From Purpose Into Action
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About This Report

We are proud to present Trevali Mining’s fourth annual sustainability report, detailing our approach and progress towards integrating sustainability into all aspects of our business.

This report has been prepared with guidance from the Global Reporting Initiative (GRI) Standards and select disclosures in accordance with the Sustainability Standards Accounting Board (SASB) Metals and Mining Industry Standards, covering the period from January 1 to December 31, 2021. Additionally, we have mapped our areas of focus to the United Nations Sustainable Development Goals (SDGs).

The GRI and SASB Indices for this report are available on our website: www.trevali.com

Unless otherwise noted, data for the Santander Mine is not included in this year’s report due to the sale of the mine during the reporting period.

The report has been reviewed and approved by Trevali’s Executive Management and Board of Directors. No external third-party assurance was sought for the content of the report.

A cautionary note about forward-looking information and statements is presented at the end of this report and the reader is encouraged to read this statement. Unless otherwise indicated, all dollar amounts are expressed in U.S. dollars.

We look forward to your feedback and invite you to email us at sustainability@trevali.com.

Aligning with the United Nations (UN)

Trevali demonstrates commitment to sustainability by aligning with the UN Sustainable Development Goals (SDGs).

For each section of this report, we have indicated the SDGs to which we are aligned.

Credits and Copyright

The data, information, images and translation contained in this report were provided by or through Trevali Mining. SOOP Strategies Inc. served as our sustainability reporting consultant and provided graphic design services.
About Trevali Mining

Trevali Mining (Trevali) is a global base-metals producer focused on delivering sustainable shareholder value through transformative technology and strong Environmental, Social, and Governance (ESG) practices. We produce zinc, lead, and silver for a healthy, sustainable future.

Our property portfolio is focused and located in established mining jurisdictions in Canada, Burkina Faso, and Namibia, and includes operating mines as well as exploration projects and brownfield development projects such as our Rapid Oxidative Leach (ROL) pilot plant project at our Caribou mine. Our revenue is generated predominantly from the production of zinc at our three operational assets: Perkoa Mine in Burkina Faso (90% owned), Rosh Pinah Mine in Namibia (90% owned), and Caribou Mine in Canada (100% owned).

In addition, Trevali owns the Halfmile and Stratmat Properties and the Restigouche Deposit in New Brunswick, Canada. We own an effective 44% interest in the Gergarub Project in Namibia, as well as an option to acquire a 100% interest in the Heath Steele deposit located in New Brunswick, Canada.

People power our operations. Our Values of Teamwork, Respect, Performance, and Care drive us. Sustainability is key to our success. Our purpose is to become the world’s most sustainable mining company by embedding sustainability into all our actions, plans, and decision-making processes.

Headquartered in Vancouver, Canada, Trevali is listed on the Toronto Stock Exchange (symbol TV), the OTCQX (symbol TREVF), the Lima Stock Exchange (symbol TV), and the Frankfurt Exchange (symbol 4TI).
Where We Operate

**Caribou Mine, Canada (100%)**
- Zinc-Lead-Silver
  - 3,000-tonne-per-day processing mill
  - Flotation recovery plant
  - Metallurgical and geochemical laboratories
  - Tailings treatment facility

**Perkoa Mine, Burkina Faso (90%)**
- Zinc
  - 2,000-tonne-per-day processing mill
  - Flotation recovery plant
  - Metallurgical and geochemical laboratories
  - Tailings treatment facility

**Rosh Pinah, Namibia (90%)**
- Zinc-Lead-Silver
  - 3,000-tonne-per-day processing mill
  - Flotation recovery plant
  - Metallurgical and geochemical laboratories
  - Tailings treatment facility
Zinc and Sustainability

Trevali produced 316.2 million payable pounds of zinc in 2021.

Zinc has a unique and essential role to play in the global transition to a clean, healthy, sustainable future.

Renewable Energy Storage

Due to its natural abundance, high energy density and relatively low production cost, zinc has great potential for use in renewable energy storage systems, converting intermittent wind and solar power into constant, stable power for the ongoing energy transition.

Rechargeable Batteries

Rechargeable zinc-air and zinc-ion battery technologies currently under development provide significant advantages over lithium-ion batteries due to their increased safety and stable supply chain.

Healthy Futures

Zinc is essential to human health and agriculture, making it an important tool to achieve improved health and food security around the world.

Supporting Wind & Solar

Supporting structures for solar PV panels and offshore wind masts are made from zinc thermal sprayed steel. Zinc demand for wind power technologies is expected to increase by close to 250% by 2050 in order to achieve a 2°C global temperature rise scenario.

Galvanizing for Climate Change

Galvanization with zinc makes steel stronger and protects it from corrosion, consequently extending its useful life. The use of galvanized steel can improve the safety, reliability, and longevity of critical infrastructure such as electrical transmission towers and substations under harsher, more extreme prevailing weather conditions resulting from climate change.

Truly Circular

Zinc can be recycled infinitely without loss of properties and quality.

Zinc and Sustainability (SDG 1 7 12 13)
How We Create Value

We consider it essential to create value for all stakeholder groups across our value chain.

Value for Society

Trevi aims to be a catalyst for sustainable growth and development through responsible mining practices that produce high-demand zinc, lead, and silver for a Net Zero future while creating opportunities and providing support for the communities and countries where we operate.

Value for Employees

Our people are our strength, and we work hard to actualize our Core Values of care and respect so that everyone is recognized and valued. We aim to provide a safe, healthy, and supportive environment in which employees can learn, grow, prosper, and contribute to the positive impact that we achieve together.

Value for Communities

We work with communities to create opportunities through employment, procurement, and training, strengthen local capacity through community development programs and projects, and provide support where it is most needed, enabling them to thrive and shape their futures.

Value for the Industry

By establishing our purpose to be the world’s most sustainable mining company, we aim high and hope to inspire others in the mining industry to join us so that together we can improve the reputation and performance of the industry through action, accountability, and transparency.

Value for Shareholders

Trevi delivers sustainable shareholder value through technology transformation and organic growth (expansion and exploration). Our jurisdictionally diversified production platform across three countries makes us well-positioned to meet the rising global demand for zinc.
Memberships and Partnerships

Trevali Mining is a proud member of the following international and regional industry and government associations:

- **Extractive Industries Transparency Initiative (EITI)**
- **Institute of Corporate Directors**
- **Institut des Administrateurs de Sociétés**
- **ZINC International Zinc Association**
- **The Mining Association of Canada**
- **Chamber of Mines of Namibia**
- **L’association minière du Canada**
Letter to Stakeholders
from the President & CEO

I am greatly saddened to report here, in our 2021 Sustainability Report, the terrible loss of eight of our colleagues at the Perkoa mine in Burkina Faso. The intense and unseasonal rainfall of the early morning of April 16, 2022, created a flash flood that breached the mine’s defenses, flooding the underground mine and fatally trapping eight of our workers.

Our most sincere condolences are with the families, friends, and communities of our deceased colleagues at this difficult time. All of us at Trevali grieve their loss. We will never get our colleagues back, but we do pledge to learn and implement all the lessons from this tragedy across our operations, share these widely, and thereby play our part in helping the mining industry to avoid such events in the future.

The potential impact of a changing global climate on the design and operation of mines cannot be underestimated. Extreme weather events such as this, occurring outside of the usual wet seasons, are devastating and it appears likely that they are to become more frequent. It is clear to me that the following high-level learnings may be applicable across the industry:

» Historical climate data, assumptions, and experience are no longer the best guide to protecting ourselves in the future: The climate has clearly shifted so drastically that the frequency and magnitude of past extreme events are no longer a reliable predictor. Report Intervals have shortened, and we must all review and adjust our plans, procedures, and designs to ensure that they can counter these new risks.

» Upgrade all design criteria: The flood protection design criteria at Perkoa did not anticipate the intensity, scale, or timing of the rainfall and flooding event. Therefore, it is vital that we all thoroughly update our existing designs account for this emerging climate change risk, making maximum use of new technology, systems, and ideas.

» Design and implement modern early warning and response time systems: The flood at the mine was caused mainly by extreme rain falling some distance from the site. Modern detection tools based upstream of all sites and connected to on site warning systems will dramatically improve both situational awareness and emergency response times in the face of short duration, high intensity events such as these.

We commit to ensuring that our current and future operations adopt these and all other lessons from this awful event, and thereby we humbly strive to guarantee our people’s safety and the overall sustainability of our operations, now and in the future.

In this strategic context, I invite you to review many of the steps that we have taken on this vital journey in 2021 as faithfully recorded within this, our fourth annual Sustainability Report developed in accordance with the Global Reporting Initiative (GRI) and the Sustainability Accounting Standards Board Standard (SASB).

At Trevali, we see the annual sustainability reporting process as achieving two key objectives: firstly, as a communication tool to report 2021’s ESG performance to our stakeholders transparently and accurately in a balanced manner. And secondly, as an audit of our ESG programs and systems in relation to our business goals, using a third-party to pre-audit our ESG activities.

I invite you to read this report about our work in 2021 and the steps we have taken toward becoming the world’s most sustainable mining company. You will read about our achievements, challenges, and our progress toward our goals as the world still wrestled with the COVID-19 pandemic. In doing so, I hope that you will see how central sustainability is to not only our business model but to the whole mining industry. Integrating sustainability into every fiber of the global industry is not going to be easy, but Trevali is committed to playing its part in this vital strategic endeavor.

Sincerely,

Ricus Grimbeek
PRESIDENT AND CEO
June 29, 2022
2021 Performance & Highlights

- Key Business Sustainability Highlights
- Key Sustainability Performance Highlights
- Update on the Global Pandemic
- Rosh Pinah RF2.0
- Business Improvement
- Restart of Caribou Mine
- Sale of Santander Mine
Key Business Sustainability Highlights

2021 was an important year for Trevali. Leveraging the lessons learned from the challenges of 2020, we turned our focus towards advancing sustainability initiatives, optimizing operations, reducing debt, and working closely with communities, governments, and other stakeholders to emerge stronger and more resilient in 2021.

Key business highlights included the following:

**Financial**
- Payable zinc production - 316.2 million pounds
- Payable silver and lead production - 900,000 ounces and 39.3 million pounds, respectively
- Revenues - Increased by 61% to $343.7 million compared to the prior year due to strengthening of the average annual zinc price and 47% decrease in treatment charges.
- Adjusted EBITDA* - $102.3 million, an $83.3 million increase over the prior year
- Operating Cash Flows - $90.8 million (before changes in working capital)
- Net Debt Reduction - $270 million during the year to $780 million as of December 31, 2021

**Operations**
- Caribou Operations Restarted - In February 2021, Trevali restarted operations at the Caribou mine, which had been on care and maintenance since March 2020. The first ore was brought to surface and delivered to the stockpile on March 6, 2021. The mill’s first twenty-four-hour production period without interruption took place on March 25, 2021.
- Santander Sale - Finalized on December 3, 2021, together with a 10:1 share consolidation.
- RP2.0 Feasibility Study - Published in August 2021. Commenced financing efforts with good progress to-date. Standard Bank and Glencore provided non-binding support as two of several capital providers.
- 15-year Renewable Power Purchase Agreement - For the supply of solar power equivalent to 30% of the expected annual energy consumption for the Rosh Pinah Mine, expected to reduce greenhouse gas (GHG) emissions at the Company level by 6%.
- Tailings Storage Facility expansion - Commenced at Rosh Pinah.
- Exploration JV with Arrow Minerals - Both parties agreed to grant the other reciprocal exploration rights to their exploration permits in the Boromo gold belt in Burkina Faso near the Perkoa mine.
- ROL Pilot Plant Program - Further study work is ongoing at Caribou using run-of-mine, milled material, and historic tailings.

**Governance**
- 38% Women on the Board - 3 female Directors out of 8 Trevali Board Members on Trevali's Board with the appointment of Jeane Hull effective February 1, 2021.
- Updated Code of Conduct - Introduced through training modules across Trevali.
- Approved the Internal Audit Charter - Reviewed, revised, and updated by the Board, along with the annual work plan.
- Updated Trevali’s People and Culture Committee Mandate - Includes Board oversight on organizational culture, leadership development, inclusion, equity and diversity, and key employee lifecycle practices. Requires the Committee to stay apprised of trends and developments regarding these aspects.
- Risk - Improved key and critical control assessment process to include environmental and other business material risks.
- DJSI - Improved our Corporate Sustainability Assessment score for the Dow Jones Sustainability Index (DJSI) from a 45 to a 50 during 2021.
- Third Annual Sustainability Report - Issued in June 2021 covering new performance targets and disclosures.
- Legal Compliance Register - Improved through tracking of all commitments and/or approval from within each licence to ensure robust measurement and reporting on commitment compliance.
- Succession Planning - To mitigate risks and ensure business continuity at Senior Management levels.

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* These are non-IFRS measures and are not recognized under IFRS as they do not have any standardized meaning prescribed by IFRS and are therefore unlikely to be comparable to similar measures presented by other issuers. Trevali uses these measures internally to evaluate the underlying operating performance of the Company for the reporting periods presented. The use of these measures enables the Company to assess performance trends and to evaluate the results of the underlying business. Trevali understands that certain investors, and others who follow the Company’s performance, also assess performance in this way. The Company believes that these measures reflect our performance and are useful indicators of our expected performance in future periods. This data is intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS.
Key Sustainability Performance Highlights (SDG 3 5 10 12)

Health, Safety, and Security
- Reduced significant incidents by 30%.
- Implemented a comprehensive cybersecurity program at Trevali.

Inclusion, Equity, and Diversity
- Established Trevali’s multi-year Group Inclusion, Equity and Diversity Roadmap.
- Delivered unconscious bias education for all Trevali Executives and Managers.
- Launched Inclusive Language Guidelines to provide education on different types of inclusive and non-stigmatizing language.
- Conducted our inaugural Gender Pay Gap Analysis to ensure that our compensation system is fair, consistent, and impartial.

Employment and Procurement
- 96% of Trevali’s workforce are nationals from the country of operation.
- $178 million spent on procuring goods and services from national suppliers, including $110 million on local suppliers.
- 100% of new Trevali suppliers screened using social and environmental criteria.

Environmental Performance
- Improved our Institutional Shareholder Services (ISS) score in the Environmental category from a 3 to a 2.
- 100% of total waste rock generated at our operations was returned underground and repurposed as backfill.
- 1.8 times more waste rock was repurposed than generated, making us net-positive for waste rock diversion across our operations.
- 40% of all non-mineral waste generated was recycled or reused.
- 67% of all non-mineral hazardous waste was diverted from disposal.
Update on the Global Pandemic (SDG 3)

The pandemic continued to pose challenges at our operations as new variants emerged. In 2021, Trevali’s focus turned towards providing vaccines to our workforce and the ongoing management and strengthening of health and safety controls.

Regular testing continued at all sites. In the event a site experienced a significant rise in positive cases, our emergency management process was activated, and the Emergency Management Team (EMT) determined further controls and actions required to manage the risk, care for our people, and sustain operations.

With the severity of pandemic-related symptoms notably decreasing in 2021, we introduced new protocols that allowed employees to return to work in a quicker, more effective manner after they recovered and/or tested negative. Through ongoing communication and education programs, ready access to vaccines, patient follow-up, and support to those who have been impacted, Trevali was able to continue operations with minimal disruptions to the business.

Trevali’s proactive risk management approach has proved to be successful and allowed our sites to operate efficiently and effectively, despite occasional challenges created by the pandemic with respect to access to people and supply chain delays and disruptions.

Trevali continued to support local communities to implement improved hygiene practices by providing essential supplies where needed throughout 2021.

As part of rigorous monitoring processes implemented to test the effectiveness of our COVID-19 controls, Trevali conducted over 400 assessments by over 90 leaders in our business, engaging over 700 people, and testing over 2,800 controls. The results indicated an effectiveness rate of 92% for these controls.
In August 2021, Trevali published the results of a positive NI 43-101 Feasibility Study (FS) for the expansion of Rosh Pinah. Known as “RP2.0”, the expansion project will incorporate sustainable technologies and processes to improve the safety, health, environmental footprint, and local economic impact of the mine, while strengthening our commitment to local communities and the region.

RP2.0 is expected to increase the capacity of the mine and mill by 86%, from 0.7 million tonnes per annum to 1.3 million tonnes per annum over a 12-year mine life. This will be achieved through modifications to the process plant, mine surface, and underground infrastructure, as well as the addition of a paste backfill plant and a dedicated portal and decline to the WF3 deposit.
Plans for RP2.0 include the following highlights, focused on improving sustainability throughout the operation:

Approximately 30% of the annual energy consumption will come from solar power, based on a 15-year solar power purchase agreement with Emerging Markets Energy Services Company (EMESCO) signed in April 2021, reducing our greenhouse gas (GHG) emissions.

Construction of a cemented paste backfill plant utilizing tailings to provide stability to the underground operation, which will reduce the surface tailings storage footprint, and increase water recovery and re-use.

Addition of a water treatment plant in conjunction with the paste backfill plant, anticipated to reduce the water intensity of the operation from 1.54 m³/t to 0.65 m³/t of ore processed, which is of critical importance as the region is subject to water stress.

Increasing the capacity of the underground mobile fleet from 30 tonne to 60 tonne trucks for more efficient transportation of material to surface, resulting in energy savings due to better fuel efficiency and reduced ventilation load.

Potential introduction of Battery Electric Vehicles (BEVs) as the underground mining fleet is expanded and or replaced, further reducing our GHG emissions.

