

centerra**GOLD**



2019

Environmental,
Social and
Governance
Report



Cautionary Note Regarding Forward-Looking Statements

Information contained in this report, which are not statements of historical facts, and the documents incorporated by reference herein, may be “forward-looking information” for the purposes of Canadian securities laws. Such forward-looking information involves risks, uncertainties, assumptions and other factors that could cause actual results, performance, prospects and opportunities to differ materially from those expressed or implied by such forward-looking information. For a detailed discussion of such risks and other factors, see the Company’s most recent Management’s Discussion and Analysis (MD&A) and Annual Information Form, both of which are available on SEDAR at www.sedar.com.

Although Centerra Gold believes that the assumptions inherent in these forward-looking statements are reasonable, the reader should not place undue reliance on these statements. Forward-looking information is prepared as of December 18, 2020. Centerra Gold disclaims any intention or obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise, except to the extent required by applicable laws.

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About Centerra Gold

Centerra Gold Inc. (“Centerra” or the “Company”) is a Canadian-based gold mining company engaged in operating, developing, acquiring and exploring gold properties in North America, Asia and other markets worldwide and is one of the largest Western-based gold producers in Central Asia. The Company operates two flagship

assets, the Mount Milligan Mine in British Columbia, Canada and the Kumtor Mine in the Kyrgyz Republic and through 2019, continued construction and commissioning of its next gold mine, the Öksüt Gold Mine, in Turkey. In 2019, Centerra produced 783,308 ounces of gold and 71.1 million pounds of copper.





Scope of this Report

Centerra's 2019 Environmental, Social and Governance (ESG) report is for the 2019 financial year (twelve months ending December 31, 2019). This report is primarily focused on the Company's three main assets. These assets, the Mount Milligan Mine in British Columbia, Canada, the Kumtor Mine in the Kyrgyz Republic, and the Öksüt Mine in Central Anatolia, Turkey, represent the most significant ESG risks and opportunities for the Company. Both the Mount Milligan Mine and the Kumtor Mine were in operation during 2019, whereas the Öksüt Mine was being constructed. Where Centerra believes it is important to include its other assets, specifically its development stage projects and care and maintenance sites, for a comprehensive overview of the Company's risks and opportunities, a discussion of these other assets has been added. This is primarily the case in the business ethics and transparency, labour relations, health and safety and waste management, namely tailings storage facility management, sections.

The information disclosed in relation to our Turkish operations only pertains to the Öksüt Mine and does not include the activities of Centerra's exploration activities in Turkey.

Financial amounts are reported in US dollars (USD) unless otherwise stated. References herein to "Centerra" or the "Company" refer to the consolidated company unless the context suggests otherwise.

This report has been prepared in accordance with the Sustainability Accounting Standard Board (SASB) Metals and Mining Industry Standard. SASB has been selected as the main reporting framework as it is the preferred framework by Centerra's institutional investors who are seeking comparable, consistent, and financially material ESG disclosures by the industry. Adopting the SASB reporting framework will allow us to undertake improved year-over-year performance analysis and industry benchmarking in future reporting years.

In select sections of this report, we have disclosed additional metrics from the Global Reporting Initiative (GRI). This has been done in sections where we believe that additional metrics are required to provide external stakeholders with a more comprehensive overview of our impact and operations.

To compare our operating results against our peers in the mining and metals space, SASB has recommended two activity metrics for the mining industry: operational results and total employees. Table 1 and Table 2 capture this information for 2019.

Further information and analysis on the Company's operational results is detailed in Centerra's [2019 Annual Information Form](#).

**Table 1. Operational Results**

	2019	2018	2017
Gold produced (oz)	783,308	729,556	785,316
Payable Copper Produced (000 lbs)	71,146	47,091	53,596

Table 2. 2019 Total Employees by Employment Type and Region

# of employees	Permanent		Temporary		Total
	Female	Male	Female	Male	
Canada	111	569	7	7	694
Turkey	30	174	1	12	217
Kyrgyz Republic	288	1,941	31	371	2,631
USA	13	77	1	0	91
Total	442	2,761	40	390	3,633

Our ESG Priorities

In 2019, Centerra commenced an ESG Issues Assessment, which was completed in the second quarter of 2020. The last full assessment was completed in 2016. Due to the nature of the mining industry, completed assessments should be completed in three-year cycles with limited annual reviews completed to ensure any new and emerging topics are considered. The annual review will include media monitoring, internal risk assessments and any external feedback received but will not undertake a full stakeholder engagement exercise.

The ESG Issues Assessment was a six-step process which included a comprehensive desktop review and a stakeholder engagement process to help identify, prioritize and validate Centerra's important topics. The comprehensive desktop review considered inputs from our community registers, employee and stakeholder surveys, workshop feedback, external audits, inspections, and industry reports and standards. The internal and external stakeholders and groups engaged consisted of

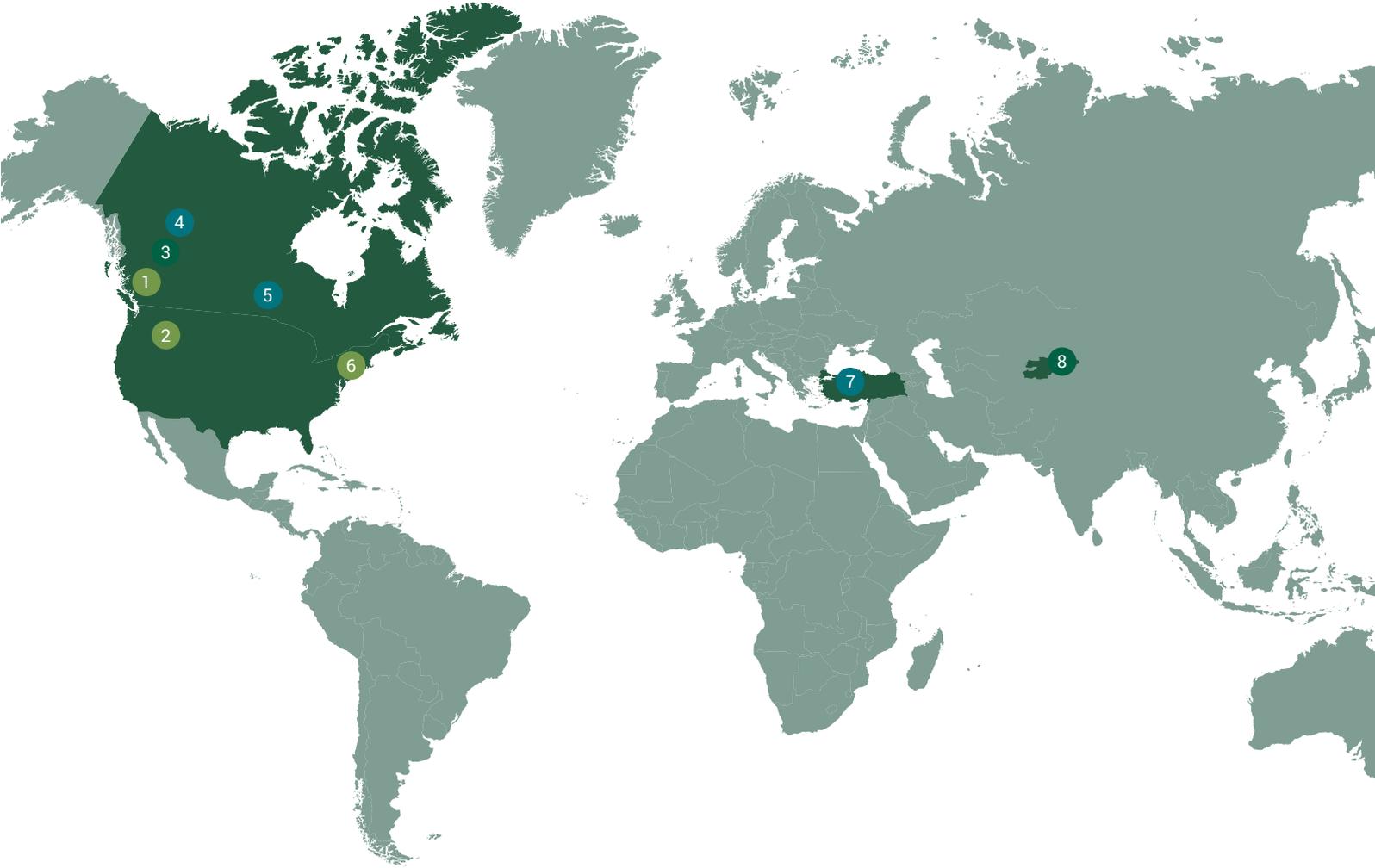
employees, communities, regulators, financiers, shareholders, investors, civil society, business partners, rating analysts, and non-governmental organizations (NGOs).

In addition, during the assessment, we undertook a full-day ESG Leadership Session which included the Company's executives and senior management, to facilitate the integration of corporate and operational strategies into our Issues Assessment and to help validate the desktop and stakeholder engagement findings.

From the desktop and engagement phases, 18 initial important topics were identified, with the following ESG topics ultimately identified as the most important to our business and stakeholders (in no particular order): community relations, community investment, water management, emissions and energy, biodiversity, waste management, and diversity and inclusion.



Operations and Assets



OPERATION 3. MOUNT MILLIGAN MINE

Au, Cu

DEVELOPMENT 5. GREENSTONE PROJECT

50%

Au

4. KEMESS

Underground and
East Projects

Au, Cu

MOLYBDENUM
ASSET

1. ENDAKO MINE

(75%)

Mo



United
States

MOLYBDENUM ASSET

2. THOMPSON CREEK MINE

Mo

6. LANGELOTH METALLURGICAL FACILITY

Mo



Turkey

CONSTRUCTION 7. ÖKSÜT PROJECT

Au



Kyrgyz
Republic

OPERATION 8. KUMTOR MINE

Au

● OPERATIONS

● DEVELOPMENT

● MOLYBDENUM
ASSETS



GOVERNANCE

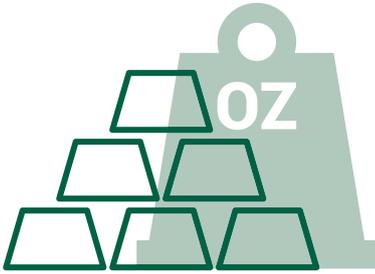


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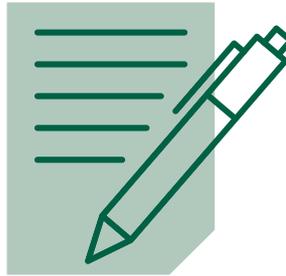


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2019 Highlights



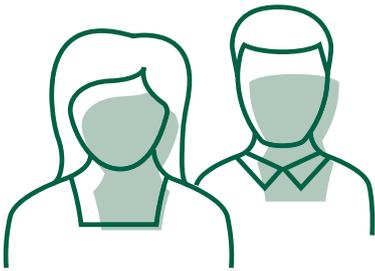
2019 gold production **783koz**, and copper production **71Mlbs**



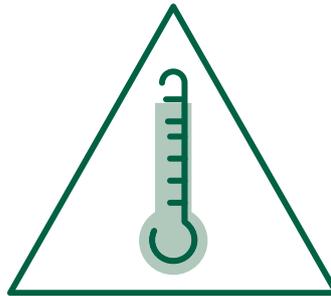
Committed to conformance with the World Gold Council's *Responsible Gold Mining Principles*



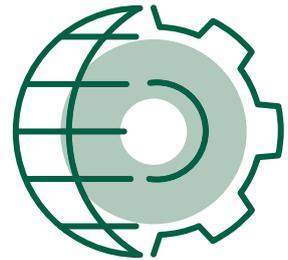
Completed Centerra's inaugural Great Place to Work survey



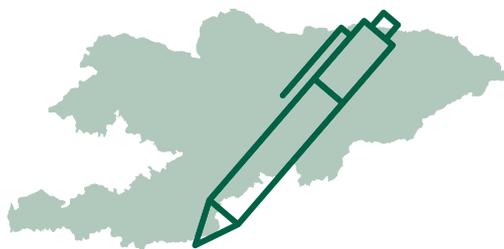
Formed a company-wide Tailings Storage Facility Steering Committee



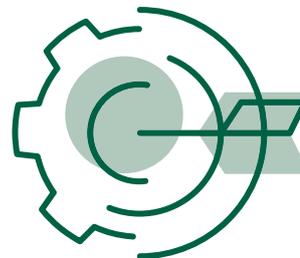
Completed a preliminary desktop study on our operational resiliency to physical climate-related risks



Commenced an ESG Issues Assessment to help identify and prioritize key ESG issues



Completed the Kumtor Strategic Agreement with the Kyrgyz Government



Completed inaugural full-day executive and senior leadership ESG Strategy Workshop





A Conversation with our President and CEO Scott G. Perry

Q In early 2020, you introduced the People First vision globally. What is People First and why is it so important for Centerra?

A The People First vision encompasses health and safety, diversity and inclusion, and talent development. It reflects the way we ask each leader and employee to make decisions in their daily roles. Whether it be ensuring safe mining operations or removing systemic barriers to improve recruitment of underrepresented groups and offer targeted development through our talent management practices, every decision must consider how our people may be affected, and proactively work to minimize adverse impacts.

2019 was a strong financial and operational year for Centerra but that has been rightly overshadowed by the three fatalities at our Kumtor Mine. In December 2019, the Kumtor Mine experienced a significant waste rock movement at the Lysii waste rock dump resulting in two employee fatalities, and in February 2020, a Kumtor Mine employee succumbed to a fatal injury while operating an excavator.

In 2020, we held our first global Health & Safety Week – partially suspending operations across all sites for safety training. Nothing is more important to us than ensuring our employees and contractors make it home to their families at the end of every shift.

Our commitment to our people extends beyond health and safety. We have taken concrete first steps to create a culture of inclusion at Centerra. Our aim is to create a workplace where people can show up as their authentic selves, be valued for their differences and know their voice matters. In 2018, we commenced our female empowerment program, Leading From Within, which by the end of 2019 had trained over 130 women across our company, representing 27% of our female workforce.

In 2020, we expanded this mandate beyond just gender. We have formed a global Diversity & Inclusion Steering Committee and by mid-year, we had developed a multi-year roadmap and have commenced diversity and inclusion fundamentals and unconscious bias training

for employees. We also became an Employer Partner with the Canadian Centre for Diversity and Inclusion (CCDI) and will work closely with CCDI on practical solutions that will help us move towards true inclusion for our employees. As the executive sponsor of our Steering Committee, I have, and will continue to, champion diversity and inclusion efforts across our company.

Q How has COVID-19 changed Centerra's ESG priorities?

A The global COVID pandemic has not shifted our ESG priorities, rather it has been an opportunity to reinforce our values and put our people first.

In early March, we activated a Global Crisis Management Team. The team, comprising a sub-group of Executives and local site leaders, have been leading our global response. Across the company, we have increased cleaning, safety and hygiene practices, and instituted work-from-home policies where applicable.

Over the last few months, we have made both financial and in-kind donations to regional government COVID-19 funds and food relief programs and have donated medical and PPE equipment and supplies.

At Öksüt, we produced 90,000 surgical masks through a partnership with the Public Education Center and support from the Municipality and Sub-governorship of Develi. At Mount Milligan we donated to local food banks and at Kumtor, we donated \$100,000 to the Issyk-Kul Development Fund to help purchase necessary medical supplies and directly donated medical equipment to communities.

Importantly, we will continue to be compassionate and transparent in our decisions and communications, ultimately doing our part to flatten the pandemic curve.

Despite the obvious challenges COVID has presented in implementing some of our strategic community development programs, we have remained steadfast on our ESG

commitments and priorities. Throughout 2020, we will continue to formalize our ESG program, ensuring our program meets the expectations of our communities, regulators, investors, and other stakeholders.

Q Climate change is one of the most pressing global issues facing society today. What is Centerra doing to manage its impact?

A As part of our collective learning, in 2019, we conducted an ESG Issues Assessment which consisted of six phases, including a comprehensive stakeholder engagement phase. The internal and external stakeholders and groups engaged consisted of employees, communities, indigenous groups, regulators, financiers, shareholders, investors, civil society, business partners, rating analysts and NGOs. The results from this Assessment indicated that climate change, amongst other topics, was an important ESG issue requiring us to focus our actions.

