribery and corruption. For mid and high-risk contracts, we have incorporated specific anti-corruption provisions into the contract terms. We have also implemented additional controls into our contract bidding processes.

In addition, we have a process to screen our customers—which include refineries, bullion banks, and traders—for financial risks related to corruption and the financing of terrorism.

In 2021, we continued to implement the requirements of the World Gold Council Conflict-Free Gold Standard at our operations in Mexico. This process is helping us screen for and implement processes to manage additional risks related to corruption and organized crime. Additional information about our approach to supply chain risk management can be found in the [risk management section of this report](#).

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 directors, officers, and employees to report, anonymously and confidentially, any actual or suspected unethical or illegal activity or violations, including violations of the Code or other policies. Employees can also use the PAAS Listens employee feedback mechanism anonymously to raise concerns of an ethical nature directly to the Company. 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. Any ethics-related critical concerns raised through these mechanisms are reported to the Board.

Every report received is reviewed by the General Counsel and the compliance team. When applicable, an investigation is conducted, and appropriate actions are taken. We do not tolerate acts of reprisal or retaliation against a person for reporting any suspected violations of our Code or Policy.

In 2021, the Company had 1 critical concern incident of employee fraud. The Company conducted a detailed investigation and determined that the employee had acted independently. Management self-reported the incident through the Whistleblower hotline and communicated the incident to the Audit Committee of the Board of Directors.

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 fairly and efficiently
- 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) Principles of Corporate Governance, 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](#). In Peru, Argentina, and Guatemala, we publicly disclose payments in accordance with the Extractive Industries Transparency Initiative (EITI). In the interest of transparency, operations report all payments made to governments, regardless of the amount, to the Vice President, Tax.

Cybersecurity

In the ordinary course of our business, Pan American Silver and our business partners collect and store sensitive data, including employee information and proprietary or confidential business information relating to the Company, our customers, suppliers, investors, and other stakeholders. Process systems at our operations may also leverage cloud-based technology.

With our increasing dependence and interdependence on electronic data communication and storage, including the use of cloud-based services and personal devices, we are exposed to evolving technological risks. These risks include targeted attacks on our information technology (IT) systems or those of our business partners, and the failure of our IT systems. Any data breach or improper use of our information could damage our reputation, compromise our network 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:

- Systems to monitor, detect and notify of potential threats
- Annual penetration testing at all operations and corporate office locations
- Regular phishing tests and training to raise employee awareness

- System audits, including an internal audit-led assessment of the design and operating effectiveness of our cybersecurity risk management program and controls
- The use of Multi-Factor Authentication (MFA) for critical users and services
- Increased password complexity policies
- Regular password audits to identify weak passwords
- Cyber risk and maturity assessments

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

NEXT STEPS

- Continue to incorporate local suppliers in our supplier due diligence system and screen additional critical suppliers
- Implement additional measures to strengthen our corruption and money laundering controls
- Continue to train employees on business ethics and anti-corruption practices



APPENDIX



UNITED NATIONS GLOBAL COMPACT PRINCIPLES

To our stakeholders:

I am pleased to confirm that Pan American Silver reaffirms its support of the 10 United Nations Global Compact Principles, which cover the areas of human rights, labour, environment, and anti-corruption. In this report, we describe our actions to continually improve the integration of the Global Compact Principles into our business strategy, culture, and daily operations. We also commit to sharing this information with our stakeholders using our primary communication channels.

Sincerely yours,



Michael Steinmann, President and CEO

May 5, 2022

This report serves as Pan American Silver's 2021 Communication on Progress (COP) and demonstrates our commitment to integrating the 10 UNGC Principles into our business strategies and practices. Examples of our integration of the 10 Principles can be found throughout this report. An overview is provided in the table below.

Overview: Pan American Silver's Implementation of the 10 UNGC Principles

UNGC Principle	Implementation of the Principles	Select 2021 Highlights
Human Rights		
<p>✓ Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights.</p>	<ul style="list-style-type: none"> • Policy commitments that foster a positive human rights culture and prevent, minimize, or mitigate adverse human rights impacts • Human rights analysis and risk assessment processes • Programs and initiatives to support and respect human rights in our workplace and local communities 	<p>Human Rights Highlights:</p> <ul style="list-style-type: none"> • Developed a mine social closure standard • Adopted a new Social Sustainability Policy • Continued measuring and monitoring of our performance on key social and environmental activities through our Sustainability Performance Indicators • Linked our environmental and social goals with our prioritized SDGs and SPIs • Continued participation on the Voluntary Principles on Security and Human Rights (VPSHR) Working Group of Guatemala
<p>✓ Principle 2: Businesses should make sure that they are not complicit in human rights abuses.</p>	<ul style="list-style-type: none"> • Policy commitments to avoid being complicit in activities that cause adverse human rights impacts • Support for and participation in external initiatives that advance human rights performance • Programs and initiatives to prevent human rights abuses • Monitoring and evaluation 	

UNGC Principle	Implementation of the Principles	Select 2021 Highlights
Labour		
✓	Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	Labour Highlights: <ul style="list-style-type: none"> • Provided over 29,000 training hours on inclusion and diversity. 100% of our employees and contractors received training on the first module of the “Building Respect Together” program • Continued our 3-year partnership with UNICEF Canada to support vulnerable children in Latin America • Procured 51% of goods and services from local or regional suppliers • Provided 1,242,545 hours of safety training for our workforce
✓	Principle 4: The elimination of all forms of forced and compulsory labour.	
✓	Principle 5: Businesses should uphold the effective abolition of child labour.	
✓	Principle 6: Businesses should uphold the elimination of discrimination in respect of employment and occupation.	
Environment		
✓	Principle 7: Businesses should support a precautionary approach to environmental challenges.	Environmental Highlights <ul style="list-style-type: none"> • Zero significant environmental incidents • 11% reduction in GHG emissions compared to the 2021 base case • 10% reduction of water use compared to the 2021 base case • Achieved net positive 85 hectares of rehabilitated or restored land • 7% reduction in energy use compared to the 2021 base case
✓	Principle 8: Businesses should undertake initiatives to promote greater environmental responsibility.	
✓	Principle 9: Encourage the development and diffusion of environmentally friendly technologies.	
Anti-Corruption		
✓	Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.	Anti-Corruption Highlights <ul style="list-style-type: none"> • 480 key employees trained on corruption risks • 100% of Board members, officers, executives, and senior management are certified under the Anti-Corruption Policy and the Code of Ethical Conduct • Continued the third-party supplier due diligence system to screen and monitor suppliers for compliance with our Supplier Code

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	22	24	6	0	15	1	0	0	68	5	0	5	73
Canada	105	41	8	5	2	2	465	30	658	0	161	161	819
Peru	230	90	35	8	223	8	2,372	26	2,992	2,210	1,675	3,885	6,877
Mexico ⁽⁶⁾	150	95	22	6	287	27	1,358	98	2,043	1,874	38	1,912	3,955
Guatemala ⁽⁶⁾	29	28	1	0	7	2	101	6	174	0	217	217	391
Bolivia	86	26	8	1	66	3	263	6	459	128	205	333	792
Argentina ⁽⁶⁾	111	40	4	3	114	6	407	26	711	150	0	150	861
Total	733	344	84	23	714	49	4,966	192	7,105	4,367	2,296	6,663	13,768

(1) Data per country includes mines, offices, exploration, and project sites.