Integrating new technologies such as autonomous drone surveying, underground connectivity, drilling machine telemetry, Trevalli Cloud Platform and Data Lake, Trevalli Edge devices for data collection, and digital forms and mobile devices, to improve safety, planning, and efficiency across the entire operation.

Trevalli has received non-binding expressions of interest from several capital providers about participating in the financing process, including commercial banks, such as Standard Bank, streaming and royalty companies, and mining focused alternative lenders, as well as Glencore, with whom Trevalli already has a concentrate off-take agreement for Rosh Pinah.

In parallel with our project financing initiatives, we continued to advance certain aspects of RP2.0 to maintain the project schedule and mitigate the risks associated with the project as outlined in the Feasibility Study. The early works program, with a capital budget of $20 million, is expected to be financed from internal cash flows and includes the following scope:

> Procurement of mobile equipment
> Power supply system upgrade
> Paste backfill plant long-lead item procurement
> Portal construction and decline development
> Process plant detailed engineering
Business Improvement (SDG 9)

In our 2020 Sustainability Report, we spoke about our T90 Business Improvement Program (BI Program) which was introduced to drive cost reductions through annual sustainable efficiencies. By the end of 2020, the T90 Program had delivered $35 million in recurring annualized efficiencies, reducing the cost per pound of zinc and increasing revenues, which helped us to weather the difficult market conditions through the year.

This year, the T90 Program evolved into a more targeted BI Program focusing on the top priority improvements that would result in the highest value impact to Trevali, by way of financial, innovation and process safety improvements, while continuing to foster an improvement mindset within the organization.

Through the BI Program, we identify opportunities for operational improvements, and “Step Change ideas” and optimizations across all our sites and business units and develop customized solutions through innovative technologies, processes, systems, and designs. These opportunities include optimization of plant and equipment availability, ore blending programs, maintenance planning and spares strategies, health and safety systems, and reduced downtime. By streamlining our processes, optimizing efficiency, and providing better data analysis and visibility where it is needed, we can drive step change improvements to the overall economic and sustainable performance of our operations and realizing benefits in health and safety, energy reduction, and waste reduction.

Business Improvement / Operational Efficiency

Focus on safely delivering top 5 business improvement initiatives at each operation to ensure market guidance is achieved

Initiatives identified to Increase metal lbs by 3.2% for Q4

• Improve & Stabilize Zinc Feed %, additional 1.4 Mlbs
• Increase TPH to 87.5, additional 0.7 Mlbs
• Increase Mill Runtime to 98%, additional 0.2 Mlbs

Initiatives identified to increase metal lbs by 2.7%, for Q4

• Improve recovery from 91% to 92% - additional 0.3 Mlbs
• Schedule additional 8kt from alternative mining locations. Mine plan adjustments to enable an additional 8 kt at 9% Zn and 35kt at 13% Zn to be mined.

Action plans to achieve targeted metal lbs for Q4

• Additional equipment and maintenance personnel
• Rehab ahead of mining front
• Reviewing mine sequence, stope sizes, sill pillar recovery, dilution and recovery factors
• Further Initiatives to be quantified:
  – Bring L3 & L8 sill pillar in mining plan earlier
  – Optimize mining cut-off grade

Recover to target
A key aspect of our Business Improvement strategy is our Digital Transformation Program, which is geared towards enabling real time data to make our operations safer and more efficient, while highlighting areas of opportunity. Data drives transparency and informed decision-making and allows us to monitor and track whether our BI Projects are delivering the impact they were designed for.

**Digital Transformation Program**

Advancing our goals to create the future of mining

Trelval’s Digital Transformation Program comprises of four main pillars, which together, establish our capabilities to deliver our Business Improvement Program:

- **Vision and Strategy**
- **Portfolio Management**
- **End-to-End Process**
- **Enabling Capabilities**

Key achievements from our Digital Transformation Program in 2021 include:

- **TECHNOLOGY PROGRAM OVERVIEW**
  - Underground connectivity – project is underway and is expected to be completed by end of Q1 2022.
  - Autonomous drone surveying solution fully deployed at Rosh Pinah and Perkoa.
  - Drilling Telemetry - Rosh Pinah’s new Simba with telemetry functionality is expected to be delivered in Q1 2022.
  - Trelval Capture – in the process of developing our own digitization platform (conversion of manual forms to digital forms).

**BUSINESS SYSTEMS UPDATES**

- **D365 ERP** fully implemented at Operations Centre, Perkoa and Rosh Pinah.
- **xGRC** – the replacement of IsoMetrix functionality is complete (Event Manager).
- **Perkoa Time and Attendance System** – System is deployed and fully operational.
- **MineRP integrated production planning** has been deployed at Rosh Pinah and Perkoa. The Execution Centre is live at Rosh Pinah and the team is continuously working on system improvements, reporting, and increased functionality.
Restart of Caribou Mine (SDG 17)

In 2020, unfavourable zinc market conditions and productivity challenges resulted in the temporary suspension of operations at Trevali’s Caribou Mine near Bathurst, New Brunswick. With the implementation of several operational and commercial enhancements, as well as improved zinc market conditions, Trevali was pleased to re-commence mining operations at the Caribou Mine in February 2021. The successful restart involved significant engagement with the provincial government and local Indigenous communities, as well as the establishment of rigorous COVID-19 protocols so that we could safely welcome former employees back to the mine.

Although the initial reopening plan is based on a two-year mine plan, our long-term goal has been to focus on optimization of scale of mining and production to get the most value from the operation. To that effect, Trevali commenced a parallel program in 2021 to explore opportunities that would extend the operational mine plan and investigate further potential in the Bathurst mining camp area. These opportunities include looking at satellite deposits, reviewing conditions for a conventional mine life extension, and commencing a Rapid Oxidative Leach (ROL) pilot program and study.
On November 8, 2021, Trevali Mining announced the sale of Trevali’s 100% interest in the Santander Mine in Peru to Cerro De Pasco Resources Inc. (Cerro De Pasco or CDPR). In accordance with the terms of the share purchase agreement with CDPR, Trevali received 10 million common shares of Cerro De Pasco (subject to certain conditions), C$1 million in cash, and a 1% Net Smelter Return Royalty on certain areas of the Santander Mine site that exclude areas on which there is currently a defined mineral resource.

Cerro De Pasco is a resource management company founded in 2012 and publicly listed in Canada with the purpose of treating and reprocessing all dumps, tailings, mining waste, and material resources in the Cerro de Pasco Region in Peru. Their aim is to restore long-term sustainability to mining activity in the Cerro de Pasco Region, in harmony with a healthy and motivated local population.

The divestiture of Santander was in alignment with Trevali’s focus on disciplined capital allocation, corporate debt reduction, and development of the RP2.0 expansion project at Rosh Pinah. Based on Trevali’s operating plan, the Santander Mine was approaching the end of mine life and was scheduled for closure in 2022.
From Purpose Into Action
Becoming the World’s Most Sustainable Mining Company
Our Purpose  

At Trevali, we have set a bold purpose to become the world’s most sustainable mining company. Mining – the act of extracting finite resources from the earth – is, by definition, unsustainable. Therefore, we have an obligation to extract and manage these resources in the most responsible way possible.

Our goal is to find better, more effective ways of mining, so that we can have a positive impact on everything and everyone we come into contact with. This includes our employees, contractors and suppliers, local communities, local economies, the countries that we work in, investors, and the environment.

Trevali’s Values of Teamwork, Respect, Performance and Care guide and lead us towards the achievement of our purpose.

Teamwork

Working together with employees, contractors, communities, governments, civil society, and other industries to build capacity and find innovative solutions to the greatest challenges of our times. This means building strong, motivated teams and upskilling for the future of work. It means inspiring others in the mining industry to join us on our quest for sustainability.

Respect

Respect for employees, for communities, and for the environment that we mine, live, and depend upon. This means valuing diversity and creating inclusive spaces so that employees and communities can thrive and help us to thrive. It also means respecting the land, water, and air that sustains us and the minerals that we take out of the ground by finding circular ways to conserve and use what we already have.

Performance

Walking the talk and measuring our impact so that we continue to do better, day by day, year by year. This means utilizing less energy and water, generating less waste, emitting less GHG emissions, and keeping everyone safe across all our sites. Our sustainability performance is directly related to our financial performance. To be successful, we must be responsible, innovative, and forward-thinking.

Care

Building meaningful relationships with employees, communities, and governments and contributing to the achievement of their goals and success. This means ensuring that we bring value to the regions in which we operate, and that the positive impacts continue well after we close our mines.
2021 Sustainability Program – From Purpose Into Action

While Trevali has always had a strong focus on sustainability, we recognized that in order to realize our overarching purpose, we needed a comprehensive, detailed, and long-term Sustainability Strategy that would be fully aligned with our purpose and fully integrated into the Company’s business planning and goals.

The 2021 Sustainability Program entailed a rigorous process, facilitated by a third-party consultant, to develop a foundational Corporate Sustainability Strategy (Strategy) for Trevali. This Strategy will be reviewed annually based on our current business context and will include the following elements:

» Trevali’s Strategic Priorities.

» Trevali’s corporate short-term sustainability goals (0 – 5 years).

» Trevali’s corporate long-term sustainability goals (5 – 10 years).

» Site-specific short- and long-term sustainability goals aligned with the corporate goals.

» Key Performance Indicators (KPIs) and measures of success reviewed quarterly and integrated with our operational KPIs and goals.

» Full integration with Trevali’s business plans, strategies, goals, standards, and processes.

This multi-stakeholder, iterative process, which commenced in 2021 and will continue into 2022, has involved:

» Review of Trevali’s current sustainability activities, programs, goals, and strategies.

» Prioritization of Trevali’s sustainability topics guided by the results of our 2021 materiality process and taking into consideration stakeholder views and interests.

» A series of four interactive workshops with Trevali’s Leadership Team to discuss, debate, and reach alignment on the Company’s Strategic Priorities, set SMART² corporate goals, and integrate sustainability into the Company’s business strategies.

» Workshops with site teams at Perkoa, Rosh Pinah, and Caribou, along with different corporate teams (Supply Chain, Environment, Finance, Health and Safety, Human Resources, Community Relations, Legal and Trevali’s Group Leadership Team) to develop site-specific SMART goals that all align with, or contribute in some way to, the corporate goals.

» A clearly articulated strategy to achieve our short-term and long-term sustainability goals in our priority areas.

At the time of writing, the Sustainability Strategy and Goals are currently in the process of final review and approval by the Leadership Team. We anticipate finalization and implementation of our Trevali Sustainability Strategy and Goals to begin in 2022. Progress against our Sustainability Goals will be reported through our annual sustainability reporting practice.

Trevali’s Sustainability Strategy will be comprehensive, detailed, and long-term. It will be fully aligned with our purpose and fully integrated into our business planning and goals.
Our Approach to Sustainability

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2021 Materiality Process

For this reporting year, Trevali once again engaged a third-party consulting firm to facilitate and lead us through a customized materiality process to evaluate the many sustainability topics pertinent to our business and their levels of importance to the Company and key stakeholders. We determine a sustainability topic to be material if there exists a significant possibility that it will impact Trevali in a financial, regulatory, or reputational sense. A sustainability topic is also considered to be material if it has the potential to significantly impact our stakeholders or substantially influence stakeholder decisions that could impact the Company.

The consulting firm employed a similar materiality process to the one that was developed and employed for our 2020 Sustainability Report, leveraging consistency of approach to observe any changes in material topics, as well as providing an opportunity to build on and strengthen our materiality and reporting process for 2021.

The research phase entailed a detailed review of our internal documents reflecting the Company’s planning and activities for 2021, including public and internal meeting notes, presentations, announcements, newsletters, new project plans, etc. An external analysis was also conducted by the consultant to shed light on the political, environmental, social, technological, legal, and economic contexts within which Trevali operates, as well as industry trends and risks.

Twenty stakeholder interviews were conducted during the stakeholder engagement phase. These consisted of seven interviews with internal stakeholders representing management and employees across Trevali’s corporate and site-based offices at Perkoa, Rosh Pinah, and Caribou, and 13 interviews with external stakeholders in Canada, Burkina Faso, and Namibia, representing local government, regulators, community members, Indigenous groups, local media, suppliers, consultants, Non-Governmental Organizations (NGOs), civil society groups, and academic organizations.

All stakeholder engagement (internal and external) was performed remotely (online or telephone) by the third-party firm in a confidential process designed to ensure objectivity and encourage the sharing of stakeholder views.

A list of the major stakeholder groups engaged and the topics that emerged as most material to them is presented in Section 4.2 – Key Stakeholder Groups and Material Issues.

The materiality process for the 2021 reporting year consisted of three phases:

**Phase 1:** Identify sustainability topics through research

**Phase 2:** Assess priorities through stakeholder engagement

**Phase 3:** Discuss and confirm the material ESG topics through Leadership workshops

Four facilitated workshops were held with Trevali’s Leadership team in 2021 as part of our Sustainability Strategy and Goal Setting Program, which aligned with our 2021 Sustainability Reporting process. The first two workshops focused on a review and discussion with the Leadership Team around the ESG priorities that emerged through Phase 1 and 2 of the materiality process, participants were guided through a materiality mapping exercise of 25 ESG topics that are common across the mining industry. Each topic was explored via a 2x2 materiality matrix which mapped its importance to stakeholders and its importance to the Company. Participants then went on to further prioritize the ESG topics through a polling exercise. After a series of constructive and insightful discussions within the cross-disciplinary Leadership team, we generated a list of 12 priority ESG topics which were identified as being integral to Trevali’s Business Sustainability Strategy.
During the second leadership workshop, participants undertook an exercise to view each of these 12 material ESG Topics through the three different lenses of Risk, Responsibility, and Contribution, as defined in the Figure seen here.

Through this process, Trevali’s Leadership team identified primary areas of risk and opportunity for the Company, our core responsibilities, and areas in which we aim to become industry leaders.

The results of the Risk, Responsibility, and Contribution prioritization workshop are presented in the Figure seen here.

Aggregated results from the research phase, the stakeholder engagement phase, and the Leadership workshops were used to create Trevali’s ESG Profile (see here), showing the relative prioritization of the ESG topics most material to Trevali. These results have also been used to shape and guide Trevali’s Business Sustainability Strategy and Goal Setting Program and are discussed within this Sustainability Report.
Key metrics from the SASB and GRI Standards were identified and mapped to the material ESG topics. Data was collected, reviewed, and analyzed by Trevali’s site teams, corporate teams, and the consulting team. For reporting purposes, the SASB standards include highly focused metrics specific to the mining industry, while the GRI standards encompass a broad range of ESG metrics that are measurable and comparable across the mining industry.
Key Stakeholder Groups and Material Issues

Stakeholder Groups Engaged
and Key Material Topics Identified for 2021

Internal Stakeholders
Corporate Employees, Site-Based Employees

- Leadership and Culture
- Labour Relations
- Community Relations
- Health and Safety
- Community Development
- Mine Closure and Legacy Planning
- Disclosure, Monitoring, and Reporting
- Governance

External Stakeholders
Local government, regulators, community members, Indigenous groups, local media, suppliers and consultants, Non-Governmental Organizations (NGOs), civil society groups, and academic organizations.

- Community Relations
- Community Development
- Leadership and Culture
- Local Employment and Procurement
- Mine Closure and Legacy Planning
- Indigenous Relations
- Inclusion, Equity, and Diversity
Strengthening Our Reporting

For us, every sustainability reporting cycle is an opportunity to learn about new best practices, identify gaps in our systems, and improve our data collection and reporting practices for the next year. In this way, we continually strengthen our operational practices and with them, our reporting practices.

To realize our goal of becoming the world’s most sustainable mining company, it is essential that we use data to both inform the initiatives that will result in the greatest good and measure the real impact of those initiatives. Trevali is actively pursuing this through our drive to collect, store, manage, utilize, and visualize data. This allows for more informed decision-making regarding the sustainability initiatives we should implement and enables measurement of their impact to create internal accountability.

In 2021, we implemented key improvements to our in-house Trevali Insights data visualization platform, improving visibility of data across the organization related to tonnage, grade, water quality results, health and safety incidents, our fatal risk control performance, and many other metrics that are used to drive our business forward. This system now provides daily insights into our operations, allowing our teams to make timely decisions based on real-time data to support sustainable operations and improve our performance. Over the next few years, we plan to expand this dynamic data reporting and visualization program to include other key metrics such as energy intensity, water usage, and tracking of permitting and license obligations.

Another example is the sampling scheduler implemented at the Caribou Mine which assists us in ensuring compliance to the numerous water quality sampling requirements called for by provincial and federal regulations. In addition to the sampling scheduler, water quality results from the Trevali Insights platform are used by the Caribou Management team to make the best decisions pertaining to available water treatment options to ensure legal compliance.

In order to protect employees, local communities, our reputation, the environment, and our business, we need to make sure that we manage risk in the best way possible. This means ensuring that we comply with national regulations and international standards and make governing decisions in an ethical and responsible way. This year, we also shifted our risk management platform to a more user-friendly, collaborative, and simple system to support effective risk management, reporting, and data analysis.