We have commenced the formal development of a corporate climate change strategy. We are focused on identifying our core climate-related risks and opportunities and ensuring that we have the appropriate governance mechanisms in place to support the implementation, systematic review and management of these risks.

Centerra's climate change work considers the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD) as well as our investors' climate-related priorities to ensure that our strategy meets the expectations of our stakeholders.

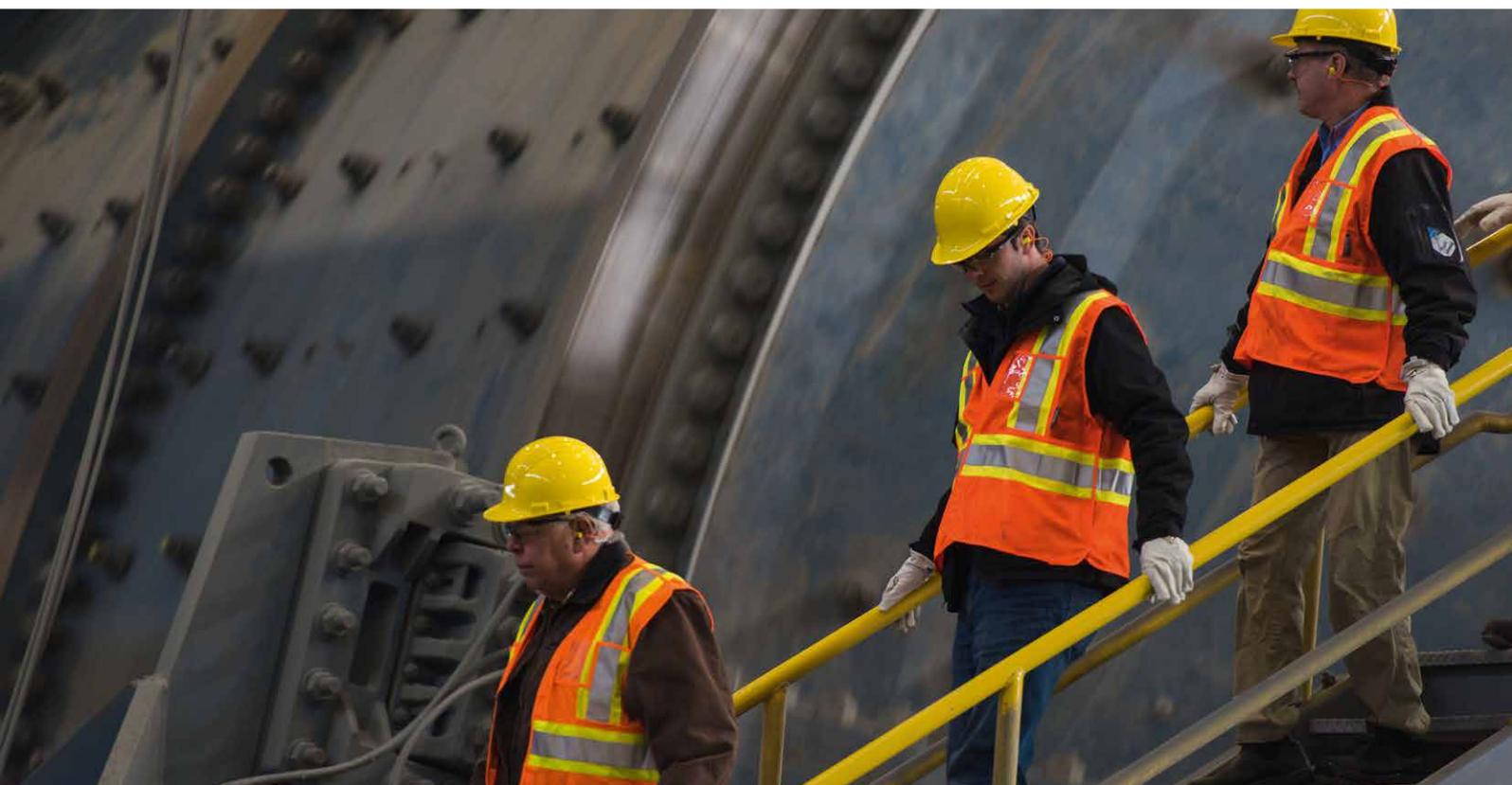
We intend to continue reporting to the CDP Climate Change on our efforts related to climate change.

Q There is increasing pressure for mining companies to improve their ESG performance and a number of performance standards exist that a mining company can choose from. Why did Centerra choose to adopt the World Gold Council's *Responsible Gold Mining Principles (RGMPs)*?

A While there are numerous existing standards, codes and principles that address different aspects of responsible gold mining, the RGMPs are an overarching framework for our industry. We are a proud member of the Council's ESG Taskforce. Through 2018 and 2019, we helped develop the Principles and assurance framework and were one of two companies that road-tested the Principles in 2019, at our Kumtor Mine.

The RGMPs are important in that they demonstrate the gold industry's leadership on ESG issues by raising the standards that we hold ourselves accountable to, especially in the areas around biodiversity, women in mining, climate change and indigenous relations. The Principles will help us manage our ESG risks, improve our performance and communicate our ESG progress more effectively and consistently.

Importantly, at our sites, it will alleviate audit fatigue as the RGMPs are not intended to duplicate existing assurance. Rather, they are intended to reinforce existing codes and norms that much of the industry has already adopted.





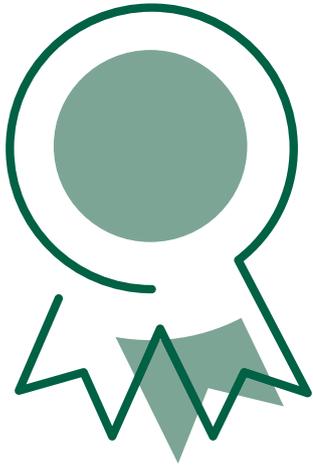
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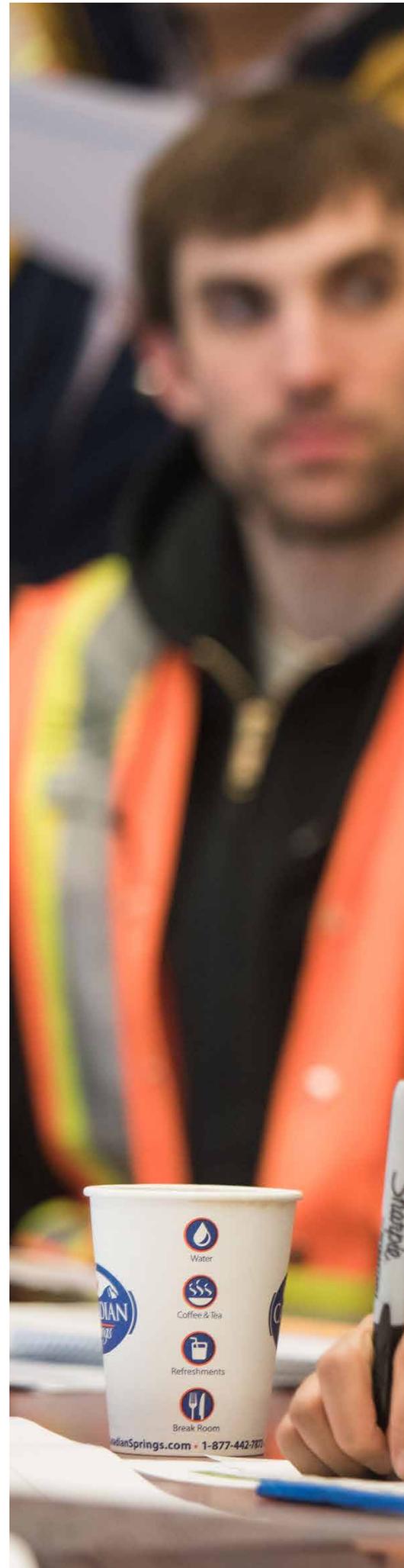
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1. Governance

Centerra acts in strict adherence with laws in all operational jurisdictions. Strong corporate governance policies and processes enable Centerra to effectively manage and oversee ESG-related risks and opportunities and create long-term value for the company.

Why is this Important to Centerra?

Operating in an ethical and transparent manner is critical to maintaining the trust of our employees, business partners and external stakeholders, including communities of interest and our investors. Unethical practices can lead to significant fines or penalties, decreased employee morale, loss of our social license to operate, liabilities and long-term reputational damage.

Our Approach

Operating in jurisdictions that support accountability and transparency is key. Our ethical conduct and anti-bribery program is guided by relevant legislation (Foreign Corrupt Practices Act, and the Corruption of Foreign Public Officials Act, amongst others), the Extractive Industries Transparency Initiative (EITI) Principles, Centerra's anti-corruption policies, employee awareness training, a third party whistle-blower mechanism, and transparency reporting.

Relevant Policies and Reports

- Complaint Procedure and Compliance Hotline
- Employee Code of Ethics
- International Business Conduct Policy
- Extractive Sector Transparency Measures Act (ESTMA) Annual Report

Relevant Board Committee Charters

- Nominating and Corporate Governance Committee Charter
- Risk Committee Charter
- Sustainable Operations Committee Charter
- Human Resources and Compensation Committee Charter





1.1 Process to Manage Risks and Opportunities

1.1.1 Board Oversight of ESG Factors

Centerra's Board of Directors has oversight of all ESG factors, including climate-related risks and opportunities. The Board of Directors has five standing committees: Sustainable Operations Committee, Risk Committee, Human Resources and Compensation Committee, Audit Committee and Nominating and Corporate Governance Committee.

The Board's **Sustainable Operations Committee** provides oversight on social and environment factors such as the Company's stakeholder engagement, strategic community investment, indigenous relations, human rights, health and safety, security practices and all environmental factors excluding Tailings Storage Facility (TSF) management. Internal environmental, sustainability and security operating standards are approved by the Vice President and Chief Operating Officer and administered by the Vice President, Security, Sustainability and Environment (SS&E). Internal health and safety operating standards are administered by the Vice President, Health & Safety (H&S). Implementation of these policies and standards are managed by the relevant site-based community relations, environmental, health and safety and security teams.

The Board's **Risk Committee** provides oversight on the Company's significant or critical risks, including strategic, financial and operational risks. This includes all ESG-related risks deemed to be significant and explicitly includes TSF management. The Risk Committee of Centerra's Board of Directors receives updates at least annually on the status of the Company's TSFs and more frequently if changes occur to the TSF risk ratings.

The Board's **Human Resources and Compensation Committee** provides oversight on the Company's hiring and compensation strategy. Policies and standards are approved and administered by the Vice President and Chief Human Resources Officer (CHRO). Implementation of these policies and standards are managed by site human resources teams.

On a quarterly basis, the VP, SS&E and VP, H&S provide the Sustainable Operations Committee with an update on performance related to key environmental, social and security issues and provide an overview and analysis of emerging

issues. Similarly, the VP, CHRO provides an update to the Human Resources and Compensation Committee on a quarterly basis.

To ensure our directors provide sound judgement and effective oversight on management's practices and help protect and create value for all the Company's stakeholders, 72% (8/11) of our directors are independent of the Company, as such term is defined in applicable securities legislation. This includes our Chairman and the Chair of each of our five Board committees.

When considering Board and committee composition, the Board considers diversity of background, skills, age, culture, geography, experience and gender. Our current Directors represent a strong and diverse mix of experience in finance, mining, engineering, sustainability, government relations, indigenous relations, risk management, metallurgy, mergers and acquisitions and international business. Eight out of 11, or 72%, of our Board members have skills and experience (self-assessment) in corporate responsibility and sustainability.

Importantly, to ensure the Board understands key emerging trends and risks related to ESG, members of the Board receive awareness training on relevant frameworks, standards and topics. Over the last few years, the Board has received training on the World Gold Council's *Responsible Gold Mining Principles*, and the *Voluntary Principles on Security and Human Rights*, among other topics.

The Board is committed to clear, accurate and comprehensive financial and non-financial reporting and disclosure and continuously improving policies and procedures.

1.1.2 Risk Management

Centerra has implemented an Enterprise Risk Management (ERM) program to ensure risk-informed decision making throughout the organization. The Risk Committee of the Board provides oversight of the ERM program. The program is based on leading international risk management standards such as ISO 31000 and COSO as well as industry best practice. It employs both a bottom-up and top-down approach to identify and address risks from all sources that threaten the achievement of our objectives.

Each operating site and project are responsible for identifying, assessing, mitigating and monitoring risk. On a quarterly basis, all relevant site and corporate teams, including



environment, community relations, health and safety and security, review the status of identified operational risks and assess the likelihood and impact of emerging risks. This regular risk assessment process ensures that the team has proper resources to manage current and emerging risks. Efforts are coordinated by appointed “Risk Champions” who facilitate the process to ensure consistency and continuity.

All relevant site teams complete and update a site risk register on a quarterly basis to include identified ESG-related risks. Risks are reviewed by the Vice President, Risk & Insurance and those assessed as a priority are presented to the Risk Committee at the quarterly meeting to ensure appropriate oversight and resources are provided to mitigate these areas. Centerra’s VP, Risk & Insurance is responsible for providing the requisite tools, guidance, oversight and strategic direction for the ERM program.

The risk management program at Centerra considers the full life of mine cycle from exploration through to closure. All aspects of the operation and our stakeholders are considered when identifying risks. As such, our risk program encompasses a broad range of risks including technical, financial, commercial, social, reputational, environmental, health and safety, political and human resources related risks.

ERM supports continuous improvement in the organization as risk information is used to navigate and make course corrections. Stakeholder value is thus created through improved business performance and resilience.

1.1.3 Business Ethics and Transparency

1. Regular Ethics and Code of Conduct Training

Centerra’s Code of Ethics for employees addresses avoidance of conflicts of interest, protection of confidential information, compliance with applicable laws, rules and regulations and adherence to good disclosure practices, among other items.

Our International Business Conduct Policy serves as our anti-corruption policy, and sets forth rules, principles and procedures designed to ensure that Centerra and those subject to this policy comply with the requirements of various laws prohibiting corruption and bribery, including the Canadian Corruption of Foreign Public Officials Act and the U.S. Foreign Corrupt Practices Act, as well as other guidelines and standards that comprise best business practices.

We provide regular ethics and anti-corruption training to our employees and determine the frequency of this training using a risk-based approach. Generally, we will administer training to a significant majority of salaried employees every three years. We also provide training to key high-risk departments, including government relations, community relations, finance, procurement, legal and managers of most departments. Training is conducted via numerous platforms including policy reading and sign-off, online video training and in-person facilitation.





2. Whistle-Blower Program

Our whistle-blower program provides employees and third parties with a means to raise concerns in good faith regarding potential violations of our standards, policies and procedures and ensures that those individuals will be protected from dismissal or retaliation of any kind.

Employees and any third parties with concerns around a potential infringement of employee rights have three mechanisms in which to report concerns in a confidential or anonymous manner.

1. 24 hour compliance hotline, a service which is operated by a third party. Access is available online, by telephone or by Skype (audio only), and is available in English, Russian, Kyrgyz and Turkish.
2. Writing to the General Counsel and Corporate Secretary of the Company.
3. Writing to the Chair of the Audit Committee.

An employee who, in good faith, reports a concern regarding suspected breach of a policy is protected from reprisal, such as dismissal, demotion, suspension, threats, harassment or discrimination. Every reasonable effort will be made to ensure the confidentiality of those providing information. If an employee prefers to report an allegation anonymously, he or she should provide enough information about the incident or situation to allow Centerra to investigate properly and effectively.

3. Annual Transparency Reporting on Government Payments

On an annual basis, we prepare and submit a report prepared in accordance with the Extractive Sector Transparency Measures Act (ESTMA), a Canadian legislation. This ESTMA report sets out payments we make to our host governments.

Centerra is a signatory of the Extractive Industries Transparency Initiative (EITI). The EITI contributes to improved governance in resource-rich countries through the verification and publication of all company payments to governments as well as government-reported revenues from oil, gas and mining.

Centerra has played an active role in promoting the EITI in the Kyrgyz Republic. The Company's mine in the Kyrgyz Republic was among the first to sign on, report and help improve EITI infrastructure.

1.2 Performance

As of 2019, we had no operations or exploration in countries ranked the twenty lowest by the most recent Corruption Perceptions Index prepared by Transparency International.