(2) Includes full-time equivalent (FTE) permanent employees only.

(3) We have full-time equivalent (FTE) permanent employees. 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⁾	43	2	5	18	68	3	2	0	5
Canada	635	23	0	0	658	137	24	0	161
Peru	878	1,097	1,017	0	2,992	1,066	1,522	1,297	3,885
Mexico ⁽⁶⁾	1,330	571	131	11	2,043	1,092	741	79	1,912
Guatemala ⁽⁶⁾	89	58	25	2	174	217	0	0	217
Bolivia	214	111	134	0	459	121	72	140	333
Argentina ⁽⁶⁾	383	122	205	1	711	42	105	3	150
Total	3,572	1,984	1,571	32	7,105	2,678	2,466	1,519	6,663

(1) Data per country include 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 departments within the country from 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 of 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	2021 ⁽¹⁾
Silver (thousand ounces)	19,174
Gold (thousand ounces)	579.3
Zinc (thousand tonnes)	49.4
Lead (thousand tonnes)	18.1
Copper (thousand tonnes)	8.7

(1) See Fourth Quarter Report for the year ending December 31, 2021.

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
- Northern Industrial Electricity Rate Program
- 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
- 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 LOGRAR (local development)
- CABB, Confederación Argentina de Basquet
- Fundación FLOR (Fundación Liderazgos y Organizaciones Responsables)
- 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	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Workers covered by collective bargaining agreements	0	646	794	351	315	515	566	310	414	3911
Total % of employees	0%	70%	85%	56%	54%	56%	75%	73%	64%	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.

GRI 3-3 Management of material topics (Environment 2021 Performance and 2022 Goals by Operating Mine)

Environment 2021 Performance by Mine

2021 Performance	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	
Water	Improved water conservation in office/domestic uses.	The planned treatment system was not required since the unused section of the pit was used for sedimentation enabling recycle to the process which contributed to reduction.	The construction of a vehicle washing system is ongoing. Reduction was not achieved through this project but was more than offset because of higher-than-average precipitation.	Watering of roads with dust suppressant. The annual reduction target was substantially exceeded for this project.		The annual target was substantially exceeded and the internal connections and piping for a water reuse project were completed.	The annual reduction target was exceeded through the reuse of reject water for irrigation.	Completed the installation of flowmeters in the underground mine and exceeded the annual target.	The design of a reverse osmosis plant to treat mine water is ongoing. The reduction target was met because of higher precipitation.	Substantially exceeded annual reduction goal through the recycling of water from the tailings dam.
Energy and Emissions	More than achieved the annual goal of 7,200 GJ of energy savings due to optimization projects and fewer tonnes milled. Significantly exceeded annual goal of 155 tonnes of Co ₂ Eq reduction due to lower energy use.	Completed the installation of variable frequency drives on the ventilation fans and pumps. Significant energy reduction due to the timing acceleration for the shorter haulage for the Phase 8 of the pit. Awaiting the completion of asset transfer to begin renewable energy supply.	Reductions achieved through the implementation of bus transportation and retirement of tractors in poor conditions. Greater use of energy required for exploration and ventilation fans. Awaiting the completion of asset transfer to commence renewable energy supply.	Completed replacement of LED lights and optimization of the well pumping system. Higher overall energy use and emissions because of the increased haulage fleet necessary for the projects.		Completed grid connections to the water treatment plant, which provided more savings than expected.	Completed the change of lights to LED bulbs. Tailings expansion required greater fuel use than anticipated.	Completed the replacement of submersible pumps with more efficient stationary pumps. The annual target was met.	Reduction from freshwater pumping was more than offset by the greater energy required for the tailings expansion project.	The annual fuel consumption rate was over target. However, energy use and emission reduction exceeded target due to fewer tonnes mined/milled.
Biodiversity	Net gain of 2 ha rehabilitated.	Completed reforestation of 26 ha with native species.	Reforestation of 3 hectares with local native species.	Rehabilitated 8 hectares.	Achieved a positive net impact of 174 hectares.		Rehabilitated 2 hectares.	Reforestation of 0.08 hectares.	Unable to complete all 3 ha of reclamation. However, net target was exceeded due to lower than base case impact.	Completed hydroseeding of 20 hectares to exceed the annual target.

Environment 2022 Goals by Mine

2022 Goals	Timmins ⁽¹⁾	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo ⁽²⁾
Water	Achieve zero use of externally sourced freshwater for the mill.	Reduction in freshwater usage through increased storage of treated effluent from the water treatment plant.	Reduction in freshwater consumption through the installation of eco-friendly toilets and urinals.	Reduction in freshwater use through implementing water management and efficiency projects.	Reduction in fresh-water consumption through greater reuse of treated water and attaining the blue certificate from the national water authority.	Reduction in freshwater use by optimizing the amount used for drilling.	Minimize water use on care and maintenance, and closure activities.	Reduction in freshwater use by implementing a reverse osmosis plant to treat mine water.	Reduction in freshwater use through greater recycling of water from the tailings dam.
Energy and Emissions	Reduction in energy use and emissions by implementing energy-savings projects.	Reduction in energy consumption and emissions through the optimization of ore haulage routes.	Reduction in energy use and emissions by replacing the pump trains inside the mine and the construction of an ore pass.	Reduction in energy use and emissions through the replacement of light bulbs to LED and improved management of the objectives and action plans through the Energy & GHG Committee.	Reduction in energy consumption and emissions through solar powered lights, fleet management software, and energy saving campaigns.	Reduction in energy use and emissions by installing solar panels and replacement of the remaining lights to LED.	Minimize energy use for care and maintenance, and closure activities.	Reduction in energy consumption and emissions through the optimization of personnel transport routes and energy-saving lighting systems.	–
Biodiversity	–	Revegetation of 25 hectares with native species.	Revegetation of 40 hectares with native species.	6 hectares of revegetation and biodiversity awareness campaigns.	Revegetate 4.4 hectares and donate 200,000 seedlings to the villages of the Sanagoran district.	1.2 ha of revegetation in the industrial and San José areas.	1.6 hectares of rehabilitation at waste dumps and the Manuelita area.	0.85 hectares of rehabilitation at the tailings dam and old ditches.	Reforest 19.2 hectares within the site.