As part of our 2021 reporting process, we engaged a third-party consultant to conduct a pre-audit of our 2021 data related to the topics of water management, tailings and waste rock management, climate change and GHG gas, and biodiversity and land. During the pre-audit, the consultant will review the data we have disclosed in accordance with GRI and SASB for each of the audit topics, along with the evidence supporting the data, and conduct interviews with the responsible site team members. This exercise will assist us in identifying any existing gaps or weaknesses in our data collection processes and systems and will help us prepare for a formal audit of our future performance data.
Governance

- Board Governance
- Business Ethics
- Transparency
- Human Rights
- Cybersecurity
Board Governance

Trevali Mining commits to the highest standards of corporate governance practices. The Board of Directors and Management team monitor changing rules, regulations, and best practices on a continuing basis. Sound corporate governance practices are in the interest of our stakeholders and contribute to effective and efficient decision-making. The Board, therefore, aims to ensure that the operations, projects, and activities of the Company are in alignment with Trevali’s Values, and Canadian Securities Administrators’ National Policy 58-201 – Corporate Governance Guidelines, which establishes corporate governance guidelines applicable to all public companies in Canada.

All Directors operate in compliance with Trevali’s Code of Business Conduct and Ethics, along with our corporate governance policies and Board and Committee Charters, which are publicly available at https://trevali.com/about-us/about-trevali/.

In February 2021, Trevali’s Board was strengthened by the appointment of Jeane Hull as an independent director. Ms. Hull has over 35 years of operational leadership and engineering experience, including environmental and regulatory affairs in the public and private sector.

In August 2021, the Board adopted a 10-year term limit for independent directors, and the Board Charter was amended accordingly with the aim of encouraging board turnover, introducing new perspectives, and retaining director independence. Five out of Trevali’s eight Directors are independent, including the Chair of the Board. Our Audit Committee, Corporate Governance and Nominating Committee, and People and Culture Committees are all 100% independent.

Trevali has a written policy for the identification and nomination of director candidates who are diverse in all respects, including gender. Three (37.5%) of our eight directors, including the Chair of our Board, are female.

The Board oversees the Management team, strategic and corporate planning, and enterprise-wide risk management practices. Management reports regularly to the Board and its Committees on the implementation of the Company’s approved strategies. Plans are in place to monitor, manage, and report on the principal business risks. Each Committee has responsibility for oversight of risks specific to that Committee’s area of expertise and reports out to the Board.

“We started by defining our purpose and determining what is important to us - our values. We worked from within, as a team, incorporating sustainability into our organizational design, structures, our people (through the definition of roles and responsibilities) and our actions. Our governance mechanisms and documented processes help ensure we adhere to our commitments and comply with our own standards of business sustainability. Governance is one of Trevali’s foundations of business sustainability and our systems and processes support the business to ‘walk the talk.’”

- Jill Gardiner
Chair of the Board of Directors

Committee Composition
Business Ethics

The Board expects Management to execute the Company’s business plan and to meet performance goals in a manner that enhances shareholder value and is consistent with the highest level of integrity and the Company’s Values. To this end, the Board has adopted a Code of Business Conduct and Ethics (the Code) that applies to all its directors, officers, employees, as well as consultants, contractors, and suppliers of the Company, to the appropriate extent applicable. The Code establishes a set of expectations and standards for personnel with respect to ethical business practices, personal conduct, environmental practices, safety and occupational health practices, competition and fair dealings, and disclosure of information. In addition, we have a well-established set of related policies that, altogether, summarize the legal, ethical, and regulatory standards all employees, officers, and directors of the Company must comply with.

These include the following governance policies which are publicly available on our website:

» Anti-Bribery and Anti-Corruption Policy
» Anti-Harassment Policy
» Disclosure, Confidentiality, and Insider Trading Policy
» Diversity and Inclusion Policy
» Majority Voting Policy
» Reporting and Investigation Policy
» Shareholder Engagement Policy
» Share Ownership and Clawback Policy

A comprehensive review and overhaul of the Code was conducted in 2021, with the objective of making the document more accessible and user-friendly to its intended audience. In connection with this overhaul, the Code was further expanded to include sections relating to the Company’s position on important topics such as human rights principles and climate change, and to reflect the Company’s purpose statement and Values more fully.

Annual refresher training on the Code was rolled out across the organization in November 2021 and was made available in both English and French. Online training was presented to employees with access to a computer and with a Trevali email address, achieving a 91% completion rate, while in-person / facilitator-led sessions were conducted for all other employees without computer access. The training program includes content related to honesty and fair dealing, the avoidance of fraud, bribery and corruption, guidelines around the giving and receiving of gifts and entertainment, handling conflicts of interest, insider trading and confidential information, promoting diversity and inclusion, as well as providing guidance on IT (information technology) matters and working from home principles.

Compliance with the Code of Conduct is mandatory and violations of the law or the Code can lead to disciplinary action including dismissal, as appropriate. The Board monitors compliance with the Code and Management provides regular reports to the Board regarding issues, if any, arising under the Code and the Company’s corporate governance policies. The Corporate Governance and Nominating Committee reviews the adequacy of the Code on an annual basis.

Trevali’s Code of Business Conduct and Ethics was further expanded in 2021 to include sections relating to the Company’s position on important topics such as human rights principles and climate change.
We work hard to foster a culture where anyone can speak openly about concerns. Employees can raise concerns directly with their manager, the People and Culture department (previously known as the Human Resources department), our Compliance Officer who is our Chief Legal Officer (CLO), or any member of Senior Management or the Board of Directors. Supervisors and managers are required to report all complaints to the Company’s Compliance Officer, who has specific responsibility to investigate all complaints.

Trevali has a confidential incident reporting hotline that is readily available in local languages 24 hours a day, 7 days a week through ClearView Connects, an independent third-party operator. We actively encourage employees, suppliers, local community members, and third parties to utilize this service to report any actual or potential violations of the law, regulations, or company policies, especially in cases where an individual may not feel comfortable following the open-door approach described above or is not satisfied that the complaint has been investigated appropriately.

All complaints are reviewed in accordance with our Reporting and Investigation Policy, which includes provisions to encourage and protect whistleblowers and to ensure non-retaliation. Each complaint is reviewed and investigated by the CLO and internal audit, who may retain qualified independent third parties to investigate as required. Complaints regarding financial or accounting matters are concurrently reported to the Chair of the Audit Committee, while complaints relating to governance or other ethical matters are concurrently reported to the Chair of the Corporate Governance and Nominating Committee. A quarterly report is submitted by the CLO to the Board of Directors regarding any complaints received through the ClearView Connects hotline or other sources.

Trevali received one complaint through the ClearView Connects hotline during 2021, which was reviewed and resolved by the Compliance Officer and reported to the Board. Additional concerns were also raised and addressed at the site management level and subsequently reported to the Compliance Officer.

In 2022, the Company intends to introduce further rigour into its ethics program through the formation of an Ethics Committee aimed at furthering our understanding of ethical trends in the organization and allowing for better proactive measures to be taken, if and when required. The proposed ethics program would enhance the transparency and integrity of the ethical violations investigations as well as ensure that the outcomes of validated ethical violations are appropriate, thereby allowing Trevali to demonstrate to our stakeholders our commitment to a strong ethical culture.

Transparency

Trevali has published annual disclosure reports in accordance with the Extractive Sector Transparency Measures Act (ESTMA) since 2016. Introduced by the Government of Canada in June 2015, ESTMA requires extractive entities active in Canada to publicly disclose, on an annual basis, specific payments made to all governments in Canada and any other countries where they operate.

Trevali supports the participation of Burkina Faso in being an active member of the Extractive Industries Transparency Initiative (EITI). The EITI requires the disclosure of information along the extractive industry value chain from the point of extraction to how revenues make their way through the government and how they benefit the public. This is done to promote the open and accountable management of oil, gas, and mineral resources in each of the 56 implementing countries. The level of detail required for EITI reporting in Burkina Faso is consistent with the level of detail required by ESTMA.

Trevali files Annual Information Forms and Management Information Circulars on SEDAR and on its website. These disclosures provide material information about the Company, including our operations and prospects, compensation and governance practices, risks and any other external factors that may impact the Company.

Trevali Mining’s 2021 ESTMA report can be found at https://trevali.com/site/assets/files/7322/estma-report-2021.pdf
Human Rights (SDG 1 5 8 10)

Trevali is committed to respecting and upholding human rights across all our operations. We are guided by the United Nations’ Universal Declaration of Human Rights, the UN Guiding Principles on Business and Human Rights (UNGPs) and the eight core conventions of the International Labour Organisation (ILO).

We have zero tolerance for child labour, forced labour, or compulsory labour at any of our operations. This is ensured through the implementation of robust policies and due diligence processes in our recruitment and Supplier Code of Conduct.

The Board Health, Safety, Environment and Community (HSEC) Committee is responsible for providing governance oversight of Trevali’s adherence to our human rights standards and our human rights performance.

Trevali had zero human rights incidents or violations reported to the Group Leadership Team or the Board at any of our operations during 2021.

Our Security Standard is based on an approach that seeks to avoid confrontation and to resolve issues through dialogue. All Trevali security team members and contractors are trained in the Voluntary Principles on Security and Human Rights and third-party security providers are vetted prior to employment to ensure capability, competence, credibility, and alignment with our values.

A living wage is an income level that allows individuals or families to afford adequate housing, food, childcare, healthcare, and other necessities. In many countries, the legal minimum wage falls short of enabling a satisfactory standard of living. Trevali believes that a fair living wage is a human right, and we provide entry level wages that are higher than the legal minimum wage across all the regions in which we operate to honour this conviction.

In keeping with our non-discrimination policies, entry level wages are always the same for female and male employees at all our sites.

Our Supplier Code of Conduct stipulates that all suppliers and potential suppliers must align with our commitment to human rights and meet international human rights standards, such as the ILO and the UNGPs.

2021 Entry Level Wage Compared to Local Minimum Wage

<table>
<thead>
<tr>
<th>Trevali Operating Site</th>
<th>Jurisdiction</th>
<th>Trevali Entry Level Wage vs. Local Minimum Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosh Pinah</td>
<td>Namibia</td>
<td>4.35 : 1</td>
</tr>
<tr>
<td>Perkoa</td>
<td>Burkina Faso</td>
<td>2.93 : 1</td>
</tr>
<tr>
<td>Caribou</td>
<td>Canada</td>
<td>1.92 : 1</td>
</tr>
<tr>
<td>Corporate</td>
<td>Canada</td>
<td>1.35 : 1</td>
</tr>
<tr>
<td></td>
<td>South Africa</td>
<td>6.94 : 1</td>
</tr>
</tbody>
</table>
Cybersecurity

Trevi is committed to keeping all information held throughout our IT infrastructure and business systems secure. We have a global Chief Information Security Officer (CISO), as represented by the Chief Technology Officer, who focuses on developing and improving the Company’s information security program.

We are conducting a cyber security maturity assessment in accordance with ISO 27001 so that we may identify and focus on areas of improvement. We conduct risk assessments which allow us to prioritise our mitigation strategies, keeping all customer data, personal employee data, and information from our business partners confidential and secure.

Technology, process, and people form the pillars of our IT Governance framework. A key mitigation strategy we employ is seeking to enhance and enable our people’s awareness of our cyber-threat profile. We conduct monthly phishing attack simulation campaigns with mandatory training for all employees, specifically related to mitigating the impacts of phishing activity. In addition, we are developing an annual refresher training course on this topic, which will be mandated for all staff to complete. Our mission is to ensure that there is shared accountability across the company for keeping our systems and data safe as we continue to boost our people’s security skills.

Trevi has also established an IT Governance Forum that involves all aspects of the business, enabling us to embrace technology through business enablement and the application of security-by-design principles as we continually innovate and transform our technology. With our trusted IT solution advisors, we are consulting with global experts to enhance our cybersecurity position. This includes conducting independent vulnerability assessments and monitoring against industry-related information security maturity models.

Over the last few years, cybersecurity has emerged as an urgent threat and an area of critical importance for all businesses, including within the mining industry. With the onset of the pandemic driving our operations to increased remote work and virtual meetings, along with the implementation of our new digital platforms, we recognized that the risks to our digital infrastructure and data had the potential to increase exponentially. In addition to the cybersecurity systems that were implemented in 2020 (see 2020 Sustainability Report), this year, we partnered with a leading IT security services company, to implement a comprehensive cybersecurity program at Trevi.
Leadership & Culture

- Inclusion, Equity, and Diversity (37)
- Our People (39)
- Health and Safety (41)
- Supply Chain (44)
- Disclosure, Monitoring, and Reporting (45)
While governance forms the foundation of our Company, it is people who drive our success. At Trevali, we invest extensively in developing motivated and competent leaders and building a culture of openness, inclusion, and innovation where everyone can contribute, learn, and grow within the Company.

Every two years, Trevali conducts an employee survey to engage, understand, and learn from our employees.

The survey participation rate grew by 13% from 2019 to 58% in 2021, across the entire Company. We believe this result can be attributed to our focus on developing strong values-centric leaders and the implementation of Inclusion, Equity, and Diversity (IED) initiatives to shape a culture that is inclusive and respectful of all types of diversity - both visible and invisible. The survey results indicated that our engagement index was 65%, and results in all five dimensions had over 74% positive perception. This means that employees are engaged, have confidence in our leadership team, and believe that Trevali has a strong focus on ESG, IED, and innovation.

Based on the survey results, we identified several key focus areas for 2022, including training, leadership development, and talent management, which are aligned with our future of work principles and business priorities, ongoing enhancements to communications, and continued emphasis on embedding recognition practices at all locations. Planning around these focus areas has started and we will continue implementation in 2022.

Our 2021 company-wide employee survey measured the following five dimensions:

1. Engagement
2. Leadership
3. Environment, Social, and Governance
4. Inclusion, Equity, and Diversity
5. Innovation

results in all five dimensions

74%

positive perception
Inclusion, Equity, and Diversity

Trevali is dedicated to fostering a truly equitable environment that respects and values the diversity of all people. We aim to create an inclusive culture based on merit that is free of conscious or unconscious bias and we have zero tolerance for discrimination, bullying, and harassment of any kind. For us, inclusion is an action, something that we work on continuously. Diversity alone is not enough. It is only when we cultivate an inclusive environment that people can feel free to share their diverse thoughts and ideas, which is what really makes us stronger, smarter, and more creative.

Our commitment to diversity starts with the Board of Directors who are responsible for monitoring the Company’s performance in meeting the standards and goals within our Diversity and Inclusion Policy. A diverse Board and Senior Leadership team are a competitive advantage as they help to broaden the range of perspectives, experience, and expertise necessary to make good business decisions and meet the expectations of our stakeholders. Currently, 38% of the Directors on Trevali’s Board (three out of eight) are female and we aim to further strengthen our Board with Directors who have diverse backgrounds, experience, skills, and views.

It is the Company’s goal to have women comprise no less than 30% of our senior management team.

As of December 31, 19% of our senior management team comprises women leaders. Through our leadership and IED programs, we continue to create a supportive environment that will enable us to achieve our stated goal.

Results of our first Gender Pay Gap Analysis revealed that Trevali’s compensation system has no systemic biases as our compensation reflects a strong correlation between job levels and location and no correlation with gender. As such, this signifies that compensation offered at Trevali is based on the individual’s job accountabilities, location in which they operate out of, and competencies.

In 2020, we formed the Trevali Group Inclusion Committee (see our 2020 Sustainability Report for more details). In 2021, the Inclusion Committee developed a multi-year action plan and began implementing initiatives including the following:

- Launching the Unconscious Bias Education Program for Trevali Executives and Managers to increase awareness and understanding of unconscious bias and to ensure that our people leaders are equipped with the tools and resources to be role models and promote an inclusive culture at Trevali. Sixty-one senior leaders and managers from across all offices participated in the sessions with plans to include supervisors in 2022.

- Roll-out of Trevali’s Inclusive Language Guideline to educate employees on types of inclusive and non-stigmatizing language as part of our focus to foster an inclusive work environment.

- Conducting the inaugural Gender Pay Gap Analysis to ensure that our compensation system and approach is fair, consistent, and impartial, and that it does not contain any systemic biases.

In 2021, we expanded our data collection within Trevali by tracking and reporting diversity by different age brackets, visible minorities, persons with disabilities, and persons from vulnerable groups within our corporate office and at each site.
## Diversity Statistics

<table>
<thead>
<tr>
<th>Diversity Category</th>
<th>Trevali Group</th>
<th>By Location 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2021</td>
<td>2020</td>
</tr>
<tr>
<td><strong>Board Leadership</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Male</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Female</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
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<td>0</td>
</tr>
<tr>
<td>Under 30 years old</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30-50 years old</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Over 50 years old</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Visible minority*</td>
<td>NR</td>
<td>NR</td>
</tr>
<tr>
<td>Person with disability</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Person from vulnerable group</td>
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<td>0</td>
</tr>
<tr>
<td><strong>Senior Management</strong></td>
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<td>43</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>43</td>
</tr>
<tr>
<td>Male</td>
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<td>34</td>
</tr>
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<td>Female</td>
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<td>9</td>
</tr>
<tr>
<td>Other</td>
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<td>0</td>
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<td>Under 30 years old</td>
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<td>0</td>
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<tr>
<td>30-50 years old</td>
<td>24</td>
<td>0</td>
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<tr>
<td>Over 50 years old</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Visible minority*</td>
<td>NR</td>
<td>NR</td>
</tr>
<tr>
<td>Person with disability</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Person from vulnerable group</td>
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<td>0</td>
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<tr>
<td><strong>Employees</strong></td>
<td>953</td>
<td>856</td>
</tr>
<tr>
<td>Total</td>
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<tr>
<td>Male</td>
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<td>Female</td>
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<tr>
<td>Other</td>
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<tr>
<td>Under 30 years old</td>
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<td>30-50 years old</td>
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<td>Over 50 years old</td>
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<tr>
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<tr>
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<td>0</td>
</tr>
<tr>
<td>Person from vulnerable group</td>
<td>12</td>
<td>NR</td>
</tr>
</tbody>
</table>

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* Trevali defines Senior Management at Corporate as the Group Leadership Team and Senior Management at Operations as the Site Leadership Team.