Table 3. 2019 Corruption Perceptions Index¹

Country	Corruption Perceptions Index Score (Ranking) 2019
Canada	77 (12 th)
Turkey	39 (91 st)
Kyrgyz Republic	30 (126 th)
USA	69 (23 rd)

¹The CPI scores and ranks countries/territories based on how corrupt a country's public sector is perceived to be by experts and business executives. It is a composite index, a combination of 13 surveys and assessments of corruption, collected by a variety of reputable institutions. The CPI is the most widely used indicator of corruption worldwide. The index ranks 198 countries and territories by their perceived levels of public sector corruption, according to experts and business people. It uses a scale of zero to 100, where zero is highly corrupt and 100 is very clean.



2. Environment

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2. Environment

We are committed to protecting the natural environment and minimizing adverse impacts caused by our operations or activities. Our commitment extends from exploration to construction and operations through post closure.

Why is this Important to Centerra?

Managing our environmental footprint is critical to protecting our social license to operate and maintaining our operational permits. Environmental negligence can result in increased operational costs, fines and penalties, potential liabilities, reputational damage and impact to our long-term revenue potential. Proactively protecting and managing our environmental footprint may also increase operational efficiencies, strengthen local stakeholder relationships and mitigate permitting and regulatory costs.

Our Approach

Our Kumtor and Öksüt operating sites have implemented an ISO 14001-aligned environmental management system (EMS) and Mount Milligan intends to work towards the implementation of an ISO 14001-aligned EMS.

Each site-specific EMS has been designed to include scheduled monitoring, engineering, administrative controls, and internal and external reporting on areas including water, waste and hazardous materials, biodiversity, air quality, tailings management, energy and emissions, and reclamation.

Each site's activities and focus areas are determined by:

1. Findings of third-party environmental and social impact assessments or environmental impact assessments (EIAs);
2. Environmental requirements set out by financiers like the European Bank for Reconstruction and Development (EBRD) and the International Finance Corporation (IFC);
3. Internal identification of Significant Environmental Aspects (SEAs) that are required to meet our regulatory compliance and environmental performance objectives;
4. International standards and frameworks Centerra has adopted, including the World Gold Council's *Responsible Gold Mining Principles* and the International Cyanide Management Code (ICMI) and standards we broadly seek alignment with including those set-out by the International Council on Mining and Metals (ICMM).

Key SEAs include:

- Greenhouse Gas Emissions
- Air Quality
- Energy Management
- Water Management
- Waste and Hazardous Materials Management
- Biodiversity Management
- Mine Closure and Reclamation²

Relevant Links and Policies

- [Centerra's 2018 Sustainability Data Supplement](#)
- [Kumtor Annual Environment and Sustainability Report](#)
- [TSF Disclosure \(Aligned with the Church of England and Swedish Council of Ethics Information Requests\)](#)
- [Kumtor Environmental Policy](#)
- [Öksüt Environmental Impact Assessment](#)
- [CDP Climate Change and Forests Questionnaire](#)

²Mine Closure and Reclamation has not been identified as a topic by SASB in the Metals and Mining Standard, but Centerra considers it to be an important environmental factor. This topic has been included in the Biodiversity Management section.





2.1 General Regulatory Landscape

We work closely with regulatory agencies to ensure we remain compliant with environmental regulation and our permits.

Canada: Centerra’s Canadian operations include the Mount Milligan Mine in the province of British Columbia (B.C.). Our mining activities are regulated by both provincial and federal legislation. On a provincial level, the main pieces of legislation applicable to our mine sites are the *Environmental Assessment Act*, the *Mines Act and Health, Safety and Reclamation Code (HSRC)*, *Environmental Management Act*, *Water Sustainability Act and Regulation* and *Groundwater Protection Regulation*. Regular inspections by the B.C. government occur.

Kyrgyz Republic: Each Kyrgyz Republic enterprise with activities that have a potential negative impact on the environment must develop and maintain an ecological passport (“Ecological Passport”) providing for the basic levels of impact on the environment, including the level of maximum allowable emission (“MAE”) and maximum allowable discharge (“MAD”).

The Ecological Passport is developed every five years and must be approved by the Kyrgyz Government authority responsible for environment protection (currently Kyrgyz Republic State Agency for Environmental Protection and Forestry (“SAEPF”). The Ecological Passport identifies some of the permits and approvals required by Kumtor Mine for its operations, with annual permits required for MAE norms, MAD norms and water usage limits. The Kumtor Mine obtained its MAE and established its water usage limits for 2019. The permits for discharges and emissions in 2019 were received in a timely manner. The Ecological Passport for the Kumtor Mine was obtained in December 2017 and is valid until December 2022.

Turkey: In Turkey, mining rights and minerals are exclusively owned by the state. The state delegates rights to explore and operate to Turkish individuals or legal entities through set period licenses in return for royalty payments. Mining licensing is regulated by the General Directorate of Mining Affairs, a unit of the Ministry of Energy and Natural Resources. According to the Turkish

Mining Law, OMAS (Centerra’s wholly owned Turkish subsidiary) has the right to explore and develop any mineral resources contained within the operation license, provided fees and taxes are paid in order to keep the license in good standing. The operations license was issued on May 1, 2017 and is currently set to expire on January 16, 2023.

While Öksüt has the right to explore and develop within the area covered by the operation licenses, it requires various permits for the development of the project. In November 2015, the Öksüt Mine received approval of the environmental impact assessment report. In 2016, various other permits necessary to begin development were received, including the forestry usage permit on July 14, 2016, the operation permit for the forestry area on August 26, 2016, and the pastureland permit on January 11, 2018. In the event that any material changes are planned to the Öksüt life of mine or mine footprint, some of these permits may need to be amended, or new permits will need to be received. In addition, there are regular course permits required for the operation of the mine, some of which are issued for a specified term and require regular renewal.

2.1.1 Permitting and Compliance

In 2019, we introduced a Company-wide governance process to strengthen our internal procedures related to permitting compliance and related environmental obligations.

To improve internal coordination, including site-wide awareness of permitting needs and submission requirements, we have begun to systematize the compliance process to ensure data accuracy and accountability. This process will be completed in 2021. Environmental data that is received from laboratories is linked to the specific compliance obligation at each site. High and low-level limits are set to ensure that compliance is maintained, and non-compliances are mitigated as soon as possible, allowing real-time responsiveness.

Progress at each site is managed through regular evaluations and key performance indicators. This allows us to measure and track performance and identify areas for improvement, internal and external audit programs and inspections, and management reviews.



2.2 Greenhouse Gas (GHG) Emissions

2.2.1 Process to Manage Risks and Opportunities

1. GHG Regulatory Landscape

To enable us to effectively manage regulatory risks related to greenhouse gas (GHG) emissions, we proactively monitor and assess the regulatory environment in our operating jurisdictions.

As of December 31, 2019, both Canada and the Kyrgyz Republic have ratified the Paris Agreement which establishes a framework for countries to reduce GHG emissions (thereby, helping limit global temperature increases) and report on their GHG inventories.

Under the Paris Agreement, **Canada** has committed to reducing its GHG emissions by 30% below 2005 levels by 2030 and to achieving net-zero emissions future by 2050. To meet long-term legislated emissions reductions, the province of **British Columbia** (B.C.) has committed to reducing its GHG emissions by 40% below its 2007 levels by 2030. As part of its commitment, B.C. implemented a carbon tax in 2008. In April 2019, the tax increased from \$35 to \$40 per tCO₂e emissions.

There are currently no emission-limiting regulations imposed in either the Kyrgyz Republic or Turkey but we continue to proactively monitor the regulatory landscape in both countries as we anticipate emerging legislation due to the ratification of the Paris Agreement in the Kyrgyz Republic and the continued path towards EU accession in Turkey. In Turkey, EU membership will create more stringent environmental standards and regulations nationwide such as the EU's emissions trading system and the European Green Deal.

We continue to monitor these trends and events through our regular risk assessments and business planning activities as we recognize the impact that new regulation may have on our operations.

2. GHG Monitoring and Reporting

To ensure we meet both regulatory compliance and stakeholder expectations, we have processes in place at our operating sites to track and report our GHG emissions.

The Mount Milligan Mine in British Columbia reports GHG emissions according to the British Columbia Greenhouse Gas Reporting Regulations and The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition).

To create reporting accuracy and consistency across our operating sites and new mines coming online, namely the Öksüt Mine, in 2019 we standardized our global GHG emissions reporting. This will increase our reporting accuracy across all sites and allow us to move towards global external GHG verification in future years.

The following standards and guidelines have been used by Centerra to develop its 2019 GHG emissions inventory:

- IPCC Guidelines for National Greenhouse Gas Inventories, 2006
- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
- British Columbia Greenhouse Gas Reporting Regulation

Centerra annually discloses its total GHG emissions by project basis through its sustainability report and CDP Climate Change disclosure.



3. Climate Change Strategy

In 2019, we commenced the development of a Company-wide climate change strategy. The strategy will outline short and long-term initiatives for the management of Centerra's Scope 1 and Scope 2 GHG emissions. The strategy is being developed with consideration for the reporting recommendations made by the Taskforce on Climate-related Financial Disclosures (TCFD).

In our 2020 ESG report, we will aim to provide further detail around this finalized strategy and an analysis of our progress.

2.2.2 Performance³

At Mount Milligan, our 2018 Scope 1 GHG emissions were 55,838 tonnes CO₂e compared to 65,741 tonnes CO₂e in 2019. This 17.7% increase in Scope 1 GHG emissions was attributed to an increase in fuel consumption due to the operation of surface and groundwater pumping programs in 2019 which required the continued use of diesel generators. In addition, in 2018 we experienced a temporary shutdown

of the mill processing facility whereas, in 2019, our operations continued without disruption. Starting in 2020, GHG emission amounts are expected to be reduced as we have undertaken projects to convert select water pumping infrastructure from diesel to electric.

At Kumtor, our 2018 Scope 1 GHG emissions were 382,028 tonnes CO₂e compared to 357,926 tonnes CO₂e in 2019. This 6.3% decrease in scope 1 GHG emissions was attributed to a temporary suspension of mining operations which occurred throughout most of December 2019 and does not indicate a trend at this point.

During 2019, Öksüt was in construction. The Mine reached commercial production in 2020 but construction is still ongoing for 2020. As such, we expect that our GHG emissions will increase at Öksüt between 2019 and 2020. Further to this, 2019 is the first year we have reported GHG emissions and as such, we anticipate providing a trend analysis for Öksüt's performance in the coming years.

Table 4. 2019 Global Scope 1 and Scope 2 GHG Emissions

Tonnes CO₂e	Scope 1	Scope 2	Total	Percentage of Total
Kumtor	357,926	12,931	370,857	79%
Mount Milligan	65,741	16,018	81,758	17%
Öksüt	19,007	632	19,639	4%
Total	442,674	29,580	472,254	100%
	94%	6%	100%	

³It is important to note that the 2018 GHG emissions at Mount Milligan and Kumtor are not directly comparable to 2019 GHG emissions because the same protocols were not used year-over-year, as described above. Nonetheless, the general trend is accurate and has thus been included in this section.

2.3 Air Quality

2.3.1 Process to Manage Risks and Opportunities

1. Air Quality Regulatory Landscape and Project Financing Requirements

We actively manage the risks associated with air quality and non-GHG air emissions by ensuring we meet all regulatory and internationally suggested limits.

The Mount Milligan Mine is compliant with both provincial and federal legislation and standards. From a national perspective, we adhere to Canada's Ambient Air Quality Standards which has been published under the *Canadian Environmental Protection Act* and sets a standard for outdoor air quality targets. These standards are mirrored at a provincial level through the *British Columbia Environment Management Act*. Processes for compliance and monitoring are outlined in our Air Quality and Fugitive Dust Management Plans and Refuse Incinerator Management Plan.

The Kumtor Mine is compliant with technical regulations established by the *Law on Environmental Protection in the Kyrgyz Republic*. These limits are referred to as maximum allowable emissions (MAE) for airborne emissions and are set on an annual basis by the State Agency on Environmental Protection and Forestry (SAEPF). The SAEPF conducts annual inspections to assess the Mine's compliance with the MAE.

The Öksüt Mine is compliant with both national regulation and project financing requirements by the EBRD, International Finance Corporation, and Turkish national regulation, namely the *Turkish National Regulation on Control of Industrial Air Pollution* and *EBRD Performance Requirement 3: Resource Efficiency and Pollution Prevention and Control*. During the environmental impact assessment, standards were set for the project which reflected both national and European Union (EU) limits. During the construction phase of the project, as a condition of financing from lenders, including EBRD, the site was audited on a bi-annual basis to ensure adherence to project standards.

2. Air Quality Monitoring and Reporting

We routinely monitor the air quality at Mount Milligan, Kumtor and Öksüt. Air quality monitoring is completed by monitoring stations located strategically around each mine site.

At Mount Milligan, ambient air monitoring includes meteorological monitoring, dustfall monitoring, fine particulate and plant metal update monitoring. Mount Milligan owns and operates a meteorological weather

station for the continuous monitoring of on-site air temperature, relative humidity, wind speed, wind direction, and precipitation. The weather station also includes a fine particulate monitoring device that runs every three days, called a Partisol station. The station measures the volume of PM10 and PM2.5 in the air over a 24-hour period. The Mount Milligan dustfall monitoring program consists of five air quality stations and one ambient air quality monitoring station. All dustfall stations were active throughout 2019 and are equipped with dustfall monitoring canisters to collect potential fugitive dust emissions from the project site. Each monitoring station measures the monthly average dustfall for ashed, combustible (volatile), and total dustfall components throughout the year using canisters provided. Monthly and annual dustfall canister samples are sent to an accredited laboratory for analysis, as per permit requirements.

At Kumtor, air monitoring stations measure total suspended particles (TSP) levels around the mine site. Samples from the monitoring stations are collected once every six days. In addition to dust, select samples are also analyzed for various metals and compounds, including cyanide, sulphur, arsenic, nickel, selenium, zinc, uranium, radium-226, and strontium-90.

Kumtor's monitoring program includes formal quality assurance and quality control. In addition to an on-site testing laboratory, Kumtor regularly sends samples to local and international laboratories.

At Öksüt, air quality monitoring includes meteorological monitoring, settled dust (TSP), and fine particulate monitoring. There are eight air quality monitoring and measurement stations located strategically throughout the mine site and in nearby villages. Two monitoring points are located in the mine site (EIA boundary at the points near the Zile and Öksüt villages) and the remaining monitoring points are located outside of the mine in the villages of Yazıbaşı, Gömedi, Epçe, Yukarıdeveli, Öksüt and Zile.

Öksüt monitors total suspended particles at minimum every month by measuring settled dust. In addition, the site measures suspended particulate matter (PM10, PM2.5) a minimum of every six days in two locations near the boundary of the permitted area, which is near the above-noted villages. For significant dust, monitoring activities are completed through visual inspection and supplemented with direct readings of dust concentrations.

In addition, Öksüt measures hydrogen cyanide (HCN). HCN measurements are carried out both within the fenced boundary of the mine site, at two points near the Zile and Öksüt villages, and near the heap leach and adsorption-desorption recovery (ADR) facility.



3. Air Quality Management

In addition to air quality monitoring, air quality management is a critical component to ensure we remain compliant with our permits and obligations.

The Mount Milligan Mine actively manages fugitive dust. At Mount Milligan, potential sources of fugitive dust include roadways, the tailings storage facility (TSF), ore stockpiles, and the ore crushing/processing facilities. Several control and mitigation measures are employed at Mount Milligan.

Watering is primarily used to control and mitigate dust on roads, supported by enforcing speed limits. In 2019, water was regularly drawn from the TSF and applied to haul roads within the TSF footprint on an as needed basis. Water required for suppression on external roads was collected from permitted freshwater sources. Typically, dust suppressant reagents such as calcium and magnesium chloride are applied annually during dry periods at Mount Milligan to reduce water consumption for watering of roadways. At our processing plant, our crushing facilities are equipped with a water/misting sprinkler system and water sprays operate at the truck dump. During routine operations, the Mill deposits tailings slurry into the TSF, inherently limiting dust generation within the facility due to the wet properties of the slurry material. Other control and mitigation measures include progressive reclamation, which has proven particularly effective on inactive stockpiles.