(1) No rehabilitation projects for 2022 were identified for Timmins.

(2) No projects to reduce energy and GHG emissions were identified at Manantial Espejo since the mine is in its final stages of operation.

Economic Performance

GRI 201-1 Direct economic value generated and distributed

2021 Breakdown of Economic Value Generated and Distributed (\$USD thousands) ⁽¹⁾	Economic Value Generated	Economic Value Distributed							Economic Value Retained	
	Revenues ⁽²⁾	Payment to Suppliers ⁽³⁾	Employee Wages and Benefits ⁽³⁾	Other Taxes and Fees ⁽³⁾⁽⁴⁾	Payments to Providers of Capital ⁽⁵⁾	Royalties ⁽⁶⁾	Income and Resource Taxes ⁽⁷⁾	Community Investments ⁽³⁾		Total
Mexico	\$472,668	\$248,344	\$94,960	\$5,994	-	\$12,386	\$14,925	\$1,290	\$377,899	\$94,769
Peru	713,686	338,814	104,981	11,456	-	-	101,490	6,518	563,259	150,427
Bolivia	80,446	22,187	22,345	796	-	14,165	3,962	416	63,870	16,576
Argentina	127,445	59,986	37,599	14,837	-	3,000	955	269	116,645	10,800
Canada	238,505	146,974	58,025	5,767	-	6,825	-	2,708	220,300	18,205
Corporate and Others ⁽⁸⁾	-	14,391	25,359	1,633	76,734	-	7,873	-	125,991	(125,991)
Total	\$1,632,750	\$830,696	\$343,269	\$40,484	\$76,734	\$36,375	\$129,205	\$11,200	\$1,467,963	\$164,787

(1) As per the annual Financial Statements for fiscal 2021, dated February 23, 2022.

(2) Based on 2021 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, payments for mineral properties, plant and equipment, payment of lease obligations, 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 permit fees included as production costs.

(5) Payments to providers of capital include interests and dividends paid.

(6) Royalties include government and 3rd party royalties.

(7) Income and resource taxes include income taxes paid.

(8) Corporate and Others include general and administrative expenditures, non-producing asset exploration expenditures, payments for properties, plant and equipment, income taxes paid, dividends paid to shareholders and interests paid to debt holders.

Community Investment (\$USD thousands) ⁽¹⁾	Economic Development	Infrastructure	Others ⁽²⁾	Education	Health	Charitable Expenses	Total
Timmins ⁽³⁾	-	-	\$2,508	\$116	\$81	\$3	\$2,708
Dolores	200	397	107	178	87	57	1,026
La Colorada	63	77	2	12	48	62	264
Shahuindo	1,090	780	818	161	120	161	3,130
La Arena	878	822	596	58	289	3	2,647
Huaron	67	132	94	188	77	3	560
Morococha	41	-	4	72	26	38	180
San Vicente	58	63	-	250	2	43	416
Manantial Espejo	-	-	-	51	142	76	269
Total	\$2,397	\$2,271	\$4,128	\$1,085	\$870	\$448	\$11,200

(1) Only operating mines are included in this table.

(2) In order to respect Indigenous Peoples and communities' agreements, the "Others" category includes payments for land agreements and ad hoc activities.

(3) Timmins includes Timmins and Bell Creek.

Corporate Giving Committee Donations

(\$ USD)

Atira Women's Resource Society	\$515
BabyGoRound Helping Families Society	7,839
Big Sisters of BC Lower Mainland	6,322
Canadian Institute of Mining, Metallurgy and Petroleum	44,994
Cape Breton University	63,684
Development and Alumni Engagement	8,012
Diabetes Canada	2,030
Greater Vancouver Food Bank Society	3,959
Hockey Helps the Homeless	7,928
Men's Shelter	515
Minerva Foundation for BC Women	15,894
Pacific Salmon Foundation	19,815

Paws for Hope Animal Foundation	3,982
PDAC Mining Matters	19,832
Society of Economic Geologists Foundation	15,000
Special Olympics BC Society	19,908
The BC Wildlife Federation	3,943
The Downtown Eastside Women's Centre	515
UNICEF Canada ⁽¹⁾	500,000
Vancouver Food Runners Society	27,696
Vancouver Symphony Orchestra	4,055
VGH and UBC Hospital Foundation	16,555
Total	\$792,993

(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	Peru	Mexico	Guatemala	Bolivia	Argentina	Total
Senior Management ⁽¹⁾	100%	100%	88%	87%	100%	94%	95%
Total Employees ⁽²⁾	100%	100%	99%	99%	100%	100%	100%

(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.

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)	149.7	148.9	99.7	109.9	101.1	72.1	62.5	22.6	60.3	826.9
Proportion spent on local and regional suppliers ⁽¹⁾	86%	49%	20%	21%	20%	98%	97%	17%	36%	51%

(1) Local and regional suppliers include those located in communities within the direct area of influence, and those located 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
Diesel (m ³)	8,833	22,910	3,757	18,477	20,368	3,583	3,173	1,197	20,618	102,916
Gasoline /Naphtha (m ³)	61	1,202	226	-	-	-	-	91	-	1,581
Coal (tonnes)	-	-	-	-	-	2	-	2	-	4
Liquified Petroleum Gas, LPG (m ³)	1,153	45	299	171	172	24	168	-	-	2,032
Compressed Natural Gas, CNG (m ³)	4,159,103	-	-	-	-	-	-	-	-	4,159,103
Ammonium Nitrate, ANFO (tonnes)	17	6,718	768	-	1,737	257	803	784	273	11,357
Emulsion (tonnes)	776	431	217	4,249	8,032	94	132	75	201	14,207
Dynamite (tonnes) ⁽²⁾	1,235	-	-	-	-	637	299	-	-	2,171
Electricity (MWh)	203,656	109,452	73,307	35,437	28,077	96,563	81,504	24,240	-	652,236

(1) The measurement methodology to collect information is inventory control. Pan American Silver used TSM - Energy and Greenhouse Gas Emissions Management Guide 2014, Orica and conversion tools to transform the units to GJ.