* Visible minority is defined as persons who are visibly distinct from those of the predominant ethnic or racial group in the societies where we operate.

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### How we define Vulnerable Groups

**We Refer to the GRI definition:**

Vulnerable Groups: Persons with some specific physical, social, political, or economic condition or characteristic that places the group at a higher risk of suffering a burden, or at a risk of suffering a disproportionate burden of the social, economic, or environmental impacts.

**Note 1:**

Vulnerable groups can include children and youth, the elderly, people with disabilities, ex-combatants, the internally displaced, refugees or returning refugees, HIV/AIDS-affected households, indigenous peoples, and ethnic minorities.

**Note 2:**

Vulnerabilities and impacts can differ by gender.
Our People (SDG 8)

Our people are Trevali’s greatest asset and the true power behind our operations. We recognize the talent that each employee brings to Trevali and continually work on improving our talent attraction, development, and retention strategy to keep up with evolving needs.

In 2021, Trevali focused heavily on leadership development, inclusion, equity and diversity, talent management, and employee recognition to better align our current practices with our Core Values and culture. We also rolled out various systems within our People Technology Roadmap (see side box) to drive governance and provide accurate data for real-time decision making across the Group.

Key initiatives and programs implemented to support our people this year included:

- **Updated Trevali’s Compensation and Human Resources Committee Mandate** to include Board oversight on organizational culture, leadership development, IED, and key employee lifecycle practices, and to stay apprised of trends and developments regarding these aspects.

- **Held Global Manager Roundtables** where Trevali’s managers, leads, and superintendents from all locations gathered virtually to have meaningful conversations around a broad range of leadership topics. This provided a space where leaders could build their internal network and connect with others across the Company. Roundtable topics for 2021 included Managing through Crises and Challenging Times, Focusing on Employee Mental Health and Wellness, and Proactive Planning and Managing of Unplanned Work.

- **Designed Trevali’s Individual Contributors’ Leadership Competencies Model** to assist employees with planning out their career progression and supporting their development within the Company. The Model has been approved by Trevali’s Group Leadership Team and will be rolled out in 2022.

- **Released an Employee Appreciation Guide** to provide people leaders with ideas they can use to recognize employees’ efforts to show appreciation and increase employee engagement and motivation.

- **Conducted Talent Management Reviews** to drive ongoing conversations between managers and employees about performance and development. We identified key talent within Trevali and implemented personal development plans that will be tracked by managers and Human Resources. We also facilitated strategic talent movements as part of this review process.

- **Prepared Succession Plans** to mitigate risks and ensure business continuity at Senior Management levels as well as for critical roles across the Group.

- **Developed an Integrated Communications Plan** to promote Trevali as an employer of choice across internal and external communications channels. This included recognizing employees, sharing stories about our company values, showcasing our diverse cultures, and placing a greater focus on mental health and employee wellbeing.

- **Implemented New Human Resources Systems** for enterprise resource planning, payroll, recruitment, time and attendance management, and other human resources functions across our corporate office and sites to improve the functionality and performance of our management systems.
Trevali believes that the workforce of the future is the current workforce retrained. The best people to run our future operations are those who are already in the industry; ready to be re-inspired, and upskilled to excel at new technologies, processes, and situations.

"When rolling out our Leadership Competencies Model last year, one of the key areas brought forward was the opportunity to connect and learn from other people leaders within Trevali... to share ideas, knowledge, and experiences to enhance leadership skills and broad-based business thinking. As such, we have carved out this time and space that is dedicated for our people leaders to bounce ideas off one another and bring to light opportunities to make things more efficient at Trevali. This also serves as a way for our leaders to build an internal network, further collaborate on aligning processes and approaches, and discuss ways in which they can apply the Leadership Competencies Model in their daily practice.”

- Joanne Thomopoulos
Chief People Officer

Case Study:
Group Management System (GMS)

To fulfil our vision of being the "Future of Mining", we needed a disciplined and consistent way to manage the interrelated parts of our business to achieve our organization-wide objectives. Therefore, in 2021, we launched our Group Management System (GMS).

The GMS provides all employees and contractors access to Trevali’s policies, standards, procedures, and guidance documents in one place. All these documents, including our Code of Conduct and Ethics and related policies can now be easily accessed through T:Junction - Trevali’s intranet. Employees can search and filter the library by document type, functionality, discipline, or language.

The GMS will help us to consistently manage our business and deliver on strategic objectives, while clearly communicating expectations of behaviours and how we manage the many risks and opportunities that our business will face.

As a living library, the GMS will be added to and updated regularly. Employees are encouraged to familiarize themselves with the GMS site, and consult it as they perform their work activities and responsibilities.
Health and Safety (SDG 3)

A true health and safety mindset is a foundational building block of success. Trevali aims to be able to guarantee the safety of our people in the workplace by creating a proactive safety culture based on personal responsibility, accountability, and teamwork and through careful and robust planning and scheduling of work. We use our experience, knowledge, systems, and technology to implement our Trevali Group Management System (GMS) and keep all employees, contractors, sub-contractors, and visitors at our sites healthy and safe.

The GMS is aligned with Mining Association of Canada’s Towards Sustainable Mining protocol, the principles of ISO 45001 - Occupational Health and Safety Management Systems Standard. In addition, our Rosh Pinah operation is certified to ISO 45001. In 2021, a third-party audit in accordance with ISO 45001:2018 was conducted at the Rosh Pinah mine.

Our injury data collection and reporting follow the guidance of the Occupational Health and Safety Administration (OSHA) and International Council on Mining and Metals (ICMM) standards for the reporting and tracking of injuries and illnesses.

How to Guarantee Safety?

- **Believe** – Believe it is possible.
- **Accommodate** – Human error is normal - design for this.
- **Measure** – Controls need to be effective.
- **Co-create** – Controls.
- **Investigate** – Failures must be learned from.
- **Share** – Share learnings and look for improvement opportunities.
- **Plan** – Work must be planned and scheduled to understand risk.

**In 2021, 2,302 key control checks were performed against the 10 Fatal Risk Controls and COVID-19 standards, with 18,451 controls assessed. Results indicated 92% effectiveness of controls.**

Through key control checks and root cause analyses, we continuously identify opportunities for improvement by moving up the hierarchy of controls from personal protective equipment (PPE) and procedures, to engineered controls, making our operations and systems inherently safer.

During 2021, we focused on measuring both leading and lagging safety Key Performance Indicators. Our Total Recordable Injury Frequency (TRIF) rate (for both employees and contractors, combined) increased from 4.5 in 2020 to 8.7 in 2021. Although this increase is disappointing, the severity of the injuries has been on the decline. We improved our visibility of significant incidents and shared key learnings across our business. By using these learning to improve our focus, we will be able to improve our controls to prevent incidents and injuries.
In 2021, Trevali had zero fatalities at our operations.

The health, safety, and wellbeing of our workforce is of paramount importance to us, on-site and off-site. Our health and safety programs have a broad focus on occupational and non-occupational health and safety, in addition to operational health and safety.

Trevali’s Group Health Standard identifies occupational health processes to identify hazards, understand controls and manage risks, with an aim to eliminate occupational exposures, illnesses, and disease, and to support mental wellness. Medical surveillance programs are in place at all sites and continually assess any impacts of possible exposures. In 2021, we implemented key control checks to measure and manage the most hazardous occupational exposure agents that our workforce may be exposed to, which include diesel, particulate matter, noise, silica, and lead.

To ensure that all employees have access to programs and education that will help them to stay healthy and well, we provide non-occupational related health services on-site or through drop-in centres that offer services related to primary health care, prenatal care, dental, physiotherapy, psychology, testing, pharmaceutical services, testing, referrals, and voluntary counselling on prevalent diseases such as diabetes, hypertension, HIV, and malaria.

**Total Recordable Injury Frequency (TRIF)***

<table>
<thead>
<tr>
<th></th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
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</thead>
<tbody>
<tr>
<td>Rosh Pinah</td>
<td>12.7</td>
<td>7.1</td>
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</tr>
<tr>
<td>Perkoa</td>
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<td>61</td>
<td>6.8</td>
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<td>Caribou</td>
<td>79</td>
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**Lost Time Injury Frequency (LTIF)**

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<tr>
<td>Total Trevali Group</td>
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<td>1.5</td>
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Security at Trevali

A critical aspect of health and safety is keeping our workforce and operations secure. At all our sites, we carefully monitor social, political, and geopolitical risks that may impact our employees and our operations so that we can plan for their safety. Through proactive intelligence-gathering, ongoing risk assessments, and stakeholder engagement, we work to avoid conflict and find peaceful ways to continue our work.

All Trevali security team members and contractors received refresher training in the Voluntary Principles on Security and Human Rights in 2021. Third-party security providers are vetted prior to employment to ensure competence, credibility, and alignment with our values.

Our Perkoa operation in Burkina Faso is protected by security fencing and access control systems. Members of the national police force are permanently on site to reinforce the private security force supplied by a local service provider. Trevali also continues to participate with the Mining Association of Canada’s (MAC) Working Group on Security, which enables intelligence sharing across mining companies operating in the region.

At Caribou, all security personnel are trained in the CAN/CGSB-1331-2017 Standard for Security Officer and Security Officer Supervisors where emphasis is placed on de-escalation and maintenance of control.

At Rosh Pinah, all security personnel are trained in alignment with the Voluntary Principles on Security and Human Rights.

Case Study: SiteDocs

Our key and critical controls, such as the 10 Fatal Risk Controls, are an essential tool in ensuring the health and safety of our workforce. They are most effective when used consistently and transparently. A new platform called SiteDocs, implemented this year, simplifies the ongoing collection and reporting of this type of data and provides us with a more detailed understanding of our risk control effectiveness.

The SiteDocs platform allows all employees to monitor the effective use of key and critical controls in real-time through their mobile phones and tablets. This field-based process facilitates engagement with our workforce, implementation of controls, and opportunities for improvement. Moreover, it gives our supervisors the freedom and autonomy to do their work in the field with up-to-date critical information wherever they are. It also enables Trevali to easily implement the controls required to manage risk and to gather information to improve our controls and act quickly.

“All our operations are using this platform and we can easily see the benefits of this approach. It allows our leaders to perform the control assessments easily through their phones or tablets, bringing more agility, accountability, and accuracy to the data, which allows data driven decisions, focusing on processes and risk controls that matter most. This paperless system is a great tool for our leadership teams to coach, mentor, and check performance, besides identifying improvement opportunities, and working actively towards our value of Care.”

- Richard Weishaupt
Senior Vice President, Health, Safety, Environment, and Community
Supply Chain (SDG 12)

Trevali’s Values extend to suppliers, vendors, and contractors through our Supply Chain Management Policy, Procurement Sourcing Procedure, Supplier Code of Conduct, and our commercial contracts. Trevali continues to work towards strengthening, encouraging, and assisting our local and international supply chains to be transparent, ethical, diverse, and inclusive, and to improve their social and environmental performance.

All new potential suppliers are screened based on their commitment to human rights, labour rights, health and safety, and environmental performance according to the Group Procurement Policy.

In 2021, we implemented a new due diligence program, Know Your Counterparty (KYC), to ensure adherence to our Trevali Supplier Code of Conduct. Through the KYC program, all new vendors are required to complete two questionnaires (Trevali Vendor Pre-Qualification Questionnaire and Vendor Information Template), designed to assess their governance, environmental, social, and economic performance. We also send all new vendors a copy of our General Terms and Conditions of Purchase so that they are aligned with our expectations and requirements.

In 2022, we plan to commence a due diligence process to ensure adherence to our Supplier Code of Conduct, company policies, and to government regulations for all our current suppliers. The process will start with our top five vendors and increase to include more vendors over the next two years. This due diligence process will also be implemented for all new vendor applications.

Our strategy for supplier compliance and due diligence will encompass the following stages:

» Vendor risk assessments: For new vendors, this will include assessing the risks of entering a contractual relationship and completing a risk-and-reward analysis prior to formalizing a contract. For existing vendors, the risk assessment will be based on interviews and internal reviews of audited financial statements, annual reports, reputation, qualifications, litigation history and status, subcontractors, internal operations, knowledge of relevant applicable governmental laws, and insurance coverage.

» Develop a Vendor Compliance Policy: To clearly outline Trevali’s requirements and expectations of vendors in all areas including legal matters, ethical conduct, anti-corruption, health and safety standards, environmental sustainability, purchase order terms and conditions, hazardous substances, privacy, confidentiality, and information security. The policy will also include a schedule of regular assessments and will be included in every vendor agreement.

» Deploy a Communications Strategy: This will comprise of communication sessions with suppliers prior to assessment and will outline the importance of compliance in order to get vendors on board with our plan.

» Ensure valid agreements are in place with all long-term vendors: Likewise, they are actively managed through current and new contracts, with evidence of acceptance. All deviations and corrective actions are monitored and recorded.

» Implement a new vendor management standard: This will ensure continuous due diligence in ensuring vendors’ compliance and outline steps for corrective action, if required.

New Suppliers Screened Using Social and Environmental Criteria

<table>
<thead>
<tr>
<th>Supplier</th>
<th>New suppliers that were screened using social and environmental criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosh Pinah</td>
<td>27</td>
</tr>
<tr>
<td>Perkoa</td>
<td>76</td>
</tr>
<tr>
<td>Caribou</td>
<td>87</td>
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<tr>
<td>Total 2021</td>
<td>190</td>
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<tr>
<td>Total 2020</td>
<td>507</td>
</tr>
</tbody>
</table>

100% of new suppliers across all Trevali sites were screened in 2021 using social and environmental criteria
Disclosure, Monitoring, and Reporting

Through transparency and ongoing monitoring, we hold ourselves accountable to our commitments. Our journey towards more fulsome, comprehensive, integrated disclosures has helped us to better understand our strengths, weaknesses, and gaps. Embracing the spirit of continuous improvement, this reporting process drives us toward enhanced sustainability performance by introducing us to a range of leading international best practices and standards that are critical for our business.

Towards Sustainable Mining

Trevail has committed to aligning our business practices and standards with the Mining Association of Canada's (MAC) globally recognized Towards Sustainable Mining (TSM) program. TSM guides mining companies in turning high-level environmental and social commitments into action and provides stakeholders with information on how TSM sites are performing in various areas. By conducting TSM self-assessments and gap analyses across our sites, we have worked to review and align our Group Management Standards with the TSM Guiding Principles and Protocols.

As a member of MAC, participation in TSM is mandatory for Trevail’s Canadian operations, which comprise our Caribou mine in New Brunswick. In 2021, we conducted a self-assessment at Caribou against the eight TSM protocols and submitted these results to MAC. Each protocol consists of a set of indicators that measure the quality and comprehensiveness of facility-level management systems and are intended to provide an overview of our performance in key environmental and social areas. In 2022, Caribou will implement the action plans identified from the initial self-assessment for each of the eight protocols in readiness to publish our TSM scores publicly by the end of 2022. In compliance with the TSM process, our first third-party verification audit will be conducted in 2023.

The TSM Guiding Protocols and Frameworks provide us with guidance on the following topics as they pertain to sustainable mining operations:

1. Biodiversity Conservation
2. Climate Change
3. Crisis Management and Communications
4. Indigenous and Community Relationships
5. Mine Closure
6. Preventing Child and Forced Labour
7. Responsible Sourcing
8. Safety and Health
9. Tailings Management
10. Water Stewardship

Task Force for Climate-Related Disclosures

As climate change is a priority topic for Trevail, our investors, and other key stakeholders, we have made a formal commitment to report in accordance with the Task Force for Climate-Related Disclosures (TCFD). The results of our TCFD gap analysis were published in our 2020 Sustainability Report. Details of our TCFD progress in 2021 can be found in the Climate Change section of this report.

Trevail is fully committed to aligning our corporate strategy with the TCFD recommendations. We intend to provide status updates on our progress against TCFD in our annual sustainability reports so that investors and stakeholders can better understand our climate-related risks, targets, and plans.
Indigenous and Community Relations

Our relationships with the host communities of our operations are important to us. We are only as strong as the relationships we have with our workforce and local stakeholders. At all our operations, we engage with stakeholders throughout the mining lifecycle to understand and mitigate the impacts of our activities, build relationships based on trust, strengthen communities, and leave a positive legacy.

We see ourselves as active members of the local communities within which we operate and as such we aim to support local communities in the initiatives that are important to them. We focus on programs that promote healthy lifestyles and opportunities for youth so that they can build a stronger, healthier future for themselves and their societies.

The onset of the COVID-19 pandemic in 2020 resulted in a disruption to some of our on-the-ground community relations activities due to nationwide lockdowns and our efforts to keep local communities safe by limiting face-to-face gatherings and activities. With the commencement of vaccination programs and easing of restrictions in 2021, we were able to increase and, in some cases, even strengthen our engagement with local communities, civil society groups, non-governmental organizations, and political and administrative authorities, as we carefully ramped up our activities on- and off-site.