The Kumtor Mine also actively manages dust through several control and mitigation measures. Work zones are watered down during mining and other operations at the mine, including hauling and loading operations. Stopping faces (well bottom holes) are watered down before and after blasting. In addition, given that the Sarychat-Ertash State Reserve ("the Reserve") is located adjacent to the mine site, regular monitoring of air is conducted in the northeastern part of the Kumtor concession area and in the northwestern part of the Reserve. Finally, transportation of employees to the workplace, as well as delivery of consumables and other materials, is carried out on a technological road that passes through the Barskoon Valley. In order to avoid an increase in the dust level in the Barskoon Valley, we service the road on a daily basis.

At Öksüt, we have implemented appropriate control measures where potential for dust generation is significant, including soil stockpiles, highly trafficked roads, and especially for activities near sensitive receptors. Specific controls to manage dust include wetting and covering powdery materials transported on trucks, enforcing speed limits, washing facilities at site exits, periodic wetting of the stockpiled material, restriction on vehicle usage in off-road areas and on informal tracks. For example, in 2019, we installed automatically-timed sprinklers along our main accessway to the Öksüt Mine to reduce dust formation during the dry season.

2.3.2 Performance

In 2019, Mount Milligan elevated dustfall results were noted at select monitoring stations due to one station being proximal to the geology core shack, increased activities in the area during the year and drier, warmer and windier conditions which together may have attributed to the elevated results. During these guideline exceedances over the warmer months of the year, water was applied more frequently to mitigate fugitive dust emissions. Reagents were also applied to roadways and access roads to manage fugitive dust. These monitoring stations will be closely monitored in 2020, observing for visual signs of dust emissions and actively implementing mitigation measures. We anticipate that this trend may fluctuate depending on whether the site experiences wetter or dryer conditions and but may likely decrease incrementally in areas where progressive reclamation is executed.

At Kumtor, our 2019 non-GHG air emissions decreased by 11.6%⁴. This decrease was due to the temporary suspension of mining operations throughout December 2019 and does not indicate a trend at this point in time.

During 2019, the Öksüt Mine was in construction. The Mine reached commercial production in 2020 but construction is still ongoing for 2020. As 2019 is the first year we have reported non-GHG air emissions at the Öksüt Mine we anticipate providing a trend analysis for Öksüt's performance in the coming years.

⁴ This does not consider pollutants from PM₁₀, PM_{2.5} (we do not currently track this pollutant) or mercury (it is not used in metallurgical production at the mine.)

Table 5. 2019 Air Emissions by Pollutant

(tonnes)	Mount Milligan	Kumtor ⁵	Öksüt
CO	124	49.20	183.72
NO _x	77	94.41	5.17
SO _x	0.31	12.22	41.73
Particulate Matter (PM ₁₀)	2,318	N/A	0.55
Particulate Matter (PM _{2.5})	35	N/A	N/A
Mercury (Hg)	1.97	N/A	N/A
Lead (Pb)	119	0.00067	2.75
Volatile Organic Compounds	24	0.3098	N/A

2.4 Energy Management

2.4.1 Process to Manage Risks and Opportunities

1. Energy Management and Efficiency

Our operating sites utilize energy for multiple activities: fuel (for both mobile vehicles and stationary combustion), electricity (for Mill operations) and explosives (for blasting).

Across our operations, our Mills are the most electricity-intensive operation. For example, at Kumtor, our Mill represents 80% of electricity consumption.

Our truck fleets and mine equipment are also a significant consumer of energy at our sites. At Mount Milligan, our truck fleet represents 94% of our fuel usage and at Öksüt, our truck fleet and generators represent 97% of our energy usage. Kumtor's mine equipment uses approximately 91% of all fuel consumption.

At Mount Milligan, through active collaboration between the site's Environmental and Continuous Improvement teams, we evaluated energy-related solutions, delivery mechanisms and alternative technologies to achieve energy efficiency. In 2018 and 2019, a number of energy efficiency studies and projects were undertaken. In 2019, we commenced the electrification of both the Philip Lake and Lower Rainbow Valley water pumping infrastructure.

At Kumtor, whenever possible, we actively switch from diesel generators to grid electricity, for such uses as mine-site lighting, dewatering pumps, and other equipment. To manage our truck fleet energy consumption, we have

transitioned to more fuel-efficient engines and have implemented a program to reduce engine idling on parked vehicles. Additional energy conservation measures range from the installation of low wattage, high efficiency lighting systems, better insulation in camp buildings, and encouraging employee behavioral changes through continued education and awareness sessions. We continue to explore approaches that may help reduce our energy consumption.

At Öksüt, our main energy management objective is to increase our energy efficiency. We use a Variable Frequency Driver (VFD) starting system for our pumps which helps us eliminate pump starting currents and extend the pump life. In addition, we have replaced our lighting fixtures and use those that require lower energy consumption throughout the facility and auxiliary facilities. To monitor our progress, we use a Power Management System. This system provides a platform that supports the automated monitoring and maintenance of the power distribution system at Öksüt. The system provides reliable, real-time, GPS time stamped, information such as voltage per phase, energy, demand data, etc. The system also provides a backup log of monitoring and control information of the system status for diagnostic and forensic purposes. At Öksüt, our energy management efforts are led by a certified electric specialist.

We are developing a climate change strategy that will outline a strategy for managing our direct energy use.

⁵ Refer to footnote number 4



2. Leveraging Renewable Energy

Our operating sites, namely Mount Milligan and Kumtor, utilize significant amounts of renewable power generation for their electricity consumption, thereby lowering Centerra's GHG emissions from electricity use.

British Columbia generates close to 95% of its electricity from renewables. At Mount Milligan, 100% of our electric power is accessed from B.C. Hydro, a crown corporation responsible for generating, purchasing, distributing and selling electricity throughout the province of British Columbia.

The Kyrgyz Republic generates approximately 85% of its electricity through hydropower. The Kyrgyz Republic is a leading producer and exporter of hydroelectric energy in the Central Asian region. The major source of the power supplied to Kumtor is from the grid-connected Toktogul Reservoir located on the Naryn River.

Our use of renewable hydropower at Mount Milligan and Kumtor allows us to not only lower our carbon footprint but also mitigates our exposure from high energy costs and increasing utility prices.

Öksüt is grid powered and electricity is supplied by the Turkish Electricity Distribution Company (TEİAŞ). TEİAŞ purchases energy from both private suppliers (including wind turbines, solar panels, power plants, hydroelectric dams etc.) and government-owned facilities such as dams or power plants. TEİAŞ determines a mix of renewable and non-renewable energy for the region for select periods and contracts appropriate energy suppliers.

3. Minimizing Disruptions

To manage our exposure from grid disruptions, we have back-up generators at sites. At Mount Milligan, Öksüt and Kumtor, the mines maintain standby generator stations in case of power outages. In addition, at Öksüt, the site draws energy from two electricity substations. As such, if one substation fails, energy can be sourced from the other substation.

2.4.2 Performance

At Mount Milligan, our 2018 energy consumption was 2,420,403 GJ compared to 2,788,154 GJ in 2019, a 15.2% increase in energy use. This is attributed to the operation of surface and groundwater pumping programs which required the continued use of diesel generators. We anticipate that in future years, this upward trend will be partially mitigated as we have converted pumping programs from diesel to electric in 2020.

At Kumtor, our 2018 energy consumption was 6,489,902 GJ compared to 5,586,160 GJ in 2019, a 13.9% decrease in energy use. This decrease was due to the temporary suspension of mining operations in December 2019 and does not indicate a trend at this point in time.

During 2019, Öksüt was in construction. The Mine reached commercial production in 2020 but construction is still ongoing during 2020. As such, we expect that our energy consumption will increase at Öksüt between 2019 and 2020. Further to this, 2019 is the first year we have reported energy consumption for Öksüt and as such, we anticipate providing a trend analysis for Öksüt's performance in the coming years.

In 2019, there were two power outages at the Kumtor Mine. Both of these outages only partially impacted select operations at the Mine for several hours each at which time full power was restored. Neither of these power outages resulted in a significant adverse financial or operational impact to Kumtor.

Table 6. 2019 Energy Consumption by Type

Lower Heating Value (LHV) Only	Diesel (GJ)	Gasoline (GJ)	Propane (GJ)	Liquefied Natural Gas (GJ)	Diesel - Explosives (GJ)	Electricity (GJ)	Total
Kumtor	4,479,269	20,660	-	-	51,785	1,034,447	5,586,160
Mount Milligan	823,871	684	22,349	-	12,701	1,928,549	2,788,154
Öksüt	240,355	-	-	619	1,042	5,160	247,175
Total	5,543,496	21,344	22,349	619	65,527	2,968,156	8,621,490

Table 7. 2019 Renewable vs. Non-Renewable Energy Consumption⁶

Direct Energy Consumption - 2019					
	Non-Renewable (GJ)	Non-Renewable (%)	Renewable (GJ)	Renewable (%)	Total
Kumtor	4,551,714	100%	0	0	4,551,714
Mount Milligan	859,605	100%	0	0	859,605
Öksüt	242,016	100%	0	0	242,016
Total	5,653,335				

Indirect (Electricity Consumption) - 2019					
	Non-Renewable (GJ)	Non-Renewable (%)	Renewable (GJ)	Renewable (%)	Total
Kumtor	1,034,447	100	0	0	1,034,447
Mount Milligan	1,928,549	100	0	0	1,928,549
Öksüt	5,160	100	0	0	5,160
Total	2,968,156				

2.5 Water Management

2.5.1 Process to Manage Risks and Opportunities

1. Water Treatment and Discharge

To protect water quality, all operating sites strive towards compliance with local and national regulations and permits. Our operating sites have water management plans in place to reduce impact to the environment.

Mount Milligan is designed and permitted as a zero-discharge facility during operation, namely, the operation does not actively discharge process waters to the environment. The open pit water management program consists of surface

water diversion ditches and horizontal drains drilled into pit walls. The water management plan for the Tailings Storage Facility (TSF) includes conventional tailings deposition/beach to maintain the required freeboard. A seepage collection, containment and control system consisting of collection ditches and recycling ponds downgradient of the TSF embankment is designed such that seepage through the dam structure is intercepted in the ditches, directed to the seepage collection ponds, and pumped back into the TSF.

At Kumtor, effluents (solutions consisting of waste substances from gold processing) are treated at the Effluent Treatment Plant (ETP). The purpose of the ETP is to treat excess tailings water that accumulates in the TSF. The ETP is designed to reduce cyanide and metal concentrations in tailing

⁶At Mount Milligan and Öksüt, we are 100% grid-powered and at Kumtor, we are 99% grid-powered. Both B.C. and the Kyrgyz Republic are significantly reliant on hydropower. In 2019, Öksüt consumed 6-7% wind energy. SASB's methodology only considers renewable energy that is within the control or influence of the organization demonstrated through power purchase agreements (PPA) that explicitly include renewable energy certificates (RECs) or Guarantees of Origin (GOs). As such, Table 7. reflects this methodology, yet it is important to note that renewable energy plays a significant role in Centerra's energy consumption.



pond effluent prior to release to the environment. The effluent treatment system consists of three components designed for cyanide removal, metal removal, and polishing and pH adjustment before final discharge. In addition, sewage wastewater is treated at the sewage treatment plant (STP) using standard processes of biological treatment and disinfection (chlorination). Biological treatment improves the water quality and chlorination eliminates potentially harmful bacteria.

At Öksüt, the Heap Leach pad and Adsorption-Desorption Regeneration (ADR) plant is also designed as a zero-discharge facility. The objective of this design is to contain all process solution within the facility. At the Mine, contact water will collect at the ponds and non-contact water goes to the dry creeks, which is a body of water that only temporarily or seasonally fills with water as a result of heavy rainfall and/or snowmelt. The Heap Leach pad ADR ponds have been designed with a double liner system and have a leak detection and recovery system to minimize the risks of seepage. The ponds have been designed to be sufficient for extreme precipitation events, plus maintain an extra safety margin. During drier parts of the year, water collected in the overflow pond will be used as make-up water. Öksüt has monitoring and measurement procedures in place for site water management.

2. Protecting Water Quality: Monitoring, Reporting and Inspection Programs

Our practices include regular monitoring and reporting on surface and groundwater quality and quantity, data quality assurance protocols, development of water quality source terms based on host rock geochemistry to compare annual trends to long-term predictions, especially in regards to metal leaching and acid rock drainage potential, and trend analysis against relevant federal and regional water quality standards and our baseline data.

In British Columbia, we are required to produce two annual reports that are made publicly available with the above-stated monitoring data and information to the B.C. government for all sites, including our care and maintenance and development projects.

At Kumtor, we are required to produce an annual report to the Kyrgyz Republic with the above-stated information. Kumtor provides this report titled the *Annual Environmental and Sustainability Report ("AESR")* to the government and also publishes the report publicly on its website, as well as on Centerra Gold's corporate website.

At Öksüt, water quality and quantity monitoring programs are performed at determined points to comply with Öksüt's EIA and ESIA commitments. Water monitoring programs commenced prior to the start of all mining activities in order to understand baseline performance. These programs are led by Öksüt's environmental team and external advisors.

In addition to internal monitoring, sites are subject to external water quality testing by local government agencies.

3. Water Conservation Initiatives

We recognize the importance of water conservation measures throughout our operations.

At the Mount Milligan Mine, water from the open pit, TSF, and seepage recycling ponds are not discharged to the environment. Rather, recycling ponds collect contact runoff which is diverted for reuse in the process plant. Approximately 75% of our process water was recycled in 2019. Typically, during dry periods dust suppressant reagents are applied to roadways to reduce roadway watering requirements.

At Kumtor, approximately 97% of our water is used for ore processing at the Mill. Approximately 5Mm³ of water is recycled within the Mill annually, reducing our demand from Petrov Lake.

At Öksüt, our operations will use a heap leach facility. This facility has been designed to reuse water and solution continuously. The irrigation lines used on the Heap Leach Pad are buried to minimize water loss to evaporation, therefore reducing the freshwater demand. In addition, the mine facilities drainage has been minimized by intercepting non-contact water (by diversion ditches and culverts) before it enters the mine facility.

Strengthening Community Water Access

We have a responsibility to ensure that we manage the impacts to shared water sources with local communities, especially in areas with high or extremely high baseline water stress. We work to improve access to water for the communities in which we operate. These efforts are led by our site sustainability teams, in collaboration with regional committees and are often part of our strategic community investment initiatives.

Throughout 2019, as part of our Livelihood Restoration Plan at Öksüt, we continued work to improve water resources and identify new water resources on the pastureland that was allocated to the shepherds, which were economically displaced by the mine. The pastureland is of higher quality than the mine area and thus, through this work, the shepherds are expected to have improved yields and livelihoods. Our environmental team at Öksüt will continue to monitor water supply and

availability through regular visits, logs and surveys to ensure livestock water demand is met.

In addition, we completed several potable water projects in the Issyk-Kul region, in the Kyrgyz Republic. In the Konkino village in the Djety-Ögüz District, our project brought potable water to 700 community members and in the Kok-Moinok village of the Ton District, the project brought safe drinking water to 611 community members. Since 2018, our financial contribution to safe drinking water projects for the communities in the Issyk-Kul region has amounted to \$270,000.

Furthermore, in 2019, we supported an irrigation improvement project in the Issyk-Kul region where Kumtor operates, that focused on increasing irrigation water volumes and expanding arable land, resulting in increased farming yields and positive financial gains for farmers.





2.5.2 Performance

Starting in 2016, Mount Milligan experienced low water storage volumes that continued into the following year, resulting in processing operations being temporarily shut down in December 2017 through to early-2018. Since then, the Mount Milligan Mine has received authorization for surface water pumping from Philip Lake 1 and Rainbow Creek until November 2021. The Mine has also obtained additional water licenses to extract groundwater from the Meadows Creek Well Field and the Lower Rainbow Wellfield until December 2023. The groundwater resources are not yet proven over the long-term (i.e. life-of-mine), and the Mine has started the process of securing permits for one or more long-term surface water sources from local water sources as further supply to meet its operational requirements.

At Mount Milligan, our 2018 water consumption was 7.42Mm³ compared to 7.59Mm³ in 2019, a 2.3% increase. Our recycling rate remained constant from 2018 at 75%. The increase in water consumption in 2019 is likely attributed to the temporary shutdown of milling activities in 2018 due to water shortages. We anticipate that our water consumption will fluctuate throughout the coming years depending on production rates and climate variability.