(2) In 2021, 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) Energy Consumption ⁽¹⁾	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Diesel (GJ)	341,660	886,159	145,325	714,686	787,819	138,574	122,740	46,314	797,497	3,980,774
Gasoline /Naphtha (GJ)	2,114	41,673	7,833	-	-	-	-	3,168	-	54,789
Coal (GJ)	-	-	-	-	-	53	-	59	-	112
Liquified Petroleum Gas, LPG (GJ)	29,436	1,140	7,631	4,363	4,390	616	4,294	-	-	51,871
Compressed Natural Gas, CNG (GJ)	154,843	-	-	-	-	-	-	-	-	154,843
Ammonium Nitrate, ANFO (GJ)	39	15,451	1,766	-	3,995	590	1,848	1,803	628	26,121
Emulsion (GJ)	1,785	991	499	9,773	18,475	217	303	172	462	32,677
Dynamite ⁽²⁾	5,681	-	-	-	-	2,932	1,375	-	-	9,988
Electricity (GJ)	733,162	394,027	263,905	127,574	101,077	347,626	293,413	87,265	-	2,348,049
Total	1,268,721	1,339,443	426,959	856,396	915,756	490,610	423,973	138,781	798,587	6,659,225

(1) The measurement methodology to collect information is inventory control. Pan American Silver used TSM - Energy and Greenhouse Gas Emissions Management Guide 2014, Orica and conversion tools to transform the units to GJ.

(2) In 2021, 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⁾	2021 Total	2020 Total	2019 Total
Diesel	3,980,774	3,651,457	4,131,221
Gasoline /Naphtha	54,789	47,151	51,548
Coal	112	95	198
Liquified Petroleum Gas, LPG	51,871	148,535	237,784
Compressed Natural Gas, CNG	154,843	43,273	-
Ammonium Nitrate, ANFO	26,121	25,844	31,073
Emulsions	32,677	28,360	40,757
Dynamite ⁽²⁾	9,988	-	-
Electricity	2,348,049	2,048,170	2,179,896
Total	6,659,225	5,992,887	6,672,477

(1) The measurement methodology to collect information is inventory control. Pan American Silver used TSM - Energy and Greenhouse Gas Emissions Management Guide 2014, Orica and conversion tools to transform the units to GJ.
(2) In 2021, 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.

SASB EM-MM-130a.1 (1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable

Percentage of renewable energy consumed	Morocochoa	Total
Hydro (MWh)	81,504	81,504
Geothermal (MWh)	-	-
Wind (MWh)	-	-
Solar (MWh)	-	-
Biomass (MWh)	-	-
Total Renewable (MWh)	81,504	81,504
% of total energy consumption	69%	4%

(1) The percentage is calculated as renewable energy consumption divided by total energy consumption.

(2) Morocochoa is the only mine that has 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	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total	%
Total MWh	203,656	109,452	73,307	35,437	28,077	96,563	81,504	24,240	-	652,236	
Non-renewable	20,823	84,669	56,708	6,392	5,064	17,416	-	15,245	-	206,317	32%
Renewable	68,740	21,320	14,279	29,046	23,013	79,146	81,504	8,996	-	326,044	50%
Nuclear	114,092	3,463	2,320	-	-	-	-	-	-	119,875	18%

Purchased Electricity	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total	%
Total GJ	733,162	394,027	263,905	127,574	101,077	347,626	293,413	87,265	-	2,348,049	
Non-renewable	74,964	304,808	204,149	23,010	18,231	62,699	-	54,881	-	742,740	32%
Renewable	247,466	76,752	51,406	104,564	82,846	284,927	293,413	32,384	-	1,173,758	50%
Nuclear	410,732	12,468	8,350	-	-	-	-	-	-	431,550	18%

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	4,526	-	-	9,430	-	4,717,775	2,466,663	20,572	-	7,218,966
	Other water	-	-	-	-	-	-	-	-	-	-
Precipitation (all freshwater)	845,141	-	232,025	1,896,400	615,420	-	-	56,261	134,270	3,779,517	
Mine dewatering ⁽³⁾	Freshwater	-	-	455,027	-	-	-	278,812	-	733,839	
	Other water	193,147	-	-	-	-	-	-	673,938	867,085	
Groundwater	Freshwater	6,066	-	-	283,654	80,749	10,713	270	20,416	16,568	418,437
	Other water	-	-	-	-	-	-	-	-	-	-
External Sources	Freshwater	-	-	-	-	-	-	-	-	-	-
	Other water	-	-	-	-	-	-	-	-	-	-
Water withdrawal from areas with water stress⁽⁴⁾											
Surface water body	Freshwater	-	1,233,287	-	-	-	-	-	-	-	1,233,287
	Other water	-	-	-	-	-	-	-	-	-	-
Precipitation (all freshwater)	-	314,070	-	-	-	-	-	-	-	314,070	
Mine dewatering ⁽³⁾	Freshwater	-	165,373	-	-	-	-	-	-	-	165,373
	Other water	-	-	-	-	-	-	-	-	-	-
Groundwater	Freshwater	-	193,568	-	-	-	-	-	-	-	193,568
	Other water	-	-	-	-	-	-	-	-	-	-
External Sources	Freshwater	-	-	-	-	-	-	-	-	-	-
	Other water	-	-	-	-	-	-	-	-	-	-
Total water withdrawal with use per site:	1,048,880	1,906,298	687,053	2,189,485	696,168	4,728,489	2,466,933	376,061	824,776	14,924,143	

(1) "Produced water", as defined by GRI, is not included in this report since it is considered to be a non-material withdrawal.

(2) 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.

(3) Dewatering does not include water reused within underground mines.

(4) Areas with water stress were assessed by using the Aqueduct Water Risk Atlas project from the World Resources Institute.

(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 2021
Other Managed Water ⁽¹⁾	2,094,816	196,011	3,343,893	1,623,832	7,169,523	19,422,978	32,779,469	548,328	348,952	67,527,801

(1) Other 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)	845,141	1,145,230	224,432	1,404,854	147,617	3,612,646	2,296,660	256,249	581,345	10,514,174
Recycled process water (m ³)	837,073	9,639,667	1,232,256	14,675,506	16,858,807	0	397,779	622,535	1,837,967	46,101,591
% Recycled process water	50%	89%	75%	91%	99%	0%	15%	71%	76%	81%

(1) The percentage of recycled water is calculated using the total recycled water divided by the total water used in mineral processing.