Grievance Management

Trevali Mining provides stakeholders with access to a confidential complaints and grievance reporting mechanism through the Clearview Connects platform, which is available in local languages, 24 hours a day, 7 days a week, and managed by an independent third-party operator, so we can understand and address any concerns about our engagement and human rights performance.

Our Group Community Management Standard is aligned to the Mining Association of Canada’s (MAC) Towards Sustainable Mining (TSM) Indigenous and Community Relationships Protocol and embodies Trevali’s principles of care, self-determination, and consent. We are committed to the protection and enhancement of human rights for all with a particular focus on women, children, Indigenous peoples, and other vulnerable groups.
In Burkina Faso, we continued with our community engagement program by hosting four sessions of the Communication Committee of the Perkoa Mine (CCMP), which is a tripartite collaboration between the local authorities, Trevali Mining, and representatives from various community groups including youth, women, local media, and religious leaders, among others. We organized two meetings with community members in Seboun and Perkoa to discuss issues specific to each locality. As members of the local communities, we are invited to participate in a wide range of community social events, including weddings and funerals.

In 2021, with the easing of the pandemic, the Perkoa mine reopened its doors to visitors for tours, inspections, and educational programs. These visitors included:

- Several Masters students from the Environment and Management of Mining Waste program at the University of Fada N’Gourma for a study visit.
- The National Human Rights Commission of Burkina Faso who visited the mine as part of a human rights monitoring program.
- Students from the Higher Institute of Technology for a study visit.
- The Honourable Deputy to the National Assembly Master Edasso Rodrigue Bayala and his delegation for a courtesy visit.
- Members of the Biblical Church of Revival who had gathered in the nearby village of Réo for an annual Bible camp.
- The Directorate General of Mines and Geology for an annual inspection.
- Ambassador Louis Dominique Ouedraogo for a site tour.
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- Members of the Biblical Church of Revival who had gathered in the nearby village of Réo for an annual Bible camp.
- The Directorate General of Mines and Geology for an annual inspection.
- Ambassador Louis Dominique Ouedraogo for a site tour.
- The National Human Rights Commission of Burkina Faso who visited the mine as part of a human rights monitoring program.
- Students from the Higher Institute of Technology for a study visit.
- The Honourable Deputy to the National Assembly Master Edasso Rodrigue Bayala and his delegation for a courtesy visit.
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- The Directorate General of Mines and Geology for an annual inspection.
- Ambassador Louis Dominique Ouedraogo for a site tour.

In Namibia, we support the town of Rosh Pinah and the informal settlement of Tutungeni through RoshSkor, a joint venture entity between Trevali and Skorpion Zinc (a subsidiary of Vedanta Resources), by providing essential municipal services including power, water, wastewater management, and waste management. In addition, the mine supports a private clinic providing doctors and medical services to the community of Rosh Pinah and supports a government clinic in Tutungeni by providing a physician and ambulance services.

A few of the community programs implemented by Trevali within and around the Rosh Pinah community in 2021 include:

- Supported the government in managing the surge in COVID-19 cases by providing cleaning materials for the Rosh Pinah quarantine and isolation facility.
- Donated building materials to the Tutungeni informal settlement located near the mine to support a local housing initiative to build brick houses for low-income households.
- Various community initiatives through the Obib Training Centre.
- Purchased a microscope and library laptop to support Grade 12 students with science and research at the Tsau Khaeb Secondary School.

In 2021, with the easing of the pandemic, the Perkoa mine reopened its doors to visitors for tours, inspections, and educational programs. These visitors included:

- Several Masters students from the Environment and Management of Mining Waste program at the University of Fada N’Gourma for a study visit.
- Students from the Higher Institute of Technology for a study visit.
- The Honourable Deputy to the National Assembly Master Edasso Rodrigue Bayala and his delegation for a courtesy visit.
- Members of the Biblical Church of Revival who had gathered in the nearby village of Réo for an annual Bible camp.
- The Directorate General of Mines and Geology for an annual inspection.
- Ambassador Louis Dominique Ouedraogo for a site tour.
- The National Human Rights Commission of Burkina Faso who visited the mine as part of a human rights monitoring program.
- Students from the Higher Institute of Technology for a study visit.
- The Honourable Deputy to the National Assembly Master Edasso Rodrigue Bayala and his delegation for a courtesy visit.
- Members of the Biblical Church of Revival who had gathered in the nearby village of Réo for an annual Bible camp.
- The Directorate General of Mines and Geology for an annual inspection.
- Ambassador Louis Dominique Ouedraogo for a site tour.
Trevali respects the beliefs, values, and connections to the water and land of the Indigenous Peoples and communities near our operations. Trevali’s Caribou mine is located on Mi’gmaq First Nation territory in New Brunswick, Canada. We have an Impact Benefit Agreement in place for Caribou, which has been signed with nine Mi’gmaq First Nations who share the land base. Through our cooperation agreement with the Mi’gmaq First Nations and our relationships with each community liaison through our Mi’gmaq Benefits Manager we are able to promote transparent engagement and timely communication regarding employment and business opportunities for members of local First Nations within our organization.

With the re-opening of the Caribou operation in 2021, all former employees were directly invited to re-apply for their positions and the company re-entered into an agreement with the Pabineau First Nation to provide trucking services for the transportation of zinc and lead concentrates. Trevali also prioritizes qualified Indigenous candidates when recruiting for open positions.

In 2021, we participated in key initiatives to strengthen our relationships with local First Nations and advance opportunities for local Indigenous communities:

- In August, we held a meet and greet luncheon in Bathurst, New Brunswick with members of First Nations communities located near our site.
- Joined the Engagement, Employment and Training Working Committee established by Mi’gmawe’l Tplu’taqnn, a non-profit organization whose members are the nine Mi’gmaq communities in New Brunswick: Amlamog First Nation, Natoaganeg First Nation, Elsipogtog First Nation, Oinpegitjoig First Nation, Esgenoôpetitj First Nation, Tjipõgtõtjg First Nation, L’nui Menikuk First Nation, Ugpi’ganjig First Nation, and Metepenagiag Mi’kmaq Nation.
- Began working with the Joint Economic Development Initiative (JEDI), a leading Indigenous organization dedicated to working with partners in the public and private sector to foster Indigenous economic development in New Brunswick.
- Sponsored two sports events for youth in the Bathurst area – the New Brunswick Baseball Provincial Under-15 A Championship and the Regional Fall Tennis Tournament.
- Partnered with the Junior Hockey Team Acadie-Bathurst Titan on the ‘One Goal, One Tree’ initiative (see Case Study).
- Sponsored the Défi Nepisiguit Challenge, a two-day adventure race hosted by the City of Bathurst every October. This event, which involves bicycling, canoeing, and trekking through 140 km of stunning New Brunswick terrain, promotes tourism and active lifestyles in the Bathurst region.
- Sponsored the 4 Directions Program which provides outdoor adventure and team survival building skills for children between the ages of 12 and 17 in the Chaleur Region of New Brunswick.

Community initiatives supported by Trevali in New Brunswick in 2021 included:

- Sponsored two sports events for youth in the Bathurst area – the New Brunswick Baseball Provincial Under-15 A Championship and the Regional Fall Tennis Tournament.
- Partnered with the Junior Hockey Team Acadie-Bathurst Titan on the ‘One Goal, One Tree’ initiative (see Case Study).
- Sponsored the Défi Nepisiguit Challenge, a two-day adventure race hosted by the City of Bathurst every October. This event, which involves bicycling, canoeing, and trekking through 140 km of stunning New Brunswick terrain, promotes tourism and active lifestyles in the Bathurst region.
- Sponsored the 4 Directions Program which provides outdoor adventure and team survival building skills for children between the ages of 12 and 17 in the Chaleur Region of New Brunswick.
In 2021, Trevali partnered with Quebec Major Junior Hockey League team the Acadie-Bathurst Titan, for a community environmental project called One Goal, One Tree in which the team commits to planting a tree for every goal they score in the 2021-2022 season. This initiative supports the local hockey team allowing them to give back to the community and helps to raise awareness about the important role that trees play in conserving biodiversity and mitigating greenhouse gas emissions.

“Trevali is excited and privileged to be part of the Titan’s ‘One Goal, One Tree’ initiative. This initiative is directly in line with our beliefs and values as a company to care for others, the environment, and the communities we touch. We are also excited for the upcoming hockey season and we are positive that with the great line-up of players, there will be a new forest in the region.” - Marie-Claude Dumont, Senior Manager of Operations, Caribou Mine.

“We are positive that with the great line-up of players, there will be a new forest in the region.”

- Marie-Claude Dumont
Senior Manager of Operations, Caribou Mine
Community Development (SDG 1, 2, 3, 4, 5, 6, 8, 9, 11)

An important objective for Trevali is to enable local communities within our areas of influence to be strong and resilient, and to thrive independently of our operations. We succeed when local communities succeed. In each of the regions where we operate, we develop and implement programs with local stakeholder groups to help communities build capacity in the areas that they prioritize. We carefully select community development projects which are aligned with our Values of Teamwork, Respect, Performance, and Care, and have dedicated community development specialists at each operation who engage with key stakeholders and local governments to continue driving progress towards sustainable community development.

In 2021, we contributed a total of $10,515,836 through various mechanisms and in support of community development projects.

### Investment by Operation (Direct and Indirect) in 2021 (USD)

<table>
<thead>
<tr>
<th>Operation</th>
<th>Direct Community Investment</th>
<th>Donations and Sponsorships</th>
<th>Taxes, Royalties, and Fees</th>
<th>Total Community Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosh Pinah</td>
<td>478,302</td>
<td>28,363</td>
<td>3,911,999</td>
<td>4,418,664</td>
</tr>
<tr>
<td>Perkoa</td>
<td>160,248</td>
<td>114,285</td>
<td>5,038,121</td>
<td>5,312,654*</td>
</tr>
<tr>
<td>Caribou</td>
<td>0</td>
<td>21,420</td>
<td>763,098</td>
<td>784,518</td>
</tr>
<tr>
<td>Total Trevali Group</td>
<td>638,550</td>
<td>164,068</td>
<td>9,713,218</td>
<td>10,515,836</td>
</tr>
</tbody>
</table>

* Included in this payment is an amount of $1,018,307 that constitutes a 1% contribution of revenue to the local development mining fund.

### Direct Community Investment Spend per Operation in 2021 (USD)

<table>
<thead>
<tr>
<th>Operation</th>
<th>Enterprise Development Projects</th>
<th>Education Projects</th>
<th>Infrastructure Projects</th>
<th>Health and Wellbeing Projects</th>
<th>Total Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosh Pinah</td>
<td>0</td>
<td>126,097</td>
<td>26,827</td>
<td>325,378</td>
<td>478,302</td>
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<tr>
<td>Perkoa</td>
<td>2,144</td>
<td>46,511</td>
<td>41,020</td>
<td>70,573</td>
<td>160,248</td>
</tr>
<tr>
<td>Caribou</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Trevali Group</td>
<td>2,144</td>
<td>172,608</td>
<td>67,847</td>
<td>395,951</td>
<td>638,550</td>
</tr>
</tbody>
</table>

2021 was a busy year across all our sites with the resumption of community development programs that were put on pause in 2020 due to the global pandemic, the establishment of new programs and initiatives, plus ongoing support to communities to deal with the pandemic.
At Perkoa, Trevali continued to support local development programs directly and through contributions made to the Local Development Mining Fund (LDMF) administered by the government, which consist of 1% of Perkoa’s monthly revenues. In 2021, Trevali’s total community investment spending at Perkoa amounted to $5,312,654 comprising $1,018,307 in contributions to the LDMF and $160,248 in direct contributions to community programs.

Highlights of our community development activities at Perkoa in 2021 included:

Education

» Offered training programs for youth who have left the formal education system in building trade skills related to masonry, sewing, electrical systems, and metal carpentry at the Centre de Formation aux Métiers (CEFORME) in the village of Réo. In 2021, 122 students registered in the program, including 24 girls. CEFORME has also introduced French literacy courses to prepare students to complete their final exams. Trevali plans to continue working with the Ministry of Youth and Professional Integration in 2022 to identify alternate sources of funding to continue supporting this program in the future, thus ensuring that the program can continue independently of Trevali.

» Provided financial and in-kind support, including bicycles and T-shirts for the celebration of academic excellence at the Provincial Directorate of National Education and in the municipalities of Kyon and Réo.

» Distributed solar lamps to primary schools and colleges for students in exam classes in order to improve their study conditions.

Health and Wellbeing

» Launched a second multimedia information and awareness campaign regarding prevention measures against COVID-19.

» Acquired and donated medical equipment for the operating room in the health district of Réo.

» Supported the Works Council for the Fight Against AIDS (CELS) through the funding of HIV and AIDS awareness campaigns delivered to local villages and artisanal mine sites.

» Provided food donations to local communities in the province through the Provincial Directorate of Social Action and CELS.

» Supported the Ministry of Environment with the organization of the third annual National Tree Day in Zinaire during the rainy season.
Enterprise Development

» Organized a workshop to explore current opportunities available in the produce sector in Burkina Faso, which was attended by over 70 participants. The workshop was facilitated by experts in meat, fruit, and vegetable production from Bobo-Dioulasso, and discussed ways in which local communities could increase their participation in this sector.

» Continued supporting the activities of the Perkoa Women’s Center, which was established to train and support local women in revenue-producing activities such as soap making, shea butter production, soumbala, and hygienic vegetable drying activities. Campaigns to collect raw materials were organized within the Perkoa site and more than 550 kg of shea nuts and a significant quantity of néré were collected. To expand the activities of the Centre, Trevali began construction of several new buildings which will be completed in 2022. These include a small house for the mill, a kitchen and drying area, and a shop and storage building for equipment and raw materials.

» Resumed the beekeeping project (see Case Study), which resulted in two successful honey harvests yielding a total of 1965 kg of honey.

Infrastructure

» Facilitated a connection to the national electrical grid for the building headquarters for the Association of Veterans in the province of Sanguié.

» Provided computers and office equipment to the Provincial Directorate of the Environment to replace equipment that was damaged during protests.

» Supplied aggregate material to the village of Guido for the construction of a primary school.

Caribou

With the re-opening of the Caribou Mine in 2021, Trevali participated in job fairs and information sessions within local communities to promote employment opportunities at the mine. We will continue to search for meaningful ways in which to support and advance the work of local communities and Indigenous organizations such as the Mi’gmawe’l Tplu’taqnn and the Joint Economic Development Initiative.
The land on which the Perkoa mine was established was once filled with natural fields upon which local families tended traditional beehives. Over the years, these bees continued to swarm around the mine site, worker accommodations, and local villages. They were the source of various health and safety issues for staff, contractors and local communities surrounding Perkoa, including frequent incidences of bee stings, work disruptions, and severe complications for those who have bee-related allergies.

For years, the bees were simply considered to be a nuisance and the standard practice for dealing with them was by using insecticide around the mine and local villages. Over time our perception changed as we began to understand the important role that bees play in the ecosystem. We began to see the bees as an opportunity for the mine, the community, and for the environment.

Trevali worked together with local communities in developing a new program to protect and nurture the bees by providing them with a safe and suitable habitat within which they could flourish and produce honey. Key features of this program included training nine people from the village of Perkoa to tend the bees, relocation of new hives and water points away from areas of human activity, and the collection and disposal of old honey deemed unfit for consumption due to the historic use of pesticides.

Over time our perception changed as we began to understand the important role that bees play in the ecosystem.
This small shift in our approach has resulted in a host of benefits for the bees, the local ecosystem, Trevali and local communities, resulting in the strengthening of community-company relationships, the creation of new jobs for local beekeepers, a reduction in health and safety incidents, enhanced productivity at site, improvement of local biodiversity, a safer natural environment for the bees, and the production of delicious honey.

This year, we continued to develop this program with the installation of new honey collection equipment and had two harvests resulting in close to 20 kg of honey collected. Since the inception of the program, there have been three honey harvests on-site, generating a total of 64.65 kg of honey. We plan to continue expanding this program through additional training, equipment, and community participation so that the bees and the community can continue to thrive together and benefit the environment.
Rosh Pinah

RoshSkor, a 50:50 joint-venture established between Trevali (Rosh Pinah Zinc Corporation) and Vedanta (Skorpion Zinc) provides services to support the unofficial town of Rosh Pinah, where most of the employees from both the mining operations reside. This includes the funding and operation of a healthcare clinic including doctors, paramedics, pharmacists and visiting specialists, two schools providing pre-primary through to secondary education, and all essential services including sanitation, sewerage, running water, and electricity to the community. Services for Trevali employees are subsidized by the Company.

Highlights of our community development activities at Rosh Pinah in 2021 included:

- Supported the construction of a safe, new playground for children in the Bet-El area to avoid dust exposure from the mine (see Case Study).
- Continued supporting the operation of the Sidadi medical clinic located in Rosh Pinah.
- Continued funding of an ambulance service to transport local community members to a hospital in the town of Lüderitz, located approximately 300 km away.

OBIB Training Centre

The OBIB Training Centre (OTC) was established in 2000 by Rosh Pinah Zinc Corporation as a vocational training centre. In 2008, it was registered as a not-for-profit incorporated association by Rosh Pinah Zinc Corporation and Skorpion Zinc Corporation.