At Kumtor, our 2018 water consumption was 7.46Mm³ in 2018 compared to 7.86Mm³ in 2019, a 5% increase in water use. Our recycling rate was consistent at 91% from 2018. The increase in water consumption is attributed to Kumtor commencing a large-scale exploration program and increasing gold production in 2019. We anticipate that water usage will continue to increase in 2020.

During 2019, Öksüt was in construction. The Mine reached commercial production in 2020 but construction is still ongoing for 2020. As such, we expect that our water consumption will increase at Öksüt between 2019 and 2020. Further to this, 2019 is the first year we have reported water consumption for Öksüt and as such, we anticipate providing a trend analysis for Öksüt's performance in the coming years.

In 2019, there were no incidents of water non-compliance at Mount Milligan or Öksüt. In 2019, Kumtor received a penalty for discharging without permits and exceeding the maximum allowable concentration (MAC) standards for discharges of certain chemicals from its Effluent Treatment Plan and Sewage Treatment Plan. All issues related to these claims were resolved and the penalty was not significant to Kumtor's operations.

Table 8. 2019 Water Summary by Site

	Total Water Withdrawn ⁷			Total Water Discharged Mm ³	Total Water Consumed (withdrawn minus total discharges)			Total Water Recycled
	Total Freshwater Withdrawn Mm ³	% from High or Extremely High Baseline Stress	Total Other Water Withdrawn Mm ³		Total Freshwater Consumed Mm ³	% from High / Extremely High Baseline Stress	Total Other Water Consumed Mm ³	
Kumtor⁸	0	0%	7.86	6.13	0	0%	1.72	91.2%
Mount Milligan	7.59	0%	4.44	0	7.59	0	4.44	75%
Öksüt	0.133603	100%	0	0.003628	0.129975	100%	0	0%

Table 9. Water Incidents of Non-Compliance by Site

# of non-compliances	2019
Kumtor	1
Mount Milligan	0
Öksüt	0
Total	1

⁷The World Resources Institute's Aqueduct Water Risk Atlas defines water stress as "an indicator of competition for water resources and is defined informally as the ratio of demand for water by human society divided by available water." The Aqueduct Water Risk Atlas only considers surface water in its conclusions. Centerra's water risk assessments are conducted based on site specific environmental impact assessment on both surface and groundwater by qualified professionals and guided by internationally accepted guidelines to understand water access and constraints.

⁸SASB and GRI methodology defines fresh water is water that has less than 1000 parts per million of dissolved solids. According to these standards, Kumtor's main water source Petrov Lake is not considered to be fresh water but has been indicated in previous Centerra and Kumtor sustainability reports as such.



2.6 Waste and Hazardous Materials Management

2.6.1 Process to Manage Risks and Opportunities

As part of our mining cycle, waste materials are generated. Waste materials generated from mining and processing include waste rock, overburden materials (excluding topsoil), exhausted heap leach piles and tailings.

1. Active Management of Tailing Storage Facilities (TSF)

Across our operations we actively manage six TSFs. Two facilities are currently active, two are on care and maintenance, one is entering the closure phase and the final one is in the early stages of the active closure phase.

Centerra's TSFs have been designed by professional engineers and are constructed, operated and monitored under the guidance of an external Engineer of Record (EoR).

Centerra has developed a five-step process that is diligently applied and monitored at each site and includes:

Step 1. Site Monitoring Systems

Centerra's site teams use monitoring programs which may include but are not limited to piezometers, inclinometers, pressure gauges, monitoring prisms, seepage wells, thermistors and settlement plates to monitor the performance of the tailings dams, abutments, natural slopes and water levels. In addition, site teams rely on

seepage flow rate measurement, impoundment pool monitoring and routine visual observation.

Step 2. Operational Staff Inspections

Trained site personnel and technical staff perform daily inspections on each active TSF. The operations and site teams perform monthly inspections and review systems data to monitor the tailings facilities for cracking or other signs of potential instability. More frequent inspections are conducted following significant precipitation, wind, fire or seismic events.

Step 3. Annual Engineer of Record Inspections

Annual safety inspections are completed by an external Engineer of Record (EoR). The EoR reviews the performance of the facility against the design criteria and submits reports to the site with prioritized action items for review as well as proposes a timeline to complete any required actions items.

Step 4. Independent Third-Party Dam Safety Reports

In all jurisdictions, except Idaho, USA, a qualified independent tailings reviewer (different from the EoR and not a member of the Independent Tailings Review Board (defined below) or equivalent externally appointed expert) periodically conducts an assessment of the tailings dam and issues a report to the EoR and Centerra that evaluates the performance of the tailings facilities.



In Idaho, an independent review of the Thompson Creek tailings dam is carried out periodically by a panel consisting of regulatory agencies.

Step 5. Independent Tailings Review Boards (ITRB)

Each site, regardless of its facilities life cycle, has an Independent Tailings Review Board (ITRB) or an equivalent externally appointed expert. An ITRB comprises independent experts who work with Centerra and the EoR by conducting reviews of the design, operation, monitoring data and maintenance practices to evaluate the performance of the tailings facilities against the design criteria and to provide guidance and recommendations regarding these practices.

Tailings are not recycled at Mount Milligan or Kumtor. The Öksüt Mine does not have a TSF as it is a heap leach facility.

In light of the recent global events and our commitment to public and environmental safety, in late 2019 Centerra began to form a multi-disciplinary TSF Steering Committee (“the Committee”). The global Committee meets quarterly and comprises:

- Senior management from Risk & Insurance, Capital Projects & Technical Services, Sustainability and Environment, and Investor Relations;
- General Managers and/or tailings engineers from sites; and
- Subject matter experts in areas such as water management.

The Committee is mandated to:

1. Strengthen Centerra’s internal and external tailings risk management procedures
2. Monitor the development of emerging regulatory requirements and international best practices

In early 2020, the Committee initiated a project to implement a comprehensive risk management framework to capture and document the key components of how risk is managed at each of our tailings facilities. The initial baseline reports for each site are expected to be completed during the fourth quarter of 2020 and will be updated regularly to ensure we are implementing best practice in tailings risk management.

2. Mineral, Hazardous and Non-Hazardous Waste Management

All operating sites categorize different streams of waste by classification according to criteria and based on internationally accepted regulations, guidelines and methodologies. This ensures that we maintain strict control of procedures to mitigate any harm to the environment or our employees.

Each operating site has procedures and plans for ore and waste rock, hazardous waste and non-hazardous waste management, with more detailed plans developed as required by applicable regulatory and legal requirements.

All site-specific management plans emphasize safety protocols and environmental protection with specific procedures for all stages of material handling: transportation, storage, inventory, training, spill response and spill reporting. Waste segregation and tracking is routinely conducted at all sites and wastes stored on site are securely contained and monitored pending further treatment, transportation and/or disposal.

To reduce disposal volumes to the landfill and overall generation of wastes, all sites follow reduce, reuse and recycle principles in day-to-day operations. In addition, employees at all operating sites are educated on waste management and segregation practices during the on-site environmental orientation. In addition, the environmental department provides constant support and awareness across site.

2.a Waste Rock

At Mount Milligan, waste rock is either used for TSF dam construction or waste rock that is potentially acid generating (PAG) is stored within the TSF to comply with environmental approvals requirements. The use of overburden and non-acid generating (NAG) waste rock to build the downstream TSF embankment eliminates the need for conventional waste rock dumps at Mount Milligan. Material remaining after construction requirements is placed in storage areas that meet long-term containment requirements.

At Kumtor, waste rock is deposited in waste rock dumps within the concession area. In accordance with the Kyrgyz Republic’s Law on Subsoil Protection, as well as industrial safety standards, Kumtor’s waste rock dumps shall have sufficient storage capacity, and be located at a minimum distance from a mining cutback. Mined waste rock shall not be placed in areas

with mineralization, hinder mining operations in the pit and shall be formed according to the safety requirements.

At the Öksüt Mine there is a permitted waste rock dump on site.

2.b Non-Hazardous (Domestic and Industrial) Waste

Mount Milligan operates and maintains an on-site landfill for domestic and inert industrial refuse, such as wood and plywood, rubber, non-recyclable scrap metal, building construction debris, plastic, and ash from the incinerator. Due to the remote location of Mount Milligan, limiting wildlife attractants is a focus. For this reason, domestic food waste is removed from site and disposed of at the landfill in Fort St. James, British Columbia. Additionally, Mount Milligan sorts and transports all recyclable beverage containers to a facility in British Columbia.

Kumtor has an integrated waste management strategy which sets out a target of 100% recycling of industrial waste, reduction in the volume of solid domestic waste to be landfilled and 100% composting of food waste. Since 2014, not a single kilogram of industrial waste has been disposed of on site. Scrap metal, plastic, rubber, wood, paper, waste oil and other waste are removed from the mine and delivered to local partners to reuse and recycle. Non-hazardous domestic and hazardous waste are disposed at two landfills that were designed and constructed in full compliance with all applicable engineering and environmental requirements.

In 2017, a biodegradable waste processing station, or compost unit, was designed and constructed on the mine site which is able to process about one ton of food waste per day. Laboratory tests have confirmed that the chemical-biological composition of the final product – compost – fully complies with the properties of organic fertilizers. The fertilizer is stored and is intended to be used during the reclamation process. In 2019, 295,931kg of food waste was processed, generating 80.3 tonnes of compost

At Öksüt, non-hazardous wastes are temporarily stored on site in designated temporary storage areas and then disposed off-site by a licensed contractor. Certain non-hazardous wastes, including paper, nylon, plastic, glass wood, metal scraps, waste oils, and vehicle tires are recycled at a local facility.

2.c Hazardous Waste

At the Mount Milligan Mine for all hazardous waste materials, a contractor works closely with environmental staff to facilitate proper waste management and disposal of hazardous materials offsite in accordance with the B.C. Hazardous Waste Regulation (HWR) and federal Transportation of Dangerous Goods (TDG) regulations.

Kumtor has a Cyanide Management Plan that meets the requirements of the International Cyanide Management Code (ICMI) that covers transport, storage, use and disposal of cyanide. Kumtor is certified by the ICMI for transportation of cyanide from the Balykchy Marshalling Yard to the mine site, with its current certification expiring three years from December 18, 2018.

At the Öksüt Mine, hazardous wastes are temporarily stored on site in designated temporary storage areas and then disposed off site by a licensed contractor. Öksüt is expected to use cyanide in its operations. In 2020, Öksüt is expected to complete a cyanide code gap analysis and begin working towards full certification under ICMI.

Relevant Links and Policies

- [Centerra's Cyanide Code Certificates](#)
- [TSF Disclosure \(Aligned with the Church of England and Swedish Council of Ethics Information Requests\)](#)

2.6.2 Performance

In 2019, Mount Milligan generated 23.7Mt of waste rock. In 2019, Mount Milligan used 12.2Mt of mine rock waste for roads, dam building and backfill. In 2019, Mount Milligan generated 16.2Mt of tailings waste, compared to 13.5Mt in 2018, a 20% increase in tailings waste.

In 2019, approximately 3,430 tonnes of scrap metal was transported off site and recycled by a local partner. In addition, 10,695m³ of inert domestic and industrial waste was discharged to the on-site landfill – well below the authorized 25,500m³/year maximum.

In 2019, Kumtor generated 141.4Mt of waste rock compared to 171.6Mt in 2018.



In 2019, Kumtor generated 6,491.45t of industrial waste down from 7,927.5t in 2018, an 18% decrease⁹. In 2019, 100% of industrial waste was recycled.

In 2019, Kumtor generated 6Mm³ tonnes of tailings waste, a decrease from 6.3Mm³ tonnes in 2018, a 6% reduction in tailings generated. In 2019, the Kumtor Mine treated and discharged 5.9Mm³ of process wastewater compared to 4.5Mm³ tonnes in 2018, a 31% increase. We anticipate that our tailings disposal volume will stay consistent

in the near-term because production will remain consistent to previous years.

During 2019, Öksüt was in construction. The mine reached commercial production in 2020 but construction is still ongoing for 2020. In 2019, Öksüt did not generate mineral processing waste. All stacking mineral material for the Heap Leach Facility will be classified as mineral waste in the future, and so this metric will be available in future years.

Table 10. 2019 Total Waste Rock, Industrial and Tailings Waste Summary¹⁰

tonnes	Mount Milligan	Kumtor	Öksüt ¹¹
Total Waste Rock¹²	23,729,817	141,400,000	Not Available
Waste Rock Recycled	51%	0	Not Available
Total Industrial Waste	7,206	6,491.45	Not Available
Total Industrial Waste Recycled	34%	100%	Not Available
Total Tailings Waste	16,190,654	12,425,890	N/A
Recycled Tailings	0	0	N/A

Table 11. Tailings Classification System

	Canadian Dam Association Classification	MSHA Equivalency Classification
Kumtor	Very High	High Hazard Potential
Mount Milligan	Very High	Significant Hazard Potential
Kemess South	Very High	High Hazard Potential
Thompson Creek Mine¹³	Very High	High Hazard Potential
Endako #1¹³	High	High Hazard Potential
Endako #2¹³	High	High Hazard Potential
Endako #3¹³	Significant	High Hazard Potential

⁹At Kumtor, there are three major types of waste (not including waste rock and tailings) resulting from the mine operation: solid domestic waste, industrial and hazardous waste. Solid domestic waste includes food waste, various types of packaging, as well as other out of service household items. Industrial waste includes scrap metal, waste tires, plastic, waste oil and fluids, and other low hazard waste, generated in large volumes and subject to recycling and further use as a secondary raw material. Hazardous waste includes packaging materials, polypropylene bags and wooden boxes used for transportation of toxic agents, batteries, mercury lamps, medical waste and expired reagents. An important part of effective waste management is the accurate reading of waste generation.

¹⁰In future reporting years, Centerra will look to report fully against SASB's technical guidelines on mineral processing waste.

¹¹Öksüt does not have a TSF but a heap leach facility.

¹²Mount Milligan and Kumtor's mineral processing waste data includes only waste rock.

¹³Molybdenum property, currently on care and maintenance.

2.7 Biodiversity Impacts

2.7.1 Process to Manage Risks and Opportunities

1. Biodiversity Management and Regulatory Compliance

Kumtor and Öksüt have developed and maintain a biodiversity management plan which outlines their approach to managing biodiversity risks, including a governance framework, monitoring procedures and KPIs that performance is measured against. Mount Milligan has stand-alone topic-specific plans that together make up the main components of a biodiversity plan, including: wildlife management, environmental effects, fisheries management, cultural heritage plan, invasive plant management, landscape, receiving water quality, soil and vegetation management and reclamation and closure plan.

Each site reviews their biodiversity plans (“the Plans”) every one to five years to ensure the Plans continue to reflect the main risks and opportunities of each site. All sites have developed and implemented employee training programs on biodiversity awareness, management of biodiversity information and data, and procedures for documentation and record keeping, including annual regulatory and stakeholder reporting.

The Plans are developed in accordance with all applicable regulatory and permitting obligations

set out by the operating jurisdiction and good international industry practice (“GIIP”). At Öksüt, our biodiversity management plan exceeds Turkish regulatory requirements to meet EBRD performance requirements. These action plans detail how we conform with the mitigation hierarchy specifically to avoid, minimize, mitigate or compensate for significant adverse impacts on the environment relating to our activities.

To ensure the effectiveness of these Plans, each site has an environmental monitoring program. At Mount Milligan, biodiversity monitoring is managed by a combination of site teams and consultants. At Kumtor, biodiversity monitoring on botany, hydrobiology, birds and mammals is carried out by experts from the Institute of Biology and Pedology of the Kyrgyz Academy of Sciences. At Öksüt, during the construction phase, biodiversity monitoring was conducted collaboratively between the environmental team, external consultants and local universities and professors.

At all operating sites, biodiversity activities and programs are developed in collaboration with local communities, indigenous groups (if





applicable) and biodiversity experts, including botanists and ornithologists. At our project and operating sites in British Columbia, we engage relevant indigenous groups to incorporate Traditional Ecological Knowledge into our biodiversity, reclamation and environmental stewardship planning.