(2) Recycling accounting was improved by segregating new water in the recycle circuits from the recycled process water.

Water Intensity - PAAS Specific Indicator

Water Intensity	2021	2020	2019
Total revenue (million USD)	1,632.75	1,338.81	1,350.76
Water withdrawal (cubic meters)	14,924,143	10,690,000	14,616,000
Water intensity (cubic meters/million USD)	9,140	7,985	10,821
Water intensity (cubic meters/tonne ore milled) excluding Huaron and Morococha	0.13	0.14	0.15

GRI 303-4 Water discharge⁽¹⁾⁽²⁾

Water Discharge (m ³)		Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente ⁽⁵⁾	Manantial Espejo ⁽⁴⁾	Total
Water discharge from all areas											
Surface water body	Freshwater	-	-	3,329,449	291,039	4,134,787	23,605,585	10,263,296	589,316	-	42,213,472
	Other water	922,641	-	-	-	-	15,240	-	-	394,577	1,332,458
Groundwater	Freshwater	10,592	-	-	-	-	-	8,362	-	61	19,015
	Other water	-	-	-	-	-	-	-	-	-	-
External Destination	Freshwater	-	-	14,444	-	-	-	21,951,751	991	-	21,967,186
	Other water	-	-	-	-	-	-	-	-	-	-
Water discharge from areas with water stress⁽³⁾											
Surface water body	Freshwater	-	29,053	-	-	-	-	-	-	-	29,053
	Other water	-	-	-	-	-	-	-	-	-	-
Groundwater	Freshwater	-	-	-	-	-	-	-	-	-	-
	Other water	-	-	-	-	-	-	-	-	-	-
External Destination	Freshwater	-	166,958	-	-	-	-	-	-	-	166,958
	Other water	-	-	-	-	-	-	-	-	-	-
Total water discharge:		933,233	196,011	3,343,893	291,039	4,134,787	23,620,825	32,223,408	590,307	394,639	65,728,142

(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.

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	921,572	-	687,053	1,809,005	592,060	349,016	62,884	324,116	657,009	5,402,715
Water consumption in areas with water stress	-	1,744,795	-	-	-	-	-	-	-	1,744,795
Change in water storage	116,716	161,503	-	-	76,984	-	-	9,966	99,980	465,150
Total water consumption and change in storage	1,038,288	1,906,298	687,053	1,809,005	669,044	349,016	62,884	334,082	756,989	7,612,659

(m ³)	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Evaporation from other managed water	1,172,175	-	-	1,713,273	3,061,860	181,625	2,960,110	-	22,100	9,111,143

(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 2021	4	28	0.6	55	8	-	-	7	-	102
Land rehabilitated in 2021	6	-	-	8	16	2	-	1.6	20	53
Total land not yet rehabilitated	361	778	190	603	489	305	65.0	68	531	3,389

(ha)	2021 Total ⁽¹⁾⁽²⁾	2020 Total ⁽²⁾	2019 Total
Total land newly disturbed	102	83	188
Total land newly rehabilitated	53	20	126
Total land disturbed and not yet rehabilitated	3,389	3,172	2,910

(1) Joaquin and COSE were included in the calculation in 2021. Does not include land rehabilitated outside our operations.

(2) The reporting format has changed from previous years to improve the accounting of current disturbance.

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

SASB EM-MM-110a.1 Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations

(Tonnes of CO ₂ Eq)	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Direct (Scope 1) GHG Emissions ⁽¹⁾										
Diesel	23,681	60,457	10,073	49,537	54,474	9,605	8,507	3,210	55,276	274,820
Gasoline/Naphta	141	2,774	521	-	-	-	-	211	-	3,647
Coal	-	-	-	-	-	5	-	5	-	10
Liquified Petroleum Gas, LPG	1,747	68	453	259	261	37	255	-	-	3,078
Compressed Natural Gas, CNG	7,852	-	-	-	-	-	-	-	-	7,852
Ammonium Nitrate, ANFO	3	1,270	145	-	328	49	152	148	52	2,146
Emulsions	147	81	41	803	1,518	18	25	14	38	2,685
Dynamite ⁽³⁾	319	-	-	-	-	164	77	-	-	560
Indirect (Scope 2) GHG Emissions ⁽²⁾										
MWh	5,499	38,516	25,797	6,442	5,104	17,555	-	8,341	-	107,255
Total	39,388	103,165	37,030	57,041	61,686	27,432	9,016	11,929	55,366	402,054

(1) Pan American Silver used National Inventory Report Canada to calculate Direct (Scope 1) GHG emissions. The global warming potential (GWP) is based on the information provided by the Government of Canada. Gases included in this calculation are CO₂, CH₄ and N₂O. The GHG protocol and BC Methodological Guidance for Quantifying Greenhouse Gas Emissions are used as references.

(2) Emissions from purchased electricity calculated according to the GHG protocol using the IEA 2021 tool for all the mines except Timmins. Emission factor for Timmins provided by the Independent Electricity System Operator (IESO) in Ontario. Gases included in this calculation are CO₂, CH₄ and N₂O.

(3) In 2021, 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.

(Tonnes of CO ₂ Eq)	Energy Source	2021 Total	2020 Total	2019 Total
Direct (Scope 1) GHG Emissions ⁽¹⁾	Diesel	274,820	255,512	289,328
	Gasoline/Naphtha	3,647	3,357	3,697
	Coal	10	8	17
	Liquified Petroleum Gas, LPG	3,078	8,985	14,416
	Compressed Natural Gas, CNG	7,852	2,206	-
	Ammonium Nitrate, ANFO	2,146	2,124	2,553
	Emulsions	2,685	2,331	3,349
	Dynamite ⁽³⁾	560		
Total Scope 1 GHG Emissions		294,799	274,522	313,360
Indirect (Scope 2) GHG Emissions ⁽²⁾	MWh	107,255	111,895	143,863
Total Scope 1 and 2 GHG Emissions		402,054	386,418	457,223

(1) Pan American Silver used National Inventory Report Canada to calculate Direct (Scope 1) GHG emissions. The global warming potential (GWP) is based on the information provided by the Government of Canada. Gases included in this calculation are CO₂, CH₄ and N₂O. The GHG protocol and BC Methodological Guidance for Quantifying Greenhouse Gas Emissions are used as reference.

(2) Emissions from purchased electricity calculated according to GHG protocol using the IEA 2021 tool for all the mines except Timmins. Emission factor for Timmins provided by the Independent Electricity System Operator (IESO) in Ontario. Gases included in this calculation are CO₂, CH₄ and N₂O.