The OTC’s vision is to be a self-sustaining institution that initiates and supports effective community development in response to the needs of communities within Rosh Pinah and the broader Karas region. The OTC aims to work in a caring manner towards the improvement of the physical, mental, emotional, and spiritual quality of life of those they serve. Committed to achieving sustainable empowerment, they work closely with various institutions that are aligned with their vision and mission, and support and amplify the OTC’s work in different ways.

The primary focus of the OTC’s work is facilitating local economic development that strives to be independent of the current mining operation to spark and sustain long-term sustainable development in the region. The OTC offers basic training skills to residents of Rosh Pinah and those in the surrounding areas in order to build capacity and facilitate employment opportunities within local businesses for local residents. Sponsorship of OTC projects is not limited to the local mines but is open to any sponsoring organizations approved by the OTC Management Committee.

Current OBIB projects include the following initiatives involving local community members:

- Karakul wool processing and carpet weaving for the manufacture of wool carpets and other wool products for sale.
- Woodworking project for the manufacture of various types of furniture.
- Leather-making for the manufacture of leather products for sale.
- Sewing and needlework projects that support local women to create sustainable businesses.
- Tutungeni Day Care Centre which provides facilities and utilities to support independently managed day care facilities.
- Tutungeni Centre for Hope which provides meals to the most vulnerable members of the community, including children.
- Various other initiatives for vulnerable community members residing near the mine site.

Health and Wellbeing

- Continued our partnership with a local non-profit organization called OBIB (see Sidebox) to provide training and capacity building programs for local community members in needlework, carpet weaving, and hand-making of leather products. We also donated any recyclable materials from our operations such as wood, metal, and plastic containers to the OBIB Community Centre so they could generate revenue through their re-use and recycling programs.

Enterprise Development

- Supported the construction of a safe, new playground for children in the Bet-El area to avoid dust exposure from the mine (see Case Study).
- Continued supporting the operation of the Sidadi medical clinic located in Rosh Pinah.
- Continued funding of an ambulance service to transport local community members to a hospital in the town of Lüderitz, located approximately 300 km away.
The Rosh Pinah mine has been in operation since 1969, changing hands and being operated by various companies over the years. When Trevali took over the mine in 2017, we came to learn that many areas across the site and nearby settlements were blanketed with an accumulation of dust from historic mining activities. One such area was the Bet-El neighbourhood, where young children could frequently be seen playing in the sand which contained dust from mining operations. Trevali has been working for years to suppress dust generation from the mine while mitigating and addressing the legacy impacts of the dust on local communities.

In Bet-El we saw an opportunity to reduce the risk and exposure of young children to dust by building a new playground away from the dust-laden areas around the mine. Construction of the new playground was completed in May 2021, and the children now have a safe, stimulating, and healthy environment to play, learn, and grow.

We know that play is one of the most important ways in which young children gain essential knowledge and skills, and studies regularly show the profound influence that children’s earliest experiences can have on their success later in life. We estimate that this playground will provide direct beneficial impacts to 200 families and could provide indirect beneficial impacts to approximately 500 families near Rosh Pinah. Potential indirect impacts include increased social interaction and connection between children, parents, guardians and neighbours and prevention of childhood obesity and associated health issues, thus putting less pressure on families and local health care facilities. The benefits of this project extend beyond local communities by contributing towards Namibia’s Vision 2030 which aims to create positive health outcomes for all Namibian children and aligns with SDG 3, which seeks to ensure health and wellbeing for all at every stage of life.

In keeping with our Value of Care, we continuously work to advance projects like the Bet-El playpark which improve the health, safety, and wellbeing of local communities, promote opportunities for learning, growth, and development, mitigate any impacts from our mining activities, and improve social cohesion within the communities that host us.

We estimate that this playground will have beneficial direct impacts on 200 families, while indirectly impacting 500 families near Rosh Pinah.
Local Employment and Procurement

To us, local employment and procurement just makes good sense. It reduces our operating costs and risks, shortens our supply chains, builds long-term capacity in local communities, promotes economic resilience in the region, improves our overall performance, and enables a healthier, more engaged workforce. A powerful driver of social and economic progress, local employment and procurement is the most direct vehicle to positively impact and contribute to the regions in which we operate.

National Employment

<table>
<thead>
<tr>
<th>% of Nationals in Management positions</th>
<th>2021¹</th>
<th>2020²</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate (%)</td>
<td>60</td>
<td>Not recorded</td>
<td>Not recorded</td>
<td>Not recorded</td>
</tr>
<tr>
<td>Rosh Pinah (%)</td>
<td>75</td>
<td>87</td>
<td>Not recorded</td>
<td>Not recorded</td>
</tr>
<tr>
<td>Perkoa (%)</td>
<td>44</td>
<td>82</td>
<td>Not recorded</td>
<td>Not recorded</td>
</tr>
<tr>
<td>Caribou (%)</td>
<td>90</td>
<td>Not recorded</td>
<td>Not recorded</td>
<td>75</td>
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<tr>
<td>Total Trevali Group (%)</td>
<td>69</td>
<td>86</td>
<td>Not recorded</td>
<td>Not recorded</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>% of National Employees (non-management)</th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate (%)</td>
<td>100</td>
<td>Not recorded</td>
<td>Not recorded</td>
<td>Not recorded</td>
</tr>
<tr>
<td>Rosh Pinah (%)</td>
<td>99</td>
<td>98</td>
<td>Not recorded</td>
<td>Not recorded</td>
</tr>
<tr>
<td>Perkoa (%)</td>
<td>96</td>
<td>95</td>
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<td>96</td>
</tr>
<tr>
<td>Caribou (%)</td>
<td>100</td>
<td>Not recorded</td>
<td>Not recorded</td>
<td>Not recorded</td>
</tr>
<tr>
<td>Total Trevali Group (%)</td>
<td>96</td>
<td>97</td>
<td>Not recorded</td>
<td>96</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total % of National Employment (management and employees)</th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate (%)</td>
<td>96</td>
<td>Not recorded</td>
<td>Not recorded</td>
<td>Not recorded</td>
</tr>
<tr>
<td>Rosh Pinah (%)</td>
<td>98</td>
<td>98</td>
<td>Not recorded</td>
<td>99</td>
</tr>
<tr>
<td>Perkoa (%)</td>
<td>95</td>
<td>95</td>
<td>Not recorded</td>
<td>99</td>
</tr>
<tr>
<td>Caribou (%)</td>
<td>99</td>
<td>95</td>
<td>Not recorded</td>
<td>99</td>
</tr>
<tr>
<td>Total Trevali Group (%)</td>
<td>96</td>
<td>97</td>
<td>Not recorded</td>
<td>97</td>
</tr>
</tbody>
</table>

¹ Figures for 2021 do not include Santander due to the sale of the Santander Mine in 2021.
² Figures for 2020 do not include figures for the Corporate office and Caribou due to the shutdown of the Caribou Mine in 2020.
³ Note: We currently categorize employment figures as nationals (citizens of countries in which they work) and non-nationals. Local employment figures are currently not tabulated.
⁴ Management is Supervisors and above.
## Local and National Procurement (USD)

<table>
<thead>
<tr>
<th></th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spend on Local Procurement</strong></td>
<td>11,543,192</td>
<td>75,484,117</td>
<td>23,118,312</td>
<td>68,733,744</td>
</tr>
<tr>
<td>% Local Procurement</td>
<td>30%</td>
<td>81%</td>
<td>30%</td>
<td>81%</td>
</tr>
<tr>
<td><strong>Spend on National Procurement</strong></td>
<td>28,255,510</td>
<td>75,484,117</td>
<td>74,576,109</td>
<td>74,576,109</td>
</tr>
<tr>
<td>% National Procurement</td>
<td>73%</td>
<td>81%</td>
<td>98%</td>
<td>86%</td>
</tr>
</tbody>
</table>

### For Rosh Pinah

- **73%** of the procurement is **within Namibia**
- **41%** is **local** (from the Karas region, located within a 300 km radius from the mine)

### For Perkoa

- **81%** of the procurement is from **Ouagadougou** (the capital and largest city in Burkina Faso)
- Considered both **national and local** (as it is located within a 300 km radius from the mine)

### For Caribou

- **98%** of the procurement is **within Canada**
- **30%** is **local** (within the province of New Brunswick)

*Note: We define local procurement as companies based in the same region or province as the site location or within a 300 km radius of the site. National procurement is defined as procurement within the country where the site is located.*
Legacy Planning (SDG 11)

We recognize that although our mines have a finite life, the legacy we leave behind has long-lasting impacts for local communities. Trevali is committed to creating positive and self-sustaining environmental and socio-economic legacies for present and future generations of host communities. At each of our sites, we work in consultation with local communities and authorities to develop closure plans that respect host communities and are aligned with their needs and vision.

We continuously explore new opportunities and partnerships in the regions in which we operate to keep our sites productive and extend the life of our mines. When the time comes to eventually close mine sites, we implement plans and programs to help local communities with resource and capacity development to build an independent future. Through workforce transition strategies such as reskilling and upskilling, we help to mitigate the impacts of mine closure on employees. The community development programs we implement throughout the life of mine also work towards this goal of community empowerment beyond the mine.
Caribou

The reopening of the Caribou mine in 2021 was based on a two-year mine plan, which was the longest Trevali could commit to considering the current operating and commercial conditions and constraints of the operation. However, we have, in parallel, continued to explore other opportunities to extend the operational life of mine, including exploring the potential within satellite deposits and investigating the implementation of Rapid Oxidative Leaching (ROL) at Caribou. If the ROL pilot program results prove to be promising, it could allow us to extend our operations in a sustainable manner in the Bathurst region for years to come.

Rosh Pinah

We recognize that the town of Rosh Pinah has been heavily reliant on Trevali and other operating mines in the region for its economic and social development. Established as an informal mining settlement in 1969, Rosh Pinah has a transitory population that comes from various regions of Namibia to work at the mines. To enable the local community to achieve economic independence from mining operations, Trevali has been working with key stakeholders including Skorpion Zinc, RoshSkor, and the Karas Regional Council to enable the proclamation of Rosh Pinah town into a self-governing municipality. A sustainability study for Rosh Pinah and the surrounding areas has been commissioned to better understand key factors related to the sustainability and existence of the town beyond the life of mine, and to guide the process of proclaiming Rosh Pinah. This study will encompass an extensive consultation process and is expected to include the views of all stakeholder groups, and Indigenous communities.

Trevali has also been in contact with the town of Oranjemund, a former mining town established in 1936 which was proclaimed by the Government in 2011, to learn from their journey to proclamation so that we can ensure that Rosh Pinah and Tutungeni remain self-sufficient and healthy after the mine closes and/or Rosh Pinah is proclaimed. We also continue our engagement with government agencies, local NGOs, and academic institutions to build strong networks and leverage existing projects, programs, and funding streams to benefit the residents of Rosh Pinah.

Based on our current reserves and the planned RP2.0 Expansion Project, we expect to continue operations at Rosh Pinah for at least another 12 years and have strengthened our investment in the region, including a 15-year power purchase agreement for the supply of solar power for our operation.

Perkoa

Our Perkoa operation is currently slated for closure or care and maintenance in 2023. However, we have been actively exploring opportunities that may allow us to extend the life of mine and continue our engagement in the region.

In February 2021, Trevali entered into a binding agreement with Arrow Minerals (Arrow) which allows both companies reciprocal exploration rights in the highly prospective Boromo Belt in Burkina Faso. The Boromo Belt, traditionally recognized as a gold belt, currently hosts the Poura, Batie West, and Bissa gold mines, along with Trevali’s Perkoa zinc-silver massive sulphide mine and is considered underexplored for base metals. This reciprocal agreement allows Arrow to conduct gold exploration within Trevali’s permits and allows Trevali to conduct base metals exploration within Arrow’s permits. The partnership has the potential to accelerate gold and/or base metals mineral discovery on both companies’ mutually underexplored concessions, which we hope will lead to an extension of Perkoa’s mine life. More details can be found in our media release.

At the same time, we understand that mine closure will have an impact on our employees and host communities, and we aim to mitigate these impacts through workforce transition strategies and self-sustaining social development programs we have implemented during the operational life of the mine. This includes skills and capacity development initiatives for community members such as the CEFORME program in Réo for youth, the Perkoa Women’s Center, and workshops to explore opportunities in the produce sector (see Community Development section for more details).

For our existing workforce, we are implementing training programs to upskill our existing workforce in other areas of endeavor such as pump repairs, agriculture and farming, and reskilling current employees so they can participate in the ongoing closure and post-closure activities related to the mine.

A continued area of focus for Perkoa in 2022 will be implementing additional training opportunities for our employees and local community members to ensure that we build a legacy which enables the creation of sustainable livelihoods for the future.
Environment

- Climate Change
- Biodiversity
- Water Management
- Waste Management
- Hazardous Materials, Dust, and Emissions
- Mine Closure Planning
- Permitting and Compliance
The COVID-19 pandemic has shown us that we can make enormous changes quickly under pressure if we all work together. Building on our experience in the past few years where we have pivoted to completely new ways of working with strength and agility, Trevali is poised to move quickly to tackle big challenges and embrace new opportunities. This is reflected in our recent and ongoing digital transformation, the new technologies we are currently exploring, and new partnerships we have formed.

Historically, the mining industry has been heavily reliant on carbon-intensive fuels such as diesel and gasoline because of the remote locations of many mines and the lack of cost-effective alternatives. The industry is now at a stage where low-cost renewable power is not only becoming cost-effective, feasible, and a suitable alternative for even the remotest of sites, but also an urgent imperative. To reduce our GHG emissions, the mining industry needs to decarbonize rapidly. Trevali is taking a first step in this direction through our commitment to supply 30% (the maximum currently allowed by the Government of Namibia) of the energy demand for Rosh Pinah mine with renewable solar power generated in Namibia.

The future of mining means making better use of existing mining operations and limiting the construction of new ones. As processing technologies improve over time, there is the possibility of unlocking potential value in existing tailings and waste rock through the reprocessing of waste. Reprocessing tailings utilizes less water and energy than processing fresh ore and can generate additional revenue. This is exactly what we are hoping to do using the Rapid Oxidative Leach (ROL) technology we are currently testing at our Caribou mine. By embracing circular economy solutions, we can increase productivity while decreasing our environmental impact.

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Underground mines are more efficient, use less energy, and have a considerably smaller environmental footprint than open pit mines. We can reduce our impact on local biodiversity, our greenhouse gas (GHG) emissions, and the amount of waste we generate. Since we backfill the underground stopes using waste rock-based backfill, the amount of waste stored permanently on surface, post-closure water management, and costs and liabilities associated with mine closure are all reduced.

We know that sustainable mining is the only kind of mining that will survive and thrive in a low-carbon future. This is why we are working to enable a shift to sustainable mining based on the following guiding principles.
Trevali is committed to reducing, mitigating, and responsibly managing our impacts on the natural environment. Environmental considerations, such as biodiversity, water, waste, energy, emissions, and mine closure, are integral to our business planning, corporate strategies, and decision-making. Trevali’s Group Management System (GMS) is aligned with the principles of ISO 14001:2015 Environmental Management System Standard and based on the relevant Mining Association of Canada’s (MAC) Towards Sustainable Mining (TSM) Protocols for water, tailings, climate change, mine closure, and biodiversity management. Additionally, our Rosh Pinah mine is certified in accordance with ISO 14001:2015.

Each operation has a team of environmental specialists who manage and identify risks and opportunities in line with our Group Risk Management Standard. Risks are categorized by severity and communicated to the HSEC Committee, which reports environmental risks, opportunities, and strategic activities on a quarterly basis to the Board. Incident severity is measured on a scale of 1 to 5 with Level 1 being the lowest level of harm to the business and Level 5 being the highest. Any actual or potential material incidents (Severity 4 - 5) are reported immediately to the Board. A list of environmental incidents by severity is presented here.

### Number of Environmental Incidents by Severity in 2021

<table>
<thead>
<tr>
<th>Severity Levels</th>
<th>Total Trevali Group</th>
<th>Rosh Pinah</th>
<th>Perkoa</th>
<th>Caribou</th>
</tr>
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<tbody>
<tr>
<td></td>
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<tr>
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<tr>
<td>5</td>
<td></td>
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</tbody>
</table>

**Rosh Pinah**

One incident was related to an oil spill. The area was cleaned, and contaminated soil disposed of as per applicable standards. The other two incidents were water spillages due to an overflowing dam/tank. Rosh Pinah is in a water scarce area and therefore any water spillage is reported.

**Perkoa**

Most of the incidents were due to spillages of oil/fuel. Contaminated areas were cleaned, and contaminated soil disposed of as per applicable standards.

**Caribou**

Four incidents were related to regulatory non-compliance (one when the zinc concentration exceeded the Metal and Diamond Mining Effluent Regulations (MDMER) limit and three when the pH exceeded the MDMER limit). The relevant authorities were notified, and an action plan was developed to prevent a reoccurrence. One incident was a spillage of process water due to a burst pipe. The contaminated area was cleaned.
Climate Change (SDG 13)

Climate change is one of the most urgent challenges of our times. Accordingly, Trevali has made a commitment to work towards the objectives of the Paris Agreement and the recommendations from the Intergovernmental Panel on Climate Change (IPCC) to limit global warming to under 1.5°C as compared to pre-industrial times. We are also in the process of aligning our reporting in accordance with the Task Force for Climate-Related Financial Disclosures (TCFD).