2. Protection of Endangered Species and Legally Designated and Key Biodiversity Areas

We neither explore nor will develop new mines in UNESCO-recognized World Heritage sites. In addition, we respect legally designated protected areas and areas designated as Key Biodiversity Areas, avoid negative impacts on threatened and protected species and also respect tangible cultural heritage. These commitments apply from exploration into operations and through to mine closure.

At Mount Milligan, Kumtor and Öksüt, we have instituted a formal screening process and checklist that is completed prior to the start of any exploration targets outside our permitted license area or areas within the permitted area that have been previously undisturbed. This ensures that any new exploration meets our environmental commitments and criteria.

At Mount Milligan, this process also includes a cultural heritage assessment involving provincial Heritage Act permit applications and field assessments. For exploration drilling projects at Mount Milligan, our exploration team completes internal Environmental Permit to Disturb applications, including an environmental risk assessment. The risk assessment considers environmental hazards and mitigation for all aspects of the project from start up to reclamation including spills, erosion, removal of brush and trees, archaeological assessment, bird nesting periods and other wildlife habitat considerations, and protection of natural waterways. The permit is reviewed and must be approved by the site's environmental team in advance of any work being undertaken and also to ensure any authorizations are applied for and in place, as required. Finally, all employees and contractors are trained in and provided awareness on the Mount Milligan Archaeological Chance Find Procedure to ensure proper protection of any culturally important discoveries during activities.

At Kumtor, this screening process is supervised by Kumtor's environmental team and is conducted in compliance with ICMM biodiversity standards.

At Öksüt, this process is compliant with EBRD and IFC biodiversity standards and completed collaboratively by the environmental team and third-party biodiversity consultants who perform flora, fauna and tangible cultural heritage studies and field assessments on determined work areas, new construction areas or planned exploration areas. Öksüt has a formalized EBRD-compliant Cultural Heritage Management plan and Chance Find Procedure that upholds the Turkish Law on Protection of Cultural and Natural Assets and includes working with Kayseri Museum and local archeological experts.

Öksüt's permitted mine area is significant for the conservation of species and, as such, we have established a no net loss objective. Specifically, to protect endangered plant species we have removed these plants and established an off-site greenhouse and will replant these species at the appropriate time. In addition, we have collected the seeds of these plants and have created a seed bank which will be used to plant new areas and restore affected areas.

To protect endangered and threatened species within or near our permitted area, we have comprehensive monitoring and protection programs across our sites. Activities may include:

- Defining corridors of movement and migratory patterns of key species, including through and/or near our permitted and exploration areas;
- Daily monitoring of all avian and mammalian wildlife on our TSF and its immediate surroundings;
- "No hunting" policies within our permitted area; and
- Recording the number of animals and birds in the permitted area.

At Kumtor, our operations are adjacent to the Sarychat-Ertash Nature Reserve (SCER). We have maintained a strict no-hunting policy in our permitted area which acts as a barrier to poachers. Through this initiative, the number of argali (mountain sheep), a near-threatened species, at the SCER has increased from 750 head to 2,500 over the years making this the largest population in the Kyrgyz Republic.



At Mount Milligan, a Fisheries Compensation Plan was developed and compensatory works were implemented between 2011 and 2017 to mitigate potential biodiversity losses. These works included:

- Enhancement of rearing habitat in Rainbow Creek through added complexity in the form of large woody debris and boulder structures;
- Construction of three ponds (Upper Rainbow Pond, Lower Rainbow Pond and Powerline Meadow Pond) to create overwintering habitat and additional rearing opportunities;
- Restoration and improvement of fish passage and trout spawning opportunities in the Unnamed Creek which connects Rainbow Creek and Powerline Meadow Pond; and
- Restoration of fish habitat in the Philip and Munro watersheds by replacing culverts with bridges.

The effectiveness of the compensatory works are reviewed regularly.

3. Actively Mitigate Risks Associated with Acid Rock Drainage

At our operating sites, we have metal leaching (ML) and acid rock drainage (ARD) monitoring programs. We have implemented management controls to identify, assess and minimize the risks of ARD and ML. Practices vary by site but may include:

- Segregation and separate handling of potentially acid generating (PAG) and non-acid generating rock (NAG);
- Containment of any contact water within the operation footprint; and
- Construction of permanent storage facilities that are located, designed and operated to prevent ARD and ML.



Mount Milligan has developed a comprehensive ML/ARD monitoring program over the life of mine. The program includes the interpretation of static and kinetic testing and characterization of waste rocks and tailings. The specific geochemical monitoring programs include:

- Blast hole sampling
- Kinetic field tests
- Levell stockpile sampling
- Sampling PAG waste rock placed within the TSF facility
- Tailings sampling
- In-pit post-blast waste sampling, and
- Waste rock placed within the downstream shell zone of the TSF embankment.

Through sample collection and acid-based accounting analyses, Mount Milligan uses geochemical data to assess the longer-term behaviour of the net acid generation potential of the different waste materials. If the results are not environmentally acceptable, the waste management plan will be adjusted accordingly to ensure that proper acid generation control and prevention methods are used and the mine is operating in an environmentally compatible manner. Waste material classifications are distinguished as NAG, PAG, oxide and overburden. These waste materials are segregated, handled differently and placed in specific locations throughout the TSF to optimize site water quality, to minimize metal leaching, and to prevent Acid Rock Drainage during both the operational and closure phases of the project.

At Öksüt, the volume of contact water generated on site has been limited by rigorously separating non-contact from contact water flows. In addition, the location of diversion channels for non-contact water will be adjusted during mine life as the size of the mine facilities increases. All contact waters are contained within the storage ponds on site to maintain the operation's status as a zero-discharge operation and to avoid environmental impacts. All contact water pond projects have been approved by the Ministry of Environment and Urbanization. In addition, Öksüt has comprehensive monitoring and measurement procedures in place, including monthly reporting to manage the ARD risks. If any seepage risk is identified, additional actions will be taken according to related procedures and legislation

4. Mine Closure and Progressive Reclamation

We plan how we are going to reclaim the areas we mine before we start construction. In some cases, we reclaim at the same time as we extract to expedite the process. After mining has permanently ceased, we reclaim or continue to reclaim the site and monitor the land.

All our operations and care and maintenance sites have closure plans or frameworks in place, depending on their current stage of operations. We adopt a strict regime for mine closure including annual mine cost updates and we review our conceptual closure plans on a regular cycle to include both environmental and social impacts of closure. We align with the International Council on Mining and Metals (ICMM) Mine Closure framework.

At Kumtor, a trust fund has been set up for final reclamation measures. The reclamation trust fund is restricted for use and controlled by an independent trustee. We annually contribute funds to the Kumtor Mine reclamation trust fund based on projected gold production in the year. As at December 31, 2019, the balance in the fund was \$40.9 million. As part of a settlement reached with the Kyrgyz Government, the Kumtor Mine agreed to assume a total reclamation cost of at least \$69 million when determining its contributions to the reclamation trust fund and to contribute at least \$6 million per year.

For our operations in North America, as at December 31, 2019, we provide financial assurance (surety bonds) for reclamation costs of approximately C\$45.1 million for the Mount Milligan Mine. Financial assurance is reviewed and adjusted on five-year cycles by external consultants and verified internally. For the Öksüt Mine in Turkey, we provided financial assurances for reclamation costs of approximately \$1.44 million.

We also regularly update our final closure plans to reflect any changes in operations. Our standards for reclamation comply with both local and international standards. In 2019, Kumtor updated its Conceptual Closure Plan.

Progressive Reclamation at Mount Milligan

At Mount Milligan, our end land use objective is to restore the area to be capable of supporting wildlife, recreation and traditional uses by First Nations.

In 2019, we completed reclamation work on approximately four hectares of the south facing slope of the tailings dam. During the 2019 growing season, Twin Sisters Native Plant Nursery, of Moberly Lake, B.C., grew about 5,040 Sitka alder and 2,000 fireweed seedlings for planting in a portion of the tailings dam slope in 2020. The remaining portion was allocated towards the reclamation

trial area. Reclamation research trials began in 2019 with the spring planting of willow stakes in 12 plots across three trial blocks and the measurement of stake survival following the first growing season.

As part of Mount Milligan's five-year reclamation plan, ongoing collaboration with First Nations groups on research trials will continue, with the focus being on species selection for continued seeding and sampling of native species, surface preparation and treatments, and follow-up effectiveness monitoring.

2.7.2 Performance

At Mount Milligan, acid rock drainage is predicted to occur and is thus being actively mitigated. In 2019, as part of our mitigation measures, we placed 13,542,769 tonnes of PAG within the TSF. Ultimately in 2019, a total of 89,414 tonnes of PAG waste rock was incorrectly categorized as NAG waste rock, most likely due to a data capture error. This error was noticed quickly and will be corrected in 2020.

To prevent PAG material from being placed in the downstream embankment of the TSF, a number of corrective actions have taken place and will continue. For example, the data entry

and interpolation of acid-based accounting (ABA) results is independently reviewed by geology personnel on each of the two opposite crews to identify any errors and ensure consistency. Additionally, the geology department conducts a monthly confirmation sampling program with reviews of waste and ore cuts and relies on the MineStar tracking system to ensure that only NAG waste blocks are placed in the downstream embankment of the TSF.

At Kumtor, technical assessments have determined that the site has a low probability for metal leaching and acid rock drainage. At Öksüt, acid rock drainage is predicted to ultimately occur and is thus being actively mitigated.

Table 12. Acid Rock Drainage

	Mount Milligan	Kumtor	Öksüt	Percentage of Mine Sites
Predicted to Occur	Yes	No	Yes	66%
Actively Mitigate	Yes	No	Yes	66%
Under Treatment or Remediation	No	No	No	0%



Centerra's mineral reserves at its Kumtor Mine and Öksüt Mine are in or near sites with protected conservation status or an endangered species habitat. The Mount Milligan Mine's

mineral reserves are not in or near a site with protected conservation status or an endangered species habitat.¹⁴

Table 13. Total Gold Mineral Reserves and Biodiversity

	Proven			Probable			Total Proven and Probable		
	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)
Total mineral reserves in or near sites with protected conservation status or endangered species habitat	17,352		981	55,305	1.97	3,507	72,567		4,488
Total mineral reserves	132,105	0.59	2,506	131,580	1.04	4,389	263,685	0.81	6,895
% of mineral reserves in or near sites with protected conservation status or endangered species habitat	13%			42%			28%		

¹⁴Canada's [Species at Risk Act](#) lists the species in Canada which are extirpated, endangered or threatened species or a species of special concern.



3. Social

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3. Social

We are committed to creating and sharing economic value in the countries and communities where we operate.

Why is this Important to Centerra?

Stakeholder engagement, community investment, and local content (local hiring and local procurement) strategies are critical to securing and maintaining our social license to operate in our local communities.

Losing or damaging our social license to operate, through human rights, health and safety or labour violations, would result in increasingly challenging operating conditions. In the most severe circumstances, social risks could result in a complete shutdown of operations, or delays/ disruptions in production due to community and local stakeholder opposition. Other social risks include decreased employee engagement and morale and reputational damage, which could result in increased operational expenses, liabilities and loss of goodwill.

Our Approach

Our approach considers both direct and indirect economic benefits to the communities in which we operate. Economic value may include direct contributions to national and regional governments through taxes and mandatory payments, employee wages, purchases of local goods and services, and community development programs. Our activities also contribute indirectly and create positive

multiplier effects to local socio-economic development through improvements to local infrastructure and community health and wellbeing.

Each site's activities and focus areas are determined by:

1. Findings of third-party social impact assessments (SIAs) during project permitting and/or the development of conceptual closure plans;
2. Stakeholder, community and indigenous group engagement and formal agreements including Impact Benefit or Socio-Economic Agreements;
3. Regulatory requirements in the jurisdictions where we operate;
4. Social performance requirements set out by financiers such as the European Bank for Reconstruction and Development (EBRD) and the International Finance Corporation (IFC);
5. International frameworks Centerra has adopted including the World Gold Council's *Responsible Gold Mining Principles* and the *Voluntary Principles on Security and Human Rights* and standards we seek general alignment against, including those developed by the International Council on Mining and Metals (ICMM).

Links to Relevant Policies and Procedures

- Centerra's Employee Code of Ethics
- Centerra's Health & Safety Policy
- Centerra's Corporate Supplier Code of Conduct
- Mount Milligan First Nations Policy
- Kumtor's Local Procurement Policy





3.1 Security, Human Rights and Rights of Indigenous Peoples

3.1.1 Process to manage risks and opportunities

Our approach to human rights is in alignment with the UN's *Universal Declaration of Human Rights*, the UN's *Voluntary Principles on Security and Human Rights*, and the UN's *Guiding Principles on Business and Human Rights* and starts with internal policy setting and employee training. We believe that respecting and upholding human rights is fundamental to achieving our purpose of creating a positive legacy in the communities and regions where we operate.

1. Upholding Employee Rights

Centerra is committed to meeting all regulatory labour requirements in the jurisdictions where we operate, as well as the fundamental labour rights set out by the *International Labour Organization's (ILO) Declaration on Fundamental Principles and Rights at Work*.

We respect our employees' right to earn minimum and fair wages, work decent hours, freedom of association and work in an environment where all forms of forced or compulsory labour is eliminated, equal opportunities are promoted and safe working conditions exist. We strictly prohibit any forms of child labour.

We are firmly committed to eliminating and taking prompt remediation against any and all forms of discrimination or harassment that are identified.

We prohibit discrimination and harassment on any grounds, including a person's sex, age, race, national or ethnic origin, ancestry, place of origin, citizenship, creed/religion, colour, disability, marital status, family status, sexual orientation, gender identity, gender expression, or conviction for which a pardon has been granted.

Our *Employee Code of Ethics* sets out expectations for employees around compliance with laws respecting non-discrimination, harassment and ensuring a safe workplace. Employees may report concerns to their Manager or regional Human Resources lead, if preferred. Alternatively, employees and any

third parties with concerns around a potential infringement of employee rights have three mechanisms in which to report concerns in a confidential or anonymous manner. *More information on mechanisms to report concerns can be found in Section 1.1.3 Business Ethics and Transparency.*

Our expectations extend beyond our employees and also include all our suppliers. Centerra's suppliers must comply with all applicable employment standards including labour, non-discrimination and human rights laws relating to, without limitation, wages, working hours, conditions and prohibition on child labour.

2. Security and Human Rights Training

Centerra's security practices are aligned to the UN's *Voluntary Principles on Security and Human Rights (VPSHR)* and the *UN Guiding Principles on Business and Human Rights*, including the articles set forth in the UN's *Universal Declaration of Human Rights*.

To ensure the VPSHRs are adhered to, security and community relations personnel across our operating sites receive training on these principles which involves a mixture of classroom training and knowledge checks. VPSHR training is provided to both employees and private security contractors.

The classroom training emphasizes the 'Protect, Respect, Remedy' framework highlighted in the UN Guiding Principles. The primary role of Centerra's security team is to maintain the rule of law and safeguard human rights while deterring acts that threaten the safety of company personnel and assets. During the training, we stress that all people have fundamental rights to freedom, equality, justice and dignity and that our security team have a proactive duty to respect individual human rights and cannot knowingly or intentionally fail to act when a human rights violation is reported or observed.

Where necessary, other specific training may be provided to teams, including awareness on:

- Appropriate conduct, rules of engagement and the *use of force* continuum all based on internationally recognized law enforcement protocols such as the UN's **Code of Conduct for Law Enforcement Officials** and the UN's **Basic Principles on the Use of Force and Firearms by Law Enforcement Officials**; and
- Basic conflict resolution techniques.

In addition to VPSHR training, we have implemented strict security operating procedures at sites to ensure community safety, including:

- Only hiring appropriately qualified and licensed security contractor;
- Conducting reference checks to ensure candidates do not have criminal records, a record of abuse or violation of human rights;
- Restricting possession of firearms and lethal ammunition on our sites, unless legally required; and
- Ongoing security contractor performance assessments.

Communities of interest, project-impacted stakeholders and relevant indigenous groups have access to our community-based grievance mechanism to raise a grievance about any security-related (or other) behaviour not aligned with the VPSHRs.

3. Community-Accessible Feedback and Grievance Mechanisms

Centerra's community relations teams at each site monitor, track and evaluate engagement activities by documenting and reviewing all feedback and grievances received through community meetings, community offices, company and community events, conference presentations, phone or email.

We have developed accessible community-based mechanisms through which our stakeholders can provide feedback and raise grievances.