(3) In 2021, 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.

GHG Emissions (Tonnes CO ₂ Eq)	2021	2020	2019
Scope 1 - Direct	294,799	274,522	313,361
Scope 2 - Electricity	107,255	111,895	143,863
Total Scope 1 and 2	402,054	386,418	457,223
Scope 3 - Value Chain	716,253	618,332	668,098

	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 34.1% of the Company's total Scope 1 GHG emissions.

Waste & Hazardous Materials

GRI 306-3 Waste generated⁽¹⁾

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	Recovery	Incinerator	Landfill (Non-Hazardous Waste)	Controlled Landfill (Hazardous Waste)	Others	Total Waste	% Recycled	% Reused
Hazardous or dangerous waste	1	916	-	4	-	24	2,644	-	3,589	26%	0%
Non-hazardous inert waste	-	1	-	129	-	1	-	-	131	0%	0%
Domestic waste	68	-	94	-	-	5,409	-	-	5,571	0%	1%
Recyclable waste	628	4,154	-	122	-	11	-	-	4,915	85%	13%
Total	696	5,071	94	255	-	5,445	2,644	-	14,206	36%	5%

(1) Data was compiled from the direct measurements found in waste transfer notes.

Total waste (tonnes)	2021	2020	2019
Hazardous or dangerous waste - secured landfill	2,644	1,574	1,713
Non-hazardous inert waste - landfill	155	363	468
Domestic waste to landfill	5,409	3,221	3,533
Reuse	696	221	58
Recycling and Composting	5,299	2,894	3,257

Reportable spills - PAAS Specific Indicator

	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo
Number of reportable spills	2	-	-	-	-	-	-	-	-
Volume of liquid or pulp (m ³)	0.2	-	-	-	-	-	-	-	-

Total - All Mines	2021	2020	2019
Number of reportable spills	2	3	3
Volume of liquid or pulp (m ³)	0.2	80	51

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

(tonnes)	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Tailings not used as hydraulic backfill (dry tonnes)	1,593,102	-	460,330	-	-	668,015	556,208	349,566	667,028	4,294,249
Tailings used as hydraulic backfill (dry tonnes)	147,174	-	76,173	-	-	196,888	57,888	-	-	478,123
Waste rock not used as backfill	111,452	15,962,510	1,809	16,717,406	22,458,991	301,460	432,371	11,254	41,485	56,038,739
Waste rock used as backfill or construction material	427,603	8,412,340	218,924	-	4,548,479	421,754	320,344	191,153	125,404	14,666,001
Water treatment sludge not reused or recycled	-	5	1,977	305	146,627	62,874	45	1,615	-	213,448
Other types of sludges not reused or recycled	-	-	-	-	-	-	1,679	-	-	1,679

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⁾⁽²⁾

(tonnes)	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Carbon monoxide, CO	145	390	63	288	317	56	50	20	336	1,666
Nitrogen oxides, NOx	286	847	125	576	634	112	99	40	741	3,459
Sulfur oxides, SOx	42	36	18	88	97	17	15	6	30	350
Particulate matter, PM10	45	40	20	94	103	18	16	6	34	377
Non-methane volatile organic compounds, VOCs	54	101	31	106	117	21	18	11	47	504

(1) Calculated according to on-site fuel combustion using EPA air emission factors for all sites.

(2) The scope of reporting has changed from previous years to allow a consistent methodology and comparability for all sites. Mercury and lead are only reported for our Timmins operations in [National Pollutant Report Inventory \(NPRI\) reporting](#).

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	14.2	Significant to High ⁽²⁾	2021	2018	None	N/A	✓
2	La Colorada (Presa #7)	Mexico	Pan American Silver	Operational	Downstream	4.0	2.4	Significant ⁽³⁾	2021	2019	None	N/A	✓
3	La Colorada (Presa #6)	Mexico	Pan American Silver	Operational	Downstream/Modified Upstream/Centerline	12.2	4.9	Significant ⁽³⁾	2021	2019	None	N/A	✓
4	Huaron (Presa #5)	Peru	Pan American Silver	Operational	Centerline	13.2	10.2	High to Very High ⁽⁴⁾	2021	2021	None	N/A	✓
5	Morococha (Huascacocha)	Peru	Pan American Silver	Operational	Downstream	26.1	12.1	Extreme	2021	2018	None	N/A	✓
6	San Vicente	Bolivia	Pan American Silver	Operational	Centerline	9.8	4.2	Significant	2021	2017	None	N/A	✓
7	Manantial Espejo	Argentine	Pan American Silver	Operational	Downstream	10.4	9.3	Significant	2021	2018	None	N/A	✓
8	Escobal	Guatemala	Pan American Silver	On care & maintenance	N/A - Filtered Tailings stack	6.5	2.7	N/A	2021	2018	None	N/A	✓
9	Alamo Dorado	Mexico	Pan American Silver	Closed	N/A - Filtered Tailings stack	14.7	14.7	N/A	N/A	Planned for 2022	N/A	N/A	N/A

(1) CDA Dam Consequence Classification system.

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

(3) Dam Breach Analysis being updated.

(4) 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
The total monetary value of fines paid (USD)	-	-	-	\$8,763	-	\$32,359	-	-	-	\$41,122
The total number of non-monetary sanctions incurred	0	0	0	0	0	0	0	0	0	0
Cases submitted to dispute resolution mechanisms	0	0	0	0	0	0	0	0	0	0

Environmental Fines and Penalties Paid	2021	2020	2019	2018	2017
	\$ 41,122	\$69,117	\$ 543	-	-

(1) The amount paid in 2021 relates to Shahuindo not carrying out guided tours in 2018 and not submitting the annual environmental management plan in 2019, as well as the unauthorized disposal of solid waste at Huaron in 2018. No fines incurred in 2021.