Our Board reviews information related to climate change on a regular basis. The HSEC Board Committee has specific responsibility for the oversight of the review and assessment of emerging trends, risks, opportunities, and activities related to climate change impacts, focusing particularly on energy use, greenhouse gas emissions, and water management. Group-wide remuneration is partially linked to the achievement of Trevali’s climate goals and targets, which will be determined in 2022.

Understanding, disclosing, and addressing our climate-related risks in a timely manner is essential for the success of our business and our stakeholders. At the same time, the transition to a carbon neutral economy is expected to create significant opportunities as the demand for metals such as zinc rises with the commercial large-scale implementation of renewable energy and battery storage solutions. As a major provider of sustainable zinc from diversified sources, Trevali is well-poised to support the green energy transition.

TCFD Commitment

Trevali conducted a gap analysis against the TCFD recommendations in 2020. In 2021, we continued the journey by turning our focus to refining data collection and reporting systems, further integrating climate change into our risk management system, and through the development of our overarching Business Sustainability Strategy. As part of the Strategy work, we are currently in the process of developing new goals and targets related to climate change that are aligned with the TCFD recommendations and will be published in the following year’s sustainability report.
**GHG Emissions**

We plan to reduce our carbon footprint by setting realistic GHG reduction targets through energy efficiency initiatives to lower the carbon footprint of our operations. We aim to do this before we see a sharp escalation in carbon pricing, new regulatory requirements, and further impacts to the environment. Through the implementation of digital solutions to improve energy efficiency and the proposed use of solar power at Rosh Pinah, we are advancing our commitment in this direction. We have also been implementing process efficiency projects that lower our energy consumption, GHG emissions, and water intensity at various sites.

In 2021, Trevali entered into a 15-year renewable Power Purchase Agreement (PPA) with Emerging Markets Energy Services Company (Emesco) for the supply of solar power to our Rosh Pinah mine. The agreement will ensure that 30% of Rosh Pinah’s power requirements will be delivered through solar power, which we anticipate will reduce our absolute GHG emissions across Trevali by 6%. The provisions of the modified single buyer rule set by the Namibian Government currently limits large electricity consumers such as Trevali to source no more than a maximum of 30% of their requirement directly through power purchase agreements or self-generation. Emesco will be responsible for the design, permitting, financing, and implementation of a solar energy system on a property neighbouring the Rosh Pinah Mine in Namibia at no cost to Trevali. The solar power generated will be sold by Emesco to Trevali at a fixed rate that is expected to reduce our energy costs by 18% over the 15-year term of the agreement. The agreement has been designed to scale with the output of the mine and will increase to match our requirements over time. Construction has commenced to support our current and future mining operations, including the RP2.0 Expansion project.

Trevali’s Scope 1 and 2 emissions primarily stem from the use of diesel for on-site electricity generation at Perkoa, purchased electricity at Rosh Pinah and Caribou, and diesel and gasoline used in our mobile and light vehicle fleets. We currently do not measure and track our Scope 3 emissions. Next year, we plan to commence data collection and reporting of some Scope 3 emissions related to the transport of zinc concentrate from our sites.

No GHG emissions for Santander have been captured in this year’s report due to the sale of Santander in 2021. As a result, our total absolute emissions have decreased from previous years, however our GHG emissions intensity remains the same.

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**The Power Purchase Agreement (PPA) with Emesco will ensure that 30% of Rosh Pinah’s power requirements (the maximum allowable by Namibian regulations) will be delivered through renewable solar power, reducing absolute GHG emissions across Trevali by 6%, while driving down our energy cost by 18% over the 15-year duration of the term.**
In estimating Scope 1 emissions only the combustion of diesel, HFO, LPG and gasoline have been considered.

Scope 1 emission factors were sourced from ‘GHGRP Dec 2version 5.0 Table 2-5. Global warming potentials were sourced from Table 2-6’. IPPC AR5. As Trevali is a Canadian company, these factors were applied across all our operations.

Stationary diesel and gasoline emission factors were applied to transport combustion of those fuels. We are looking to improve our data collection process in the future in order to improve the accuracy of our reporting.

A 41.4% generator efficiency factor was applied to diesel generators for electricity generation at Perkoa operation.

Location based factors were used for calculation of Scope 2 emissions. In the future we will aim to disclose our Scope 2 emissions using a market-based approach as well.


For Namibia and Burkina Faso emission factors from ‘Technical Paper | Electricity-specific emission factors for grid electricity August 2011 page 21 by Ecometrica’ were used. tCO2-e emission factor was not available for Namibia; therefore, IPCC AR5 global warming potential values were applied to calculate the factor.

2020 emissions and emission intensities have been restated due to a calculation error in Perkoa’s Scope 1 emission.

Note: Due to rounding, numbers in the table above may not add up to the total presented.

Our energy intensity remained fairly consistent between 2021 and 2020. 31% of the energy consumed at Caribou is renewable, due to the mix of renewable energy in the provincial electricity grid. Overall, in 2021, 9% of the total energy consumed across Trevali operations was renewable, while 91% was non-renewable. With the implementation of the solar PPA for Rosh Pinah, we plan to increase the percentage of renewable energy we consume across the company significantly over the next few years.

In addition, several initiatives to continue to increase energy efficiency and decrease GHG emissions across our operations have been planned. These include:

» Identifying a pipeline of energy efficiency projects across all our operations over the course of 2022 for implementation by 2025

» Replacing geysers (hot water heaters) at Rosh Pinah with solar geysers in 2022.

» Ensuring that tracking of GHG data is visible for all operations to increase awareness and drive the reduction of emissions across all our operations.
Biodiversity conservation and land management considerations are fully integrated into our business decision-making processes throughout the project lifecycle in accordance with our GMS, which is aligned with the TSM Biodiversity Conservation Management Protocol.

None of Trevali’s mine sites are in or adjacent to protected areas or areas of high biodiversity value. Trevali does not mine within any International Union for Conservation of Nature (IUCN) Protected Areas, any World Heritage listed properties, or any locations where there are risks of direct impacts to ecosystems that could result in the extinction of any IUCN Red List Threatened Species in the wild.

All our mines are underground, leaving much of the land undisturbed and suitable for ongoing habitat use during operation and resulting in a much smaller environmental footprint at closure than an open pit mine. Through external environmental audits and the updating of environmental impact assessments as required, we ensure that potential environmental impacts are identified in a timely manner and mitigated appropriately. Current assessments indicate that our operations do not have a material impact on any high conservation value areas or critical habitats.

We continue to engage with local stakeholders to jointly identify biodiversity values and land-use related to local practices, beliefs, customs, and traditional ecological knowledge, and to prioritize biodiversity-related risks and opportunities at each operation. This is an essential part of our process for developing mine closure plans that aim to promote and increase local biodiversity post-closure.

In 2021, we identified and relocated endangered plant species from the area around the Rosh Pinah tailings storage facility (TSF) in order to preserve local biodiversity prior to the construction of the TSF expansion project.
Water Management (SDG 6)

Trevi endorses the United Nations Global Compact CEO Water Mandate (see sidebox) and acknowledges that water is a human right. Our principles for water management affirm that water must be utilized judiciously and with respect, by taking only what we need, using it sparingly, and discharging only clean, treated water to the environment. Our water management practices, based on the Water Accounting Framework and the TSM Water Stewardship Protocol, are part of our GMS and require us to engage with stakeholders to identify water resource use and prioritize water-related risks and opportunities in each watershed. We are also working on developing watershed plans that include the setting and tracking of goals, engagement, progress, and collaborative monitoring at the watershed scale in accordance with the Trevi Group Water Guidance.

At all our operations, we collect, reuse, and recycle water from the underground mine and the tailings facility to the maximum extent possible within the processing plant, the mining areas, and around the site. This minimizes the amount of freshwater that we need to withdraw. Our main sources of non-recoverable water consumption are evaporation, saturated water in our tailings and concentrate, and water sprayed for dust suppression. We do not discharge significant amounts of water from our operations at Perkoa and Rosh Pinah where water scarcity is a more immediate risk. Our only significant water discharge occurs at the Caribou mine where the water is treated in an on-site Water Treatment Plant (WTP) in accordance with the appropriate regulatory standards before it is discharged safely to a monitored and permitted discharge point.

The physical risks of climate change, including changes in precipitation, higher temperatures, extreme weather, and rising sea levels could have significant effects on our operations in Canada and Africa through potential impacts to mine infrastructure, supply chains, and the health and safety of employees, contractors, and local communities.

In 2021, we had four exceedances of water discharge limits or water quality limits at our Caribou site. The incidents at Perkoa were related to tailings spillages due to pipe ruptures and were investigated and addressed. The outcome of the investigations resulted in more frequent inspections being conducted and preventative maintenance of the pipe seals. The incidents at Caribou were related to regulatory non-compliances and were reported to the relevant Federal and Provincial Authorities. These incidents were investigated, and short-term and long-term action plans were developed to prevent reoccurrences.

CEO Water Mandate

The CEO Water Mandate, which Trevi endorses, is a UN Global Compact initiative that mobilizes business leaders to address global water challenges through corporate water stewardship, in partnership with the United Nations, governments, civil society organizations, and other stakeholders. Endorsers of the CEO Water Mandate commit to continuous progress against six commitment areas of stewardship and through this process, understand and manage their own water risks while reporting annually on progress. In implementing water stewardship, endorsing companies also identify and reduce critical water risks to their businesses, seize water-related opportunities, and contribute to water security and the Sustainable Development Goals.

The Mandate’s six commitment areas are:

1. Direct Operations
2. Supply Chain and Watershed Management
3. Collective Action
4. Public Policy
5. Community Engagement
6. Transparency
Our Rosh Pinah mine in Namibia is located in a region prone to drought and water scarcity at the edge of the Namib Desert. Our main sources of water are the underground mine and Orange River that we purchase from Namwater, the national water utility. Due to dry conditions and hot temperatures resulting in high evaporation rates, harvesting rainwater is not possible. We know that the risks and impacts of water scarcity will be exacerbated over time by the effects of climate change. Trevali has been working with other water catchment-based stakeholders, known as the Orange-Fish Basin Management Committee, to ensure responsible management of the entire water basin, achieve equitable success for all stakeholders, and to identify alternative water sources so that we can reduce our water withdrawal rates from the Orange River. The Committee includes representatives from the Ministry of Agriculture, Water and Land Reform, the Department of Water Affairs, local community groups, agribusinesses, Trevali, and other mines, working to enable collective, long-term planning for water security in the Orange River Basin under future conditions.

Collaborating for Water Security

Trevali is participating in a research project entitled “Sustainable and Climate Adapted Water Management in the Mining Industry of Namibia and Neighbouring Countries”. Coordinated by the Department of Environmental Mineralogy and Environmental System Analysis (KIT-ENMINSA) at the Institute of Applied Geosciences, Karlsruhe Institute of Technology in Germany, the research project focuses on issues such as climate change and adaptation, reuse of mining water, post-mining water management, biodiversity, water body monitoring and protection, capacity building, water distribution, water economics, and water justice. We hope to leverage this partnership to learn from the process and findings so that we can better understand and contribute towards long-term water security in the region.

At Caribou, the main water source is nearby Caribou Lake. This year, we implemented the following projects to manage the water levels in the South Tailings Tributary Pond (STTP) at Caribou and improve water recycling and water quality prior to discharge:

» Successful installation of flocculant blocks at the end of the summer tailings line to capture metals in solid form.

» Lime injection into the tailings line to improve neutralization of tailings within the STTP and better manage water quality.

» Dredging activities at the STTP and Sedimentation Pond allowing for improved water cover of the tailings in the STTP.

» Installation of a pH probe at the Polishing Pond Discharge point to allow for early warning to prevent exceedances.

» Winterization and heating of the reclaim lime silo to prepare for winter liming activities.

» Bathymetry results to investigate options around tailings discharge locations to improve STTP management.

» Continuous operation of the Water Treatment Plant to treat mine water and maintain steady lime flow to the sludge cell to prevent pH spikes.

» Followed up on recommendations from water quality report produced by third-party consultant.

» Engaged different vendors and consultants to develop management plans for metal in suspension as well as reviewing portable water treatment plants.

» Developed a high-level site water model to map out the complex relationship between contaminants, mass loadings, and water flowrates to allow for more focused treatment options.

» Obtained permission to divert Caribou Lake during spring freshet to keep clean water clean and reduce the volume entering the STTP.

At our Perkoa Mine in Burkina Faso, our principal sources of water are rainwater collected in the nearby Seboun dam and various other ponds within the site. No freshwater is withdrawn from surface sources such as rivers, streams, or lakes to preserve these essential water sources for local communities and agriculture. Water for our camp accommodations comes from groundwater extracted from on-site boreholes.

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As part of Trevali’s Business Sustainability Strategy work being conducted in 2021 and 2022, we are currently in the process of developing new goals related to water management. Our aim is to develop meaningful water targets that will improve our performance, reduce our impacts on the environment, mitigate the risks and impacts of climate change on our operations and on local communities, and support the objectives and priorities of the communities where we operate.

We continue to evaluate and implement various water-related initiatives that we have already identified to improve water efficiency and water quality across our operations.

Current initiatives include:

- Plans to install a paste backfill plant and a water treatment plant at Rosh Pinah as part of the RP2.0 expansion to increase on-site water reuse and recycling, thereby reducing water withdrawal demands on local water sources.
- Treatment and reuse of underground mine water.
- Installing additional surface diversion channels to manage contaminated water-run off.

### Water Withdrawal, Consumption, Discharge, and Reuse/Recycling by Site (ML)

<table>
<thead>
<tr>
<th></th>
<th>Water Withdrawn (ML)</th>
<th>Water Discharged (ML)</th>
<th>Water Consumed (ML)</th>
<th>Water Reused / Recycled (ML)</th>
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</thead>
<tbody>
<tr>
<td>Rosh Pinah</td>
<td>1,280</td>
<td>1,148</td>
<td>1,134</td>
<td>1189</td>
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<tr>
<td>Perkoa</td>
<td>727</td>
<td>426</td>
<td>299</td>
<td>712</td>
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<tr>
<td>Caribou</td>
<td>4,305</td>
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<td>146,44</td>
<td>620</td>
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<td>Total</td>
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<td>15,778</td>
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<tr>
<td>Annual tonnes of ore processed</td>
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<td>3,234,358</td>
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<td>Water Intensity (ML/t ore processed)</td>
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<td>0.0020</td>
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</tbody>
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*2021 figures include Caribou, Perkoa and Rosh Pinah (Santander is not included due to its sale during the year).
*2020 figures include Santander, Perkoa and Rosh Pinah (Caribou is not included as it was on care and maintenance during the year).
*2019 figures include Caribou, Santander, Perkoa, and Rosh Pinah.
As we work towards our commitment to zero waste, we look for opportunities to apply circular economy principles throughout our operations. These principles have been embedded into our Group Environmental Management System (EMS) and include the application of a waste management hierarchy ranging from source reduction to reuse, recycling, composting, energy recovery, treatment, and disposal, from most preferred option to least preferred option.

Tailings

Currently, all tailings generated across our three facilities are stored in robustly engineered and carefully managed on-site tailings storage facilities (TSFs).

Trevali’s Group Standard is aligned with the MAC TSM Tailings Management Protocol and will be aligned with the Global Industry Standard on Tailings Management (GSTM).

TSF safety assurance reviews conducted in 2021 assessed all aspects of our tailings management program, in accordance with our Group Dam Management Standard. These comprehensive reviews considered the design, construction, modification, operation, maintenance, monitoring, and governance of the TSFs at Rosh Pinah, Perkoa, and Caribou.

We have a newly appointed Dam Technical Steward who manages TSF audits and adherence to our Group Dam Management Standards and is accountable for tailings across all our sites, reporting directly up to the Trevali Board of Directors.

At Caribou, a Dam Failure Impact Assessment was completed in 2021 for the dams that contain the South Tributary Tailing Pond. This assessment was completed according to the Canadian Dam Association Guidelines and resulted in opportunities to strengthen our emergency management processes and gain a better understanding of the engineering standards related to downstream water management infrastructure.

Recognizing that tailings are a major source of both risk and opportunity across our operations, we have been exploring options to reduce, repurpose, and reprocess the tailings generated and stored at our sites. At Caribou, the Rapid Oxidative Leach (ROL) pilot plant project is currently examining the feasibility of reprocessing legacy tailings that may contain high grades of recoverable minerals, thus creating value from waste which would otherwise be considered a liability. If successful, this process would increase the life of our Caribou operation and remediate tailings at the same time.

As part of the RP2.0 Expansion Project at Rosh Pinah, we are planning to repurpose new tailings as paste backfill for the underground mine. The on-site paste backfill plant would allow us to recover and reuse more water from the tailings within our operations, thus reducing our raw water consumption. It would also reduce the total volume of tailings stored in the TSF during and after operations while improving the safety and stability of the underground workings.
Waste Rock

At all three of our operations, the waste rock we generated in 2021 was never brought up to surface. 100% of the waste rock generated was repurposed and used as mine backfill in our underground mines, which improves efficiency and reduces the energy and GHG emissions that would be generated from double handling the rock. In addition to diverting all the waste rock that we generate through our operations as underground backfill, at Perkoa and Caribou we are going a step further and repurposing waste rock that is currently stored in on-site waste dumps from historic operations before we arrived.