Centerra's *Grievance Management & Resolution Standard* ("the Standard") provides a framework for our teams to define effective remedy for both collective and individual community grievances. The grievance mechanism can be used by all individual local stakeholders and groups at any stage of our operations or related activities, including exploration, operation, care and maintenance and closure.

The Standard provides a framework for communication at each stage of the grievance submission between Centerra and the complainant. This creates transparency and predictability throughout the entire process.

The grievance mechanism is built on nine key pillars that have been adapted from the effectiveness criteria included in the UN's *Guiding Principles on Business & Human Rights: Implementing the United Nations 'Protect, Respect, and Remedy' Framework*:

- **Legitimacy:** Stakeholders must view the mechanism as legitimate and trust that it is accountable.
- **Engagement and dialogue:** Local stakeholders are involved in the design of the mechanism to ensure it is acceptable, respectful of local cultural and religious norms and inclusive of local and customary decision-making processes.
- **Proportionality:** Tailored to fit the scale of the project or operation, the severity of the potential adverse impacts, the likely frequency / seriousness of potential complaints, community confidence in the national legal system and extent of any historic negative legacies.
- **Accessibility:** Mechanism is straightforward and easy for community members to access with no cost, in the local language, and publicized through culturally appropriate channels.
- **Equitability** for vulnerable groups and genders.
- **Predictability:** Provides a clear and known timeframe for each stage and clarity on the types of mechanisms and outcomes that can and cannot be offered.
- **Transparency:** The process (especially the receipt of complaints) and the key elements of outcomes must have sufficient transparency to meet our stakeholder concerns and expectations.
- **Compatible** with international human rights.
- **Continuous improvement:** Regular monitoring of the grievance mechanism and its outcomes, particularly of trends and patterns, is critical to ensuring we identify systemic problems and adapt our practices accordingly.



We recognize that grievances may be the indication of more systematic or deep-rooted issues. Our grievance mechanism is an opportunity for us to address and resolve concerns and issues before they escalate, in addition to promoting mutual confidence and trust with local stakeholders and groups and strengthening our credibility.

Both corporate and site senior management are responsible for reviewing the grievance register regularly to ensure proper and timely respect and redress is being provided to communities.

4. Benefit Sharing Agreements with Indigenous Groups

There are no recognized Indigenous Peoples or Indigenous Land in or near our permitted mine areas at Kumtor or Öksüt.

Mount Milligan is located within the territories of a number of indigenous groups. We work in partnership and close cooperation with Indigenous Peoples to ensure effective representation and input of indigenous groups on our proposed activities. This process starts during the exploration stage and is often formalized during project development when Impact Benefit Agreements (IBAs) or Socio-Economic Agreements are defined. We have a Socio-Economic Agreement signed with McLeod Lake Indian Band and an Impact Benefit Agreement was entered into with Nak'azdli Whut'en.

We have developed principles of engagement with Indigenous peoples that are guided by several international standards and conventions.

Our engagement principles include:

- Building respectful relationships through early, inclusive dialogue and collaborative engagement processes;
- Integrating information from the results of indigenous engagement to inform our management plans, in consideration of cultural heritage and environmental stewardship, and request indigenous groups to review our plans;
- Supporting initiatives that provide indigenous groups with benefits for them resulting from our operations, including opportunities in training and education;

- Fair access to employment, procurement, business development, and community development; and
- Timely and proactive engagement occurs with all Indigenous Peoples that may be affected by our operations or activities in British Columbia, often above and beyond government-led consultation.

In 2019, Mount Milligan continued implementing its Pre-Employment Training and Education Readiness (PETER) program in partnership with McLeod Lake Indian Band, Nak'azdli Whut'en, and the College of New Caledonia. The program ran successfully in both 2018 and 2019. In 2019, six PETER graduates were offered twelve-month work terms at Mount Milligan.

Additionally, in 2019, Mount Milligan launched a Mining Experience (MiningX) pilot program for local high school students. The program consisted of a mining education component that focused on mining awareness and building relevant skills such as safety, leadership and interpersonal skills, and followed by a summer work placement at the mine.

- Over the course of the 2019-2020 school year [September to June], six grade 12 students from two of the mine's local communities participated in MiningX
- Students undertook eight mining-related training modules, which covered topics such as Mining 101 (including a site visit to Mount Milligan), career exploration and job preparedness, fire safety, occupational first aid level 1, bear aware, environmental monitoring, and mental health and awareness.

5. Conflict-Free Gold

We have completed a human rights assessment in line with the World Gold Council's *Conflict Free Gold Standard* for our Kumtor operations. The conclusions of our assessment were independently verified by KPMG in 2014 and, from our assessment, remain unchanged. We continuously monitor our operations for indicators of human rights violations and our assessment has indicated that there have been no changes to our conflict-free status in Kumtor.

In line with our commitment to the *Responsible Gold Mining Principles*, we will aim to develop a formal human rights risk assessment framework before 2022.

3.1.2 Performance

During 2019, neither our Mount Milligan nor Kumtor mineral reserves were in or near areas of conflict.

As of 2019, Turkey is the only country of our three operating jurisdictions with active conflict¹⁵. Our Öksüt project is in Central

Anatolia, Turkey. In 2019, there was an active conflict with Syria near the Turkish-Syrian border. This conflict was contained along the Turkish borders with Syria which is not proximate to our mineral reserves at the Öksüt mine. As such, it is not reasonably expected that these conflicts will impact our Turkish operations at Öksüt.

Table 14: Total Gold Mineral Reserves and Active Conflict¹⁶

	Proven			Probable			Total Proven and Probable		
	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)
Total mineral reserves in or near areas of conflict	0			0			0		
Total mineral reserves	132,105	0.59	2,506	131,580	1.04	4,389	263,685	0.81	6,895
% of mineral reserves in or near areas of conflict	0%			0%			0%		

Table 15: Copper Mineral Reserves and Active Conflict¹⁷

	Proven			Probable			Total Proven and Probable		
	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)
Total mineral reserves in or near areas of conflict	0			0			0		
Total mineral reserves	114,753	0.23	571	76,275	0.23	389	191,028	0.23	959
% of mineral reserves in or near areas of conflict	0%			0%			0%		

¹⁵According to the Uppsala Conflict Data Program's definition a "conflict, both state-based and non-state, is deemed to be active if there are at least 25 battle-related deaths per calendar year in one of the conflict's dyads".

¹⁶Table 14 only represents the total gold mineral reserves at Mount Milligan, Kumtor and Öksüt.

¹⁷Table 15 only represents the total copper mineral reserves at Mount Milligan. **51**



During 2019, neither our Kumtor or Öksüt mineral reserves were in or near Indigenous Lands. At Mount Milligan, 100% of our mineral reserves are situated on recognized Indigenous Lands.

Table 16: Total Gold Mineral Reserves and Indigenous Land¹⁸

	Proven			Probable			Total Proven and Probable		
	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)
Total mineral reserves in or near Indigenous Land	114,735	0.41	1,525	76,275	0.36	882	191,028	0.39	2,407
Total mineral reserves	132,105	0.59	2,506	131,580		4,389	263,685		6,895
% of mineral reserves in Indigenous Land	87%			58%			72%		

Mount Milligan's operations are located within the traditional territories of McLeod Lake Indian Band, Nak'azdli Whut'en and Takla Nation. In 2019, we maintained strong indigenous relations through engagement and strategic community investment.

Table 17: Total Copper Mineral Reserves and Indigenous Land¹⁹

	Proven			Probable			Total Proven and Probable		
	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)	Tonnes (kt)	Grade (g/t)	Contained Gold (koz)
Total mineral reserves in or near Indigenous Land	114,753			76,275			191,028		
Total mineral reserves	114,753	0.23	571	76,275	0.23	389	191,028	0.23	959
% of mineral reserves in Indigenous Land	100%			100%			100%		

¹⁸Table 16 only represents the total gold mineral reserves at Mount Milligan, Kumtor and Öksüt.

¹⁹Table 17 only represents the copper mineral reserves at Mount Milligan.

Voluntary Principles on Security and Human Rights (VPSHR)

In 2019, Mount Milligan completed its inaugural VPSHR training for 25% of its security personnel at Mount Milligan. It is expected that the remaining security personnel will receive training once COVID-19 restrictions are lifted.

In 2019, Kumtor completed VPSHR training for 10% of its security personnel. This training was focused on new employees who did not receive the training in

2018 (100% of security personnel completed VPSHR training in 2018). In addition, in 2019, 20 private security contractors received training on the VPSHR representing 100% of Kumtor's security contractors. In addition to VPSHR training, we had collaborative sessions with public law enforcement personnel on the changes to the Criminal Procedure Administrative Codes of the Kyrgyz Republic – establishing clear human rights protocols in any security interactions with community members.

Öksüt is expected to complete VPSHR training upon the commencement of production.

Table 18: 2019 Training on Voluntary Principles on Security and Human Rights (VPSHR)

Site/ Location	Session details		Total number of participants in security training			Percentage of security personnel trained in 2019
	Number of sessions conducted	Total duration all sessions (hours)	Employees	Private security contractors	Public security/law enforcement personnel	
Kumtor	2	6	12	20	0	10%
Mount Milligan	1	8	2	3	0	25%
Öksüt	0	0	0	0	0	0

3.2 Labour Relations

3.2.1 Process to Manage Risks and Opportunities

Our people are our most important asset. Strong employee engagement and morale decreases employee turnover, absenteeism and increases productivity. We believe strong employee engagement also helps foster a culture of innovation and creative decision making, allowing us to identify new solutions to creating long-term value.

Labour Management

1. Compliance with Employee Rights

Centerra is committed to complying with the fundamental labour rights set out by the International Labour Organization's (ILO) Declaration on Fundamental Principles and Rights at Work.

This includes an employee's right to form and join organizations of their choosing (freedom of association) and bargain collectively with their employer through an elected representative that the employee and their co-workers choose.

In 2019, Centerra had three sites with collective bargaining agreements (CBAs), namely Kumtor,

Kemess Underground and the Langeloth Metallurgical Facility. Table 19 presents a list of collective bargaining agreements covering unionized employees across our operating jurisdictions.

Table 19. Collective Bargaining Agreements by Jurisdiction

Location	Expiry Date
Kumtor	December 31, 2020
Kemess Underground Project	December 31, 2020
Langeloth Metallurgical Facility	March 11, 2019 ²⁰

2. Consultation and Advance Notice Periods

We commit to disclosing significant operational changes to our employees in a timely manner. Specific advance notice periods vary by contract and region.

In the event of significant operational changes, sites with collective bargaining agreements will provide consultation to employees on matters affecting or related to the workforce such as schedule or rotation changes. In the event of a policy introduction or revision related to the workforce, the site will actively engage with those affected employees.

²⁰Langeloth Metallurgical Facility agreed to an extension until June 11, 2019.





Each site's CBA outlines the required written notification period that must be provided in advance of certain changes taking place. These notifications range between 30 and 90 days as defined within their specific agreements.

Human Capital Management

1. Creating a People First Culture and Fostering Internal Talent

To facilitate and encourage employee engagement, retention and on-the-job success, Centerra places a significant focus on the growth and development of its employees. Throughout the year, managers take action to provide meaningful feedback through informal measures to help guide successful job performance and behaviour modelling aligned to Centerra's goals and values. Currently, employees receive formal performance reviews from their immediate manager. These reviews serve as an opportunity for employees and managers to collaboratively discuss employee strengths, opportunities for improvement and to craft forward-looking development plans that include stretch assignments or supplementary education and training opportunities that may be of benefit to the employee.

Centerra supports employee development through an integrated talent management program based on organizational needs, employee development goals, and performance management objectives. This new program will utilize blended learning opportunities wherever possible, including classroom, virtual and self-directed learning opportunities delivered by internal facilitators and external subject matter experts as appropriate. Centerra's support for employee development includes providing financial assistance and job-protected leave for employees who wish to obtain higher education, in addition to mentorship programs and overseas secondment opportunities.

In 2019, Centerra completed its first Great Place to Work Survey which had a global participation rate of 77%. Of the respondents, 87% of employees felt that Centerra was "a great place to work." As this survey provides Centerra with just a snapshot in time, we recognize the need for continuous improvement through regular feedback and pulse checks with staff.

We have adopted a "think global-act local" approach to employee engagement. Our sites have taken concrete action to improve employee engagement and have identified the following priorities, which formed the basis of our 2020-2021 Engagement Roadmap:

recognition, collaboration, empowerment, and communication. To date, we have seen improvements made across various locations to a variety of programs, including but not limited to, quarterly bonus systems, townhall meetings and other forms of information-sharing, wellness and mental health initiatives, performance appraisal processes, and service award programs.

2. Supporting Employees through Compensation and Benefits

We understand the importance of paying a fair wage to our employees and are committed to doing so. In many of the jurisdictions where we operate, our standard entry level wage is greater than the minimum wage set by the state or country. Importantly, there is no variance between our entry-level wages between men and women.

Centerra provides its employees with numerous financial, health and wellbeing benefits. Employees are eligible for discretionary and performance-based annual incentives, are entitled to receive dental and health benefits, paid vacation time, and can participate in the Employee Share Purchase Plan (ESPP).

Regional benefits include:

- Fitness reimbursements and gym memberships
- Allowances for the celebration of professional and personal employee milestones
- Allowances for funeral-related costs
- Home improvement loans
- Contribution towards a retirement savings plan with company match

3. Diversity and Inclusion

Centerra is actively pursuing initiatives within our Diversity and Inclusion (D&I) strategy to identify, assess and eliminate any barriers to recruitment, training, development and advancement opportunities, performance management and promotion practices and succession planning that could adversely affect employees because of their visible or invisible diversity.

We track human capital metrics by gender, age, region, and employment category, among other characteristics, to help us identify and rectify discrepancies.

We recognize that the under-representation of women, Indigenous Peoples, minorities and persons with disabilities in senior mining roles is an issue for the industry globally and that to counter this, we must take concrete steps to create policies and systems conducive to fostering inclusion.



GOVERNANCE



ENVIRONMENT



SOCIAL

As part of our D&I Strategy, Centerra Gold will undertake the process of evaluating all policies and processes that may contribute to unintentional systemic bias issues and takes action to remedy deficiencies so as to prevent gender pay issues and other inequities, in line with our commitment to the *Responsible Gold Mining Principles*.

In 2019, 27% of our female workforce completed Centerra's female leadership program *Leading from Within*. The Program, developed in collaboration with the European Bank for Reconstruction and Development, focused on strengthening women's leadership skills in four key areas: knowing your worth, communicating authentically, making connections and standing strong.

Creating an inclusive culture is fundamental to our success and is a continuous journey.

3.2.2 Performance

Labour Relations

At the end of 2019, Centerra's global workforce comprised a total of 3,633 employees (3,203 permanent and 430 temporary), a decrease of 1% in total employees from the end of 2018.

In 2019, approximately 74% of our workforce was a member of a union or participated in a collective bargaining agreement. The Kumtor mine is unionized and all of our national employees in the Kyrgyz Republic are subject to our collective agreement with the Trade Union Committee. At Kumtor, approximately 98.5% of employees are Kyrgyz citizens.

In 2019, the Langeloth Metallurgical Facility had 123 employees. On September 9, 2019 following the expiration of the site's collective bargaining agreement earlier in the year, workers went on strike. As of December 31, 2019, no significant disruptions or impact to operations at Langeloth or deliveries to customers resulted from the strike. On January 2020, 77 replacement workers were hired. We do not expect operations or deliveries to customers to be impacted in 2020 as a result of the ongoing strike.

We aim to create a workplace that attracts and retains high-quality talent, protects workers' rights, offers an inclusive and respectful environment, and champions employee experiences and development.



Table 20. Collective Bargaining: 3 Year Summary

# of employees covered under a collective bargaining agreement	2019	2018	2017
Total employees	2687	2702	2722
% of employees	74%	75%	78%

Table 21. Worker Lockouts: 3 Year Summary

	2019		2018		2017	
	Number of Strikes	Cumulative Duration (Days)	Number of Strikes	Cumulative Duration (Days)	Number of Strikes	Cumulative Duration (Days)
Canada	0	0	0	0	0	0
Turkey	N/A					
Kyrgyz Republic	0	0	0	0	0	0
USA	1	113	0	0	0	0
Total number of strikes	1		0		0	
Total number of days		Ongoing		0		0

Human Capital Management

In 2019, our standard entry level wage at Kumtor was 10x more than the national minimum wage and across British Columbia, Canada it was 2x more than the provincial minimum wage.