Labour Practices

Employment

GRI 401-1 New employee hires and employee turnover

New Employee Hires ⁽¹⁾⁽²⁾⁽³⁾		Timmins ⁽⁴⁾	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
<30	Men	37 24%	58 25.1%	99 37.9%	16 23.9%	4 13.3%	14 23.7%	2 10.5%	0 0%	17 35.4%	247 27.2%
	Women	11 7.1%	25 10.8%	24 9.2%	1 1.5%	0 0%	3 5.1%	1 5.3%	5 13.2%	6 12.5%	76 8.4%
Between 30 and 50	Men	69 45%	109 47%	123 47.1%	39 58.2%	22 73.3%	38 64.4%	14 73.7%	21 55.3%	15 31.3%	450 49.6%
	Women	14 9.1%	16 6.9%	10 3.8%	3 4.5%	3 10%	3 5.1%	0 0%	9 23.7%	7 14.6%	65 7.2%
>50	Men	18 11.7%	22 9.5%	5 1.9%	8 11.9%	1 3.3%	1 1.7%	2 10.5%	3 7.9%	3 6.3%	63 6.9%
	Women	5 3%	1 0.4%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	6 0.7%
Total New Employee Hires		154	231	261	67	30	59	19	38	48	907
% New Women Employee Hires		19.5%	18.2%	13.0%	6.0%	10.0%	10.2%	5.3%	36.8%	27.1%	16.2%
% New Men Employee Hires		80.5%	81.8%	87.0%	94.0%	90.0%	89.8%	94.7%	63.2%	72.9%	83.8%

(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 new employee hires in each corresponding operation.

(4) Timmins data includes Timmins and Bell Creek employees.

Employee Turnover ⁽¹⁾⁽²⁾⁽³⁾		Timmins ⁽⁴⁾	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
<30	Men	19 2.9%	57 6.1%	28 2.8%	1 0.2%	4 0.7%	1 0.1%	7 0.9%	0 0%	11 1.7%	128 1.9%
	Women	49 7.4%	6 0.6%	4 0.4%	0 0%	2 0.3%	1 0.1%	0 0%	1 0.2%	1 0.2%	64 1.0%
Between 30 and 50	Men	74 11.2%	84 8.9%	65 6.4%	19 3%	35 5.9%	26 2.8%	50 6.6%	17 4.0%	23 3.6%	393 6%
	Women	12 1.8%	2 0.2%	9 0.9%	3 0.5%	2 0.3%	1 0.1%	2 0.3%	6 1.4%	5 0.8%	42 0.6%
>50	Men	24 3.6%	12 1.3%	3 0.3%	6 0.9%	10 1.7%	18 2.0%	18 2.4%	3 0.7%	6 0.9%	100 1.5%
	Women	2 0.3%	1 0.1%	0 0%	0 0%	2 0.3%	1 0.1%	0 0%	1 0.2%	1 0.2%	8 0.1%

(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) Timmins data includes Timmins and Bell Creek employees.

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 - 2021 Safety Performance	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Fatalities	-	-	-	-	-	1	1	1	-	3
Lost time injury frequency ⁽¹⁾	1.19	0	0.47	1.30	-	2.96	1.41	6.25	0.83	1.27
Lost time injury severity ⁽²⁾	3	0	69	21	-	3,370	2,974	6,859	51	1,269
TRIFR	15.04	1.22	9.80	2.61	1.93	4.94	5.17	20.83	1.65	4.61

(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 - 2021 Safety Performance	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococha	San Vicente	Manantial Espejo	Total
Fatalities	-	-	1	-	-	-	-	-	-	1
Lost time injury frequency ⁽¹⁾	2.09	0.39	1.47	0.80	-	0.70	-	-	-	0.62
Lost time injury severity ⁽²⁾	8	36	3,072	20	-	48	-	-	-	445
TRIFR	22.98	0.78	10.29	1.07	1.20	2.80	0.81	-	2.74	3.28

(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⁾	2021	2020	2019
Fatalities	4	2	2
LTIF Frequency ⁽²⁾	0.96	0.35	1.04
LTIS Severity ⁽³⁾	872	534	481
TRIFR	4.61	4.64	6.25

(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.

G4 MM4 Number of strikes and lockouts exceeding one week's duration, by country⁽¹⁾⁽²⁾

SASB EM-MM-310a.2 Number and duration of strikes and lockouts⁽³⁾

Total number of strikes and lockouts that exceeded one week's duration during the reporting	Timmins	Dolores	La Colorada	Shahuindo	La Arena	Huaron	Morococho⁽²⁾	San Vicente	Manantial Espejo	Total
Number of worker strikes	0	0	0	0	0	0	1	0	0	1
Number of lockouts	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1

(1) In this table, we are not reporting the obligatory lockouts ordered by our sponsor countries due to the COVID-19 pandemic.

(2) In 2021, we had one work stoppage due to a demand for the completion of collective bargaining in Morococho.

(3) Data for strikes and lockouts of less than one week's duration during the reporting period is not available.

Diversity and Equal Opportunity

GRI 405-1 Diversity of governance bodies and employees

Percentage of employees per gender and age group	Employees ⁽¹⁾									
	Male				Total Male	Female				Total Female
	< 30	30-50	> 50	> 60		< 30	30-50	> 50	> 60	
Corporate Office	6%	31%	18%	9%	63%	1%	28%	7%	0%	37%
Canada	14%	50%	15%	9%	88%	3%	7%	1%	0%	12%
Peru	9%	69%	14%	3%	96%	1%	3%	0%	0%	4%
Mexico ⁽³⁾	22%	58%	8%	1%	89%	4%	7%	0%	0%	11%
Guatemala ⁽³⁾	14%	56%	7%	1%	79%	6%	14%	1%	1%	21%
Bolivia	4%	78%	10%	1%	92%	2%	5%	0%	0%	8%
Argentina ⁽³⁾	16%	62%	10%	2%	89%	2%	7%	1%	0%	11%
Total⁽²⁾	14%	63%	12%	2%	91%	2%	6%	1%	0%	9%

(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 ⁽²⁾									
	Male				Total Male	Female				Total Female
	< 30	30-50	> 50	> 60		< 30	30-50	> 50	> 60	
Corporate	0%	0%	20%	40%	60%	0%	40%	0%	0%	40%
Canada	12%	55%	16%	9%	93%	2%	4%	1%	0%	7%
Peru	27%	57%	5%	0%	89%	5%	6%	0%	0%	11%
Mexico ⁽⁴⁾	30%	51%	7%	0%	89%	4%	7%	1%	0%	11%
Bolivia	34%	41%	16%	0%	91%	2%	7%	0%	0%	9%
Argentina ⁽⁴⁾	31%	56%	4%	0%	91%	5%	5%	0%	0%	9%
Total⁽³⁾	28%	54%	6%	1%	89%	4%	6%	1%	0%	11%

(1) Excludes Escobal project in Guatemala.

(2) The percentages by age and gender in each country and corporate uses the total number of contractors per country and per corporate.

(3) The total percentages per contractors' gender and age group use the total number of contractors in the Company.