Non-Mineral Waste

At each site, non-mineral waste is separated and collected as either hazardous or non-hazardous waste. Non-hazardous waste, usually consisting of scrap metal, plastic, glass, tires, empty totes, food waste, and general waste, is sorted into recyclable and non-recyclable waste. Materials such as scrap metal, plastic, drums, and tires are usually sold or donated for off-site reuse and recycling, while non-recyclable waste is disposed off-site by a licensed contractor in municipal landfills. At Perkoa, we separate the food waste from the canteen and deposit it on-site where it decomposes naturally over time, making the land more fertile and allowing us to revegetate the area.

Hazardous waste typically consists of waste oil, grease, fluorescent light bulbs, medical waste, and cyanide packaging. In many cases, we separate and divert waste oil and grease for safe use off-site. The rest of the hazardous waste is collected by specialized contractors and disposed off-site at licensed incineration and/or hazardous waste management facilities.

In 2021, we were able to divert 67% of our hazardous waste from disposal by finding safe, productive uses for the waste oil and grease we generate at site.

In fact, we repurposed 1.8 times more waste rock than we generated by diverting 451,579 tonnes of waste rock from legacy waste rock piles on our sites as underground backfill*

This makes us net positive with respect to diverting waste rock from permanent storage (as we repurpose more than we generate) and greatly reduces our eventual mine closure footprint and the associated costs and risks.

*The amount of waste rock reused is dependent on mining activities and it is not a guaranteed 150%+. Whenever possible we will repurpose historic waste rock as underground backfill in order to reduce our long term impacts. Due to improved reporting practices, Trevali was able to account for the repurposed legacy waste rock (which we will continue.

OF ALL NON-MINERAL WASTE (HAZARDOUS PLUS NON-HAZARDOUS) GENERATED AT OUR SITES WAS RECYCLED OR REUSED

40%

OF THE WASTE ROCK GENERATED AT OUR ROSH PINAH, PERKOA, AND CARIBOU OPERATIONS WAS KEPT UNDERGROUND AND REPURPOSED AS UNDERGROUND BACKFILL

100%

IN 2021 OF THE WASTE ROCK GENERATED AT OUR ROSH PINAH, PERKOA, AND CARIBOU OPERATIONS WAS KEPT UNDERGROUND AND REPURPOSED AS UNDERGROUND BACKFILL
**Waste Management**

### Waste Generated (tonnes)

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th>Rosh Pinah (t)</th>
<th>Perkoa (t)</th>
<th>Caribou (t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>2,188,986</td>
<td>2,085,214</td>
<td>3,507,290</td>
<td>3,303,247</td>
</tr>
<tr>
<td>Non-Hazardous (non-mineral)</td>
<td>1,361</td>
<td>1,078</td>
<td>619</td>
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<tr>
<td>Hazardous (non-mineral)</td>
<td>320</td>
<td>230</td>
<td>644</td>
<td>Not available</td>
</tr>
<tr>
<td>Tailings</td>
<td>1,618,274</td>
<td>1,726,572</td>
<td>2,683,923</td>
<td>2,504,799</td>
</tr>
<tr>
<td>Waste Rock</td>
<td>569,232</td>
<td>357,334</td>
<td>821,634</td>
<td>796,523</td>
</tr>
<tr>
<td></td>
<td><strong>247,115</strong></td>
<td><strong>307,091</strong></td>
<td><strong>467,198</strong></td>
<td></td>
</tr>
<tr>
<td>Non-Hazardous (non-mineral)</td>
<td>379</td>
<td>538</td>
<td>304</td>
<td>Not available</td>
</tr>
<tr>
<td>Hazardous (non-mineral)</td>
<td>213</td>
<td>91</td>
<td>186</td>
<td>Not available</td>
</tr>
<tr>
<td>Tailings</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Waste Rock (Generated by Trevali)</td>
<td>246,797</td>
<td>123,452</td>
<td>198,983</td>
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</tr>
<tr>
<td>Used as underground backfill</td>
<td>569,232</td>
<td>156,219</td>
<td>457,119</td>
<td>519,704</td>
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<tr>
<td>Waste Rock (Historic - Generated by Others)</td>
<td>9</td>
<td>183,399</td>
<td>268,171</td>
<td></td>
</tr>
<tr>
<td>Used as underground backfill</td>
<td>451,579</td>
<td>-</td>
<td>144,371</td>
<td>64,745</td>
</tr>
<tr>
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<td>144,371</td>
<td>64,745</td>
</tr>
</tbody>
</table>

### Waste Diverted from Disposal (tonnes)

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th>Rosh Pinah (t)</th>
<th>Perkoa (t)</th>
<th>Caribou (t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>597,670</td>
<td>567,468</td>
<td>454,024</td>
<td></td>
</tr>
<tr>
<td>Non-Hazardous (non-mineral)</td>
<td>494</td>
<td>11</td>
<td>276</td>
<td></td>
</tr>
<tr>
<td>Hazardous (non-mineral)</td>
<td>6</td>
<td>60</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Tailings</td>
<td>507,669</td>
<td>507,397</td>
<td>453,708</td>
<td></td>
</tr>
<tr>
<td>Waste Rock</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td></td>
<td><strong>597,670</strong></td>
<td><strong>567,468</strong></td>
<td><strong>454,024</strong></td>
<td></td>
</tr>
<tr>
<td>Non-Hazardous (non-mineral)</td>
<td>781</td>
<td>540</td>
<td>277</td>
<td>Not available</td>
</tr>
<tr>
<td>Hazardous (non-mineral)</td>
<td>106</td>
<td>139</td>
<td>428</td>
<td>Not available</td>
</tr>
<tr>
<td>Tailings</td>
<td>1,618,274</td>
<td>1,726,572</td>
<td>2,618,473</td>
<td>2,504,799</td>
</tr>
<tr>
<td>Waste Rock</td>
<td>-</td>
<td>201,144</td>
<td>220,144</td>
<td>212,974</td>
</tr>
</tbody>
</table>

### Waste Directed to Disposal (tonnes)

<table>
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<tr>
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<td>220,144</td>
<td>212,974</td>
</tr>
</tbody>
</table>

---

1. 2021 figures include Caribou, Perkoa and Rosh Pinah (Santander is not included as it was sold during the year).
2. 2020 figures include Santander, Perkoa and Rosh Pinah (Caribou is not included as it was on care and maintenance during the year).
3. 2019 and 2018 figures include Caribou, Santander, Perkoa and Rosh Pinah.
4. Due to an error in summation, the 2020 number has been restated here to correct figure.
5. Trevali will continue to repurpose historical waste rock if feasible.
6. Note: Due to rounding, numbers in the table above may not add up to the total presented.
Hazardous Materials, Dust, and Emissions (SDG 3, 13)

As part of our environmental impact management, we are mindful of any dust and emissions we generate, and we safely manage any hazardous materials that are employed or generated in our processes. To maintain a healthy environment for our workforce and the local communities, we have an air quality monitoring program that conforms to and complies with in-country regulatory requirements and all site-specific permit and license conditions.

Dust from roads, crushed rock stockpiles, concentrate stockpiles and tailings facilities comprise most of Trevali’s significant emissions. Monitoring stations are installed at various locations at Perkoa and Rosh Pinah and within local communities to measure the total dust concentration in the air. We replace and/or upgrade historical equipment using integrated dust suppression measures to form part of the design criteria.

**Caribou**

At Caribou, we monitor and record nitrogen and sulphur oxides (NOx / SOx) in our air emissions. In 2021, there were no exceedances of NOx and SOx beyond our permit and regulatory requirements, nor higher than the safe limits defined by the World Health Organization.

**Perkoa**

We have six monitoring stations in the communities near our Perkoa mine where we measure PM10 and PM2.5 concentrations. At Perkoa, dust quantity measurements show occasional exceedances not related to mining activity that are attributed to natural climate conditions such as the Harmattan, a dry and dusty north-easterly trade wind, and to the activities of the local population. No mitigation measures have been undertaken for the moment.

**Rosh Pinah**

We have five monitoring stations in the communities near our Rosh Pinah mine where we measure total dust fallout. The Rosh Pinah mine has been in operation since 1969 and includes legacy infrastructure which is a source of dust in the town of Rosh Pinah, which is located in close proximity to the mine. Since taking over operations at Rosh Pinah in 2017, Trevali has conducted several studies to understand the historical impact of the dust generated on the community, which is comprised mainly of Trevali employees and their families, and the sources of dust emissions. Recent studies that we commissioned have identified areas of the town that were exposed to higher levels of dust caused by historical mining activities. Our current operations have additional controls to minimize and mitigate the dust.

Due to the historic contamination in and around the Rosh Pinah town we have implemented various mitigating interventions to address and improve community health and reduce the historic and current impacts, including the following:

» Providing alternate housing locations away from areas of historic contamination for those families with small children who show higher than normal blood lead levels.

» Continued voluntary testing programs for community members who have any concerns or show higher than normal lead levels.

» Building the Bet-El community playground to encourage and enable children to have a safe place to play away from dust-affected areas.

» Continued application of rock cladding to the tailings facility, which has resulted in an 86% reduction in dust generation from the TSF since 2014.

» Continued application of dust control on the roadways and areas around the stockpiles to mitigate dust generation.
Mine Closure Planning  (SDG 15)

As deposits are depleted and our mines reach the end of their lives, it will become necessary to cease operations and safely and sustainably close our mines. We integrate closure considerations at all stages of the mining cycle so that when this time arrives, we will be prepared to responsibly execute closure and post-closure activities for our mine sites. Through thoughtful, frequent, and early consultation with local communities and regulators, we work to determine the most beneficial use for the land post-closure.

We have established closure plans in place for all our operations that are registered with the relevant authorities in each jurisdiction. Closure costs are updated annually to reflect ongoing work, substantial changes to our operations or plans, and to incorporate any updates resulting from our community consultation and engagement.

Our Perkoa operation in Burkina Faso is currently scheduled for care and maintenance or closure in 2023. With our ongoing exploration programs and partnership with Arrow Minerals, we hope to continue our involvement in the region. However, if we are unable to extend the life of mine at Perkoa, we have closure plans in place to ensure that the mine is decommissioned, and the land is systematically returned to an environmental state that is acceptable to local communities and authorities. Our plan is to return the site to the community after closure through consultation to understand local requirements. In 2021, we submitted our Terms of Reference to the Ministry of Environment, Energy, Water and Sanitation as per legislative requirements and are awaiting approval thereof. As part of our progressive rehabilitation program, we have identified rehabilitation work within the closure plan that will commence in 2022. Closure costs have also been updated.

Caribou Mine, which restarted in 2021 on a two-year mine plan, is scheduled for closure in 2023. We are currently investigating options to extend the life of mine at Caribou. When we do have to close the mine, we will follow a mine closure plan that has been developed in collaboration with the government through regular engagement. Caribou is a historical site for which we share responsibility and liability with the provincial government for certain aspects. Our goal is to rehabilitate both the historical and present-day sites upon closure in an environmentally sound and responsible manner, underpinned by consultation with the local community and First Nations. Trevali is currently looking at ways to eliminate the need for perpetual water treatment after closure through engineered subaqueous storage of the tailings to prevent further oxidation. Our plan is to conduct additional studies over the next few years to confirm the suitability of the design.

The Rosh Pinah operation has another 12 years of planned operation ahead. For the RP2.0 Expansion Project, mining and processing will be optimized to achieve an increase in production and capacity through the life of mine. These expansion activities will also provide the basis for future growth of the mine and the closure plan will be updated accordingly. The mine closure plans for Rosh Pinah have been developed based on the South African Legislative Framework for Financial Provisioning, as there is currently no Namibian legislation in place to provide guidance in this area. The closure plan is updated each quarter with the ongoing rehabilitation work on the legacy structures associated with the mine and any significant changes to the site and operations.
Permitting and Compliance (SDG 16)

Legal compliance is paramount at all our operations and a centralized register is maintained to keep track of all the permits and licences across the organization, with the view of ensuring that documents remain in good standing and are renewed in a timely manner. Our Permits and Licenses Register (Register) is kept up to date and reviewed quarterly, with reports provided to the HSEC Committee in line with the commitment made in the Company’s Group Scorecard. In 2021, we improved the Register to include all commitments contained in each licence, permit, and/or government approval to enable rigorous measuring and reporting on commitment compliance. Further improvements allowing in-field verification are planned for 2022 through the roll-out of an automated system.

All permits and licences were maintained in 2021 and licences were obtained for activities requiring authorization at each of our operations.

In 2021, third-party audits were conducted at Perkoa and Rosh Pinah. At Perkoa, the audit covered the mine site, the mine’s processes such as extraction, ore processing, tailings management, and risk management. The audit identified four key areas for improvement that included waste management through the introduction of a more efficient disposal system for contaminated waste, improved waste oil management, gaining a better understanding of radon in the mine, and strengthening communication with local communities. These recommendations have been incorporated into our 2022 operational plans.

At Rosh Pinah, a third-party Surveillance Audit for ISO 14001:2015 Environmental Management System was conducted in 2021. The results of the audit reported that our management systems are fully effective and fulfil the requirements of the applied standard, and further recommended the maintenance of the existing certificates. In addition, Rosh Pinah had an external environmental performance audit at the Lüderitz zinc/lead storage shed and the Rosh Pinah mine site to assess the implementation of the aspects identified in the previous environmental audit and the Environmental Management Plans for the mine. This audit resulted in opportunities related to rehabilitation plans for the historic waste disposal sites, improved leak protection for waste management storage areas, waste separation at source, and improved dust management.

Trevali’s Permits and Licenses Register is kept up to date and reviewed quarterly with reports provided to the HSEC Committee.
Cautionary Statement

Forward-looking Information and Statements

All statements contained in this Report that are not historical facts are "forward-looking information" within the meaning of Canadian securities legislation and "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995 (collectively, "forward-looking statements") all as may be amended from time to time that, among other things, involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Forward-looking statements are based on the beliefs, expectations, and opinions of management of the Company as of the date the statements are published, and the Company assumes no obligation to update any forward-looking statement, except as required by law.

In this Report, forward-looking statements include, but are not limited to, statements with respect to the future price of zinc, silver, lead and other commodities, the estimation of mineral reserves and mineral resources, the realization of mineral reserve estimates, changes in mineral resources and conversion of mineral resources to proven and probable mineral reserves, the timing and financing of and an investment decision with respect to the RP2.0 expansion project, including the expectations and forecasts contained therein and financing of and an investment decision with respect to the RP2.0 expansion project; and other information that is based upon forecasts of future operational and/or financial results, estimates of amounts not yet determinable, and assumptions of management.

In certain cases, forward-looking statements can be identified by the use of words such as "plans", "expects", "outlook", "guidance", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "believes", or variations of such words and phrases or statements that certain actions, events or results "may", "could", "would", "might", "will be taken", "occur" or "be achieved" or the negative of these terms or comparable terminology. By their very nature, forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance, or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include, among others, risks related to actual results of current exploration activities, changes in project parameters as plans continue to be refined; future prices of zinc, lead, silver and other commodities and the anticipated sensitivity of our financial performance to such prices; currency fluctuations, general global economic conditions as may be impacted by events such as the ongoing COVID-19 pandemic, inflation risks, operating and financial restrictions due to the Company’s debt facilities, liquidity risk and compliance with debt covenants, the risk that the Company will be unable to secure financing for the RP2.0 project on acceptable terms or at all, or that the board of directors may not ultimately approve the RP2.0 expansion project; risks with respect to the development of the RP2.0 expansion project, including that, if developed, the RP2.0 expansion project will not be developed as currently anticipated or as set for the in the feasibility study with respect thereto, or yield the anticipated benefits to the Company; taxation risks; interest rate risk; exchange controls, possible variations in ore reserves, grades, production or recovery rates; shortages or increased prices for energy and other consumables; dependence on key personnel; potential conflicts of interest involving our directors and officers; labour pool constraints; labour disputes; availability of infrastructure required for the development of mining projects; delays or inability to obtain governmental and regulatory approvals; counterparty risks; restrictions on operations; delays, suspensions or technical challenges associated with capital projects; foreign currency exchange rate fluctuations, operating in foreign jurisdictions with risk of changes to governmental regulation; compliance with environmental laws and regulations; land reclamation and mine closure obligations; title risk, maintaining ongoing social license to operate or opposition from community or indigenous groups; climate change related risk, compliance with anti-corruption laws; actual or perceived damage to the Company’s reputation; limitations inherent in our insurance coverage, cybersecurity risks, including risks relating to the compromise of the Company’s operating systems, litigation; geotechnical failures resulting in temporary or permanent mine closures; risks related to underdeveloped infrastructure, failure of plant, equipment or processes to operate as anticipated; and other risks of the mining industry including, without limitation, other risks and uncertainties that are more fully described in the Company’s annual information form, interim and annual audited consolidated financial statements and management’s discussion and analysis of those statements, all of which are filed and available for review under the Company’s profile on SEDAR at www.sedar.com.

Although the Company has attempted to identify important factors that could cause actual actions, events, or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. Trevali provides no assurance that forward-looking statements will prove to be accurate, as actual results and future events may differ from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements.
We hope our report has provided an overview of how we engage with our people, local communities, governments, and other partners in developing a sustainable approach towards Trevali’s purpose to be the world’s most sustainable mining company. It is important to note that our materiality process and majority of the assembly of this report took place prior to the flash flood events in Namibia on April 16, 2022, which had devastating impacts at our Perkoa site. We will continue to provide updates as the situation develops. We appreciate your support and look forward to your feedback. You are invited to reach out to us at sustainability@trevali.com.

**Trevali Mining Corporation**

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Canada, V6C 2W2

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