(4) Includes 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%	64%	36%	0%	0%	0%	0%
Canada	64%	36%	100%	0%	94%	6%	95%	5%
Peru	91%	9%	69%	31%	95%	5%	93%	7%
Mexico	90%	10%	81%	19%	93%	7%	82%	18%
Guatemala	100%	0%	80%	20%	81%	19%	94%	6%
Bolivia	100%	0%	100%	0%	100%	0%	92%	8%
Argentina	90%	10%	67%	33%	70%	30%	89%	11%
Total	84%	16%	74%	26%	92%	8%	89%	11%

(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 executives, vice presidents, senior vice presidents and the C-level executives. Manager includes directors and managers.

Security, Human Rights & Rights of Indigenous Peoples

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	74	58.4	60	180.4
Probable Reserves	159	62.9	117	349.0
% of Proven Reserves in or near areas of conflict				32.4%
% of Probable Reserves in or near areas of conflict				18.0%

Gold	Mexico ⁽²⁾		Total Company	
	Grade ⁽³⁾ (grammes/tonne)	Contained Metal (thousand ounces)	Grade ⁽³⁾ (grammes/tonne)	Contained Metal (thousand ounces)
Proven Reserves	0.66	525.9	0.63	2,250.4
Probable Reserves	0.49	193.3	0.54	1,961.0
% of Proven Reserves in or near areas of conflict				23.4%
% of Probable Reserves in or near areas of conflict				9.9%

(1) For additional information, see Pan American Silver Corporation Mineral Reserves and Resources tables as of June 30, 2021.

(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	180.4
Probable Reserves	-	-	316	225	117	349.0
% of Proven Reserves in or near indigenous land						21.9%
% of Probable Reserves in or near indigenous land						64.5%

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	3.03	385.3	0.42	34.2	0.63	2,250.4
Probable Reserves	2.91	642.6	0.34	243.8	0.54	1,916.0
% of Proven Reserves in or near indigenous land						18.6%
% of Probable Reserves in or near indigenous land						45.2%

(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 2021 Transparency International' Corruption Perception Index.

(1) The 20 countries with the lowest rankings in the Transparency International's Corruption Perceptions Index (ranking #161-180) for 2021, in descending order, are: South Sudan, Syria, Somalia, Venezuela, Yemen, North Korea, Afghanistan, Libya, Equatorial Guinea, Turkmenistan, the Democratic Republic of Congo, Burundi, Chad, Sudan, Nicaragua, Haiti, Comoros, Guinea Bissau, Congo, and Eritrea.

Source: <https://www.transparency.org/en/cpi/2021/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⁾⁽⁵⁾	Canada	Mexico	Peru	Bolivia	Argentina	Guatemala
Number of critical suppliers that were screened using environmental and social criteria	66	45	183	9	38	35
Number of critical suppliers in the process of being screened using environmental and social criteria	22	43	75	36	30	41
Total of new and existing critical suppliers	101	108	273	45	92	76
% of critical suppliers that were screened using environmental and social criteria	65%	41%	67%	20%	41%	46%

(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) Segregated data of percentage of new critical suppliers that were screened using environmental and social criteria will be compiled for the 2022 Sustainability Report.

(5) 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	IPCC 2014 Chapter 27 - Central and South America	
			-	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%	-	Decrease			
			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%	-				
Morococha	Peru	Surplus	-	2030	-	-	Near Normal	Little to no change	WRA Tool		
			-	2040	-	-	Near Normal		WRA Tool		

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
Morococha	Peru	Surplus	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		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.
			A2		>3°C	-10% to -30%	-				
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, 2021
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 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 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			
	2-12 Role of the highest governance body in overseeing the management of impacts	Sustainability Governance Management Information Circular			
	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			
	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			
	2-19 Remuneration policies	Management Information Circular			
	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			

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
GRI 2: General Disclosures 2021	2-24 Embedding policy commitments	ESG Management Approach Human Rights Management Business Ethics - Our Performance			
	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	Being the first year that we report under this new GRI indicator, we are 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			
	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			

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
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			
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			

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
Energy					
GRI 3: Material Topics 2021	3-3 Management of material topics	ESG Management Approach Climate, Energy and Greenhouse Gas Emissions			
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			
	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 STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
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			
Emissions					
GRI 3: Material Topics 2021	3-3 Management of material topics	ESG Management Approach Climate, Energy and Greenhouse Gas Emissions			
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 STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
GRI 305: Emis- sions 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			
Employment					
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Capital Development - Our Approach Inclusion and Diversity - Our Approach			
GRI 401: Em- ployment 2016	401-1 New employee hires and employee turnover	Human Capital Development - Our Performance Inclusion and Diversity - Our Performance GRI & SASB Data Tables			

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION	OMISSION		
			REQUIREMENT(S) OMITTED	REASON	EXPLANATION
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 2021, two allegations of workplace discrimination were made, both 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, 2021, 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			
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, 2021, 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, 2021, 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	Human Rights Management			
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	Human Rights Management			
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			
GRI G4: Mining & Metals Sector Supplement	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			
GRI G4: Mining & Metals Sector Supplement	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		We did not undertake any community resettlements in 2021		
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) NO _x (excluding N ₂ O), (3) SO _x , (4) particulate matter (PM ₁₀), (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)	(1) GRI & SASB Data Tables	
			Percentage (%)	(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	
	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	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.

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, breakdown training between employees and contractors or track hours of training specific to emergency response.
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.

TOPIC	SASB CODE AND ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	REFERENCE	COMMENTARY
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

TCFD RECOMMENDATION	REFERENCE
Metrics and Targets	
<p>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.</p>	<p>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</p> <p>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</p> <p>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-2022 Goals GRI & SASB Data Tables– Environment 2021 Performance and 2022 Goals by Operating Mine</p>

FORWARD-LOOKING STATEMENTS

This document 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 document 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); the ongoing impact of COVID-19 on our operations and other activities and our ability to manage the impacts of the pandemic should the situation continue indefinitely or change; 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 successful completion thereof; 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; and our ability to successfully complete any capital projects, including, but not limited to, the La Colorada Skarn project, the expected economic or operational results derived from those projects.

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: the world-wide economic and social impact of COVID-19 and the duration and extent of the COVID-19 pandemic and related restrictions, and the presence and impact of COVID-19 and COVID-19 related restrictions on our workforce, suppliers and other essential resources and what effect those impacts, if they change, would have on our business and our activities relating to emissions and waste management; 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: the duration and effects of COVID-19 and any other pandemics on our operations and workforce; 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; 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, Director Corporate Affairs and ESG Engagement at csr@panamericansilver.com.