In 2019, 77% of female employees and 70% of male employees received a performance and/or career development review. In 2019, women received an average of 26 hours of training and men received 38 hours. This discrepancy is attributed to the different job-specific training requirements that are required by Centerra. Specifically, there are increased training

requirements at our mine sites which have a greater proportion of male employees.

Refer to Section 2.1.2 for more information on our pre-employment training programs in British Columbia.

In 2019, our global workforce comprised 482 female employees, versus 456 female employees in 2018 – an increase of 5.8% year-over-year. In 2019, women represented 24.3% of our new hires which included one senior management team addition.

Table 22. 2019 Female Representation across Centerra

	Centerra ²¹	Canada (Average across Mining Industry) ²²
Number of female employees	482	N/A
Female representation (%)	13.3	14

Table 23. 2019 Indigenous Representation across our B.C. Operations

%	Centerra ²³	Canada (Average across Mining Industry) ²⁴
Indigenous representation (%)	16.2	12

²¹These numbers are based on self-identification by employees

²²<https://www.nrcan.gc.ca/maps-tools-publications/publications/minerals-mining-publications/minerals-sector-employment/16739>

²³These numbers are based on self-identification by employees

²⁴<https://www.nrcan.gc.ca/our-natural-resources/minerals-mining/minerals-and-economy/20529#indigenous>

**Table 24. Entry Level Wage Compared to Local Minimum Wage by Gender²⁵**

	2019		2018		2017	
	Female	Male	Female	Male	Female	Male
Canada	2:1	2:1	2:1	2:1	2:1	2:1
Turkey	1:1	1:1	1:1	1:1	1:1	1:1
Kyrgyzstan	10:1	10:1	10:1	10:1	13:1	13:1

Table 25. Total Employee Turnover

	2019	2018	2017
Total # of employees whose employment with Centerra ended	291	253	241
Total # of employees who resigned voluntarily	202	180	195
% of employee turnover	9.11%	7.62%	7.69%

3.3 Community Relations

3.3.1 Process to Manage Risks and Opportunities

Key community stakeholders and groups are identified through both formal and informal mapping exercises. Stakeholder identification processes may be undertaken during the Environmental-Social Impact Assessment process, the development of Community Development Plans and Stakeholder Engagement Strategies and verified again during closure planning.

1. Proactive Stakeholder Engagement

We are accountable to our stakeholders for their concerns, issues and expectations and continuously listen, learn, share and receive constructive feedback and comments regarding our mining activities. We manage community-related feedback and potential risks before they become grievances and lead to operational disruptions. Our stakeholder engagement processes ensures that stakeholders and project-impacted indigenous groups are informed about our current activities and future plans.

Our stakeholder engagement and community investment efforts are led by our site community relations teams, often consisting of individuals from local or nearby communities who understand regional nuances and community needs. Stakeholder identification and mapping begins during exploration and is a continuous process which is regularly undertaken through to mine closure.

Our internal *Stakeholder Engagement Toolkit* provides best practices to teams to guide timely and effective engagement. These Principles ensure that:

- Issues are identified as early as possible to allow for proactive management
- Community investment activities are aligned with the needs, plans and actions undertaken by local organizations and municipalities
- Meaningful input on Company activities and projects is made possible
- Collaborative solutions to problems are identified and implemented
- Feedback on proposed and/or implemented activities is received within a useful timeframe, and used to enhance and modify our actions

Our Stakeholder Engagement Toolkit is aligned with the principles set out by the ICMM and the IFC. Engagement tools depend on the stage of the project and the requirements of the community but may include one-on-one meetings, community townhalls, website/ newsletter communication, mine site visits, and media.

We develop region-specific Community Development Plans (CDP) in collaboration with our regional committees where they exist. Committees often comprise local authorities, heads of village councils or indigenous group representatives, and civil society organizations.

²⁵Entry Level Wages are calculated using the average hourly starting wage at each site compared to the legislated minimum wage in the respective region.

During the exploration stage, engagement is guided by our *Exploration Community Relations Standard* which provides best practices to our teams in alignment with the IFC, ICMM and EBRD.

At Öksüt, we undertook an extensive stakeholder identification and engagement process as part of the development of a socio-economic baseline study for settlements within the project area. At Mount Milligan, community engagement is ongoing through the continued operation of the Community Sustainability Committee (CSC). The CSC comprises representatives from the communities of Mackenzie, Fort St. James, Vanderhoof and Prince George, and indigenous groups of McLeod Lake Indian Band, and the Nak'azdli Whut'en First Nations. The CSC is mandated to provide input and feedback on Mount Milligan's activities and social commitments.

At Kumtor, community investment decisions are made with the members of each of our three regional committees which comprise local authorities, heads of village councils, civil society representatives and members of different unions. At committee meetings,

Kumtor defines the scope of future investment projects in collaboration with committee members. Meetings occur on a quarterly basis.

In addition to formal engagement opportunities, community members are encouraged to visit our regional community offices if they have inquiries or to provide project feedback. Our regional community offices are staffed with community relations officers or elected project representatives who are able to provide timely and accurate information to local communities on the project.

We regularly organize mine site visits for local communities, indigenous groups, local regulatory authorities and partner organizations, as well as teachers and students from various educational Institutions. During the site tour, visitors have the opportunity to meet with personnel from different departments and learn about the site's employment and training initiatives, environmental management, health and safety programs and community partnerships.

Inclusion of Vulnerable Groups

To ensure our stakeholder engagement activities are inclusive, we are mindful of representation by women, minorities and other vulnerable groups. Vulnerable groups can be defined as single-headed households, people with disabilities, refugees, marginalised ethnic groups, or other at-risk groups caused by disparities in physical, economic, and social health status.

In 2019, we undertook community perception studies as part of the development of the Kumtor Conceptual Closure Plan. These community perception studies consisted of 400 households across 16 villages in four regions. Community stakeholders with a specific focus on women were engaged, including the disabled, elderly, youth, and the illiterate. The goal was to understand how the withdrawal of mine provisions including local employment, contracts, procurement, infrastructure, social services and Kumtor supported community projects would impact the communities' economic and social wellbeing and what management measures had to be implemented to mitigate these negative effects after mine closure.





3. Strategic Community Investment and Local Content Strategies

Across our operations we support strategic community investment by working closely with private enterprises and community-based organizations in our operating regions to build up the capacity of local small-medium sized businesses (SMEs) and minimize long-term community dependence on the mining project.

Community investments decisions are undertaken in collaboration with local communities, stakeholders and Indigenous Groups, as described in Section 3.2.1.

At Mount Milligan, in addition to providing input on mine activities and updates on community developments, a primary responsibility of the CSC since 2016 has been allocating the funding provided through the Mount Milligan Community Project Fund. The Mount Milligan Community Project Fund provides one-time grants up to C\$10,000 to support local community-based organizations working to build capacity in one or more of the following priority areas: education and training, health, environment, community (including economic development) and literacy.

Mount Milligan also enters into strategic partnerships, contributing to multi-year funding to local education and environmental initiatives. In 2018, Mount Milligan committed to three years of funding totalling C\$45,000 to support a joint initiative between the local school district and the University of Northern British Columbia to create an interactive, geospatial watershed portal and a series of co-learning activities for students, educators and researchers, including over 13 participating indigenous groups.

Mount Milligan also awards over C\$15,000 in academic bursaries to local high school graduates each year.

At Kumtor, strategic investment is directed into four main areas: business growth and diversification (especially small businesses and entrepreneurs), development of the agricultural sector; youth and educational projects and environmental protection projects. The aim of our strategic community investment is to promote and develop a more diverse economy that will not be overly reliant on Kumtor. We work in partnership with a number of international and local organizations to maximize the impact of our community investments.

In addition to projects that are organized and administered by Kumtor, we also financially support local community-owned projects. These local projects are initiated, owned and administered by local communities and are undertaken in collaboration with local authorities, local NGOs and youth groups. These projects specifically are aimed at creating a collective benefit for the community and focus on developing local infrastructure, social initiatives, sports and youth, as well as supporting vulnerable groups.

At Öksüt, strategic investment is directed into eight key focus areas: community health, educational support, sustainable income opportunities, infrastructure improvement, supporting cultural and artistic activities, supporting sports activities projects, donations, and livelihood restoration projects. Our livelihood restoration projects are focused on providing access to water sources for



shepherds, creating access roads to the pasture lands, regional livelihood support projects, supplying agricultural equipment and supporting alternative feed production. Ongoing projects include, but are not limited to, community health, sustainable income opportunities and infrastructure improvement. For example, income-generating activities are promoted by supporting alternative occupations

for disadvantaged groups, women and farmers. Projects are carried out in cooperation with local governments, local non-governmental organizations and target groups. Projects are implemented with the financial and technical contributions of these stakeholders.

Community Engagement and Strategic Community Investment

At Mount Milligan, we hosted six community mine tours in 2019 that saw over 80 visitors to the mine site. In addition, we provided funds in excess of C\$50,000 to support youth sports teams, arts organizations, health and education-focused initiatives and recreation clubs in our local communities. In addition, each year Mount Milligan Mine sponsors a number of community education and training programs through the local community college, such as First Aid certification and computer skills upgrading classes.

Since 2016, our Kumtor project has collaborated with the Japanese International Cooperation Agency on their 'One Village, One Product' (OVOP) initiative. In 2019, we provided financial resources to establish eight felt workshops in the Issyk-Kul region. The felt goods produced help provide livelihoods for 1,462 community members, predominantly women who worked in felt goods production and earned between \$100 - \$300 monthly. In 2019, the OVOP felt workshops earned more than US \$146,000.

At Öksüt, in 2019, we completed the important livelihood restoration projects for displaced shepherds in the local region, including providing them with alternative means to continue with their economic activities. This included such projects as renovating access roads for shepherds and farmers.

4. Local Procurement

Part of our approach to maximizing strategic community investment is purchasing locally. While local procurement benefits communities by aiding in the development of local business in many cases, it is also cost competitive and decreases our lead times while increasing the resiliency of our supply chain.

Our community relations teams, working with our supply chain team, provide communities with information about local procurement opportunities at different stages of the project. Remaining transparent and setting realistic expectations with local stakeholders is paramount in the development of a local supply chain.

To enable the effectiveness of our local procurement strategy, we often go beyond formal bid documentation to understand the credentials and capabilities of potential and existing suppliers.

In order to ensure that our local suppliers meet our quality, health and safety requirements, we partner with local organizations in capacity

building initiatives. In select situations, we provide financial resources as well as coordinate training and development with industry associations, vocational schools, financial institutions and development agencies.

Understanding the barriers to entry that SMEs face, we have taken measures to help promote market accessibility including:

- Introducing SMEs to development and finance partners;
- Providing flexible payments, including advance payments, when appropriate;
- Willingness to accept legitimate increased costs; and
- Unbundling of service or goods contracts into smaller pieces that are more suitable in size for low-capacity suppliers.

However, such flexible procurement processes are intended to be short-term solutions only and are implemented to help businesses develop local skills and capacity. We communicate the temporary nature of these processes in an effort to help influence local businesses to become more competitive.



Mount Milligan Local Supplier Directory

To continue supporting indigenous businesses, in 2019 we developed a Local Supplier Directory (“the Directory”), which is built on inputs provided by local communities and Indigenous groups. The Directory includes information on companies owned by local and Indigenous entrepreneurs, and First Nation Bands.

The Directory is used by our supply chain team as a quick reference tool when identifying potential local suppliers for a product or service.

For example, since 2016 and throughout 2019, the catering and camp contracts at Mount Milligan were held by companies with partnerships in place with local First Nations. In addition, the concentrate hauling contract at Mount Milligan is held by a company wholly-owned by McLeod Lake Indian Band.

3.3.2 Performance

As of December 2019, we had approximately 75 months of no social disruptions to our operations. This is a continued testament to our robust social programs and practices in place at each site, including grievance mechanisms, community development plans and stakeholder engagement strategies.

Strategic Community Investment and Donations

In 2019, our strategic community investments and donations at Mount Milligan totalled \$206,200 in 2019, compared to \$177,000 in 2018, a 16.5% increase. In 2019, our strategic community investments and donations at Kumtor totalled \$1.35 million in 2019, compared to \$2.2 million in 2018. This decrease was due to Kumtor sponsoring the 3rd World Nomad Games in 2018. At Öksüt, 2019 strategic community investments and donations totalled \$470,976 in 2019, compared to \$154,878 in 2018. This increase was due to the realization of planned social responsibility projects.

Feedback and Grievances

We received two grievances at Mount Milligan in 2019, of which 100% were resolved. We also received 148 instances of feedback in 2019 from the following channels: community offices, community relations emails address and Community Sustainability Committee input.

In 2019, at Kumtor, we received 14 grievances and 100% were resolved. We also received 774 instances of feedback in 2019.²⁶

In 2019, at Öksüt there were 29 grievances filed, of which 100% were resolved. We also received 44 instances of feedback from community feedback and grievance boxes and forms in 2019.

In future years we will aim to provide a trend analysis on grievances received and resolved and feedback received.

Table 26. Non-Technical Delays²⁷

	2019	2018	2017
# of Non-Technical Delays	0	0	0
# of Days of Project Shutdown or Delay	0	0	0

²⁶For feedback at Kumtor, we have considered letters received to our regional community or corporate offices in 2019.

²⁷We define non-technical delays as project delays or operational disruptions caused by community, local NGO and other stakeholder opposition or concerns which directly affects our social license to operate.

Local Procurement

In 2019, our local procurement spend (“local spend”)²⁸ in British Columbia was \$62,377,108.35 or 21% of our total spend versus \$69,350,363 and 25% in 2018. In 2019, we had 833 suppliers across British Columbia.

In 2019, our local spend in the Kyrgyz Republic exceeded \$15 million or 5% of our local spend. Importantly, our national spend exceeded \$70 million or 25% of our total spend to support our Kumtor operations. In comparison to 2018, our local spend was \$4 million and national spend was approximately \$81 million, an approximate 13.5% decrease in national spend. In total, in 2019, we had 522 suppliers of which approximately 58% were national.

Annually, we procure more than 11,000 goods and services supplied by nearly 600 businesses operating in the Kyrgyz Republic. Since 2008, 100% of food products have been procured in the local market.

In 2019, our local spend in Turkey was nearly \$8 million and our total national spend in Turkey was \$47 million or 92% of our total spend. In comparison to 2018, our local spend was \$3.5 million and national spend was approximately \$76.5 million, an approximate 62% increase in our national spend which is attributed to the ramp-up of construction activities in 2018. In total, in 2019, we had 1090 suppliers of which approximately 93% were national.

Table 27. 2019 Spending on Local Suppliers by Region

USD	Total spend	Local procurement spend	Local spend %	National spend (exc. local)	International spend	National spend as % of total spend
Canada ²⁹	\$300,565,896.77	\$62,377,108.35	21%	\$225,665,006.10	\$12,523,782.34	75%
Kyrgyzstan	\$285,090,753.00	\$15,256,016	5%	\$55,504,641	\$214,330,096.00	25%
Turkey	\$51,881,678.04	\$7,969,629.10	15%	\$39,750,509	\$4,161,539.44	85%

3.4 Workforce Health and Safety

3.4.1 Process to Manage Risks and Opportunities

Operating with a ‘zero harm’ health and safety (H&S) approach is fundamental to our commitment to being a responsible miner and maintaining our employees’ trust. A strong H&S performance enables us to manage operational costs and minimize potential liabilities, regulatory risks and revenue deferrals from operational shutdowns.

1. ‘Fostering a ‘Zero Harm’ Culture

In order to realize our zero-harm culture, we are committed to integrating our safety leadership values into our processes, systems and initiatives. Our Global Health & Safety Policy is applicable to all employees, contractors and communities who may be impacted by our operations. The commitments made within this Policy are

applicable throughout the entire project life cycle, from exploration to construction and operations to decommissioning.

All health and safety processes and systems are developed to ensure we meet or exceed local, regional and national health and safety legislation.

During project planning, and regularly during project management, risk assessments are conducted to identify critical health and safety concerns. Controls are then developed and implemented to mitigate and/or eliminate key risks.

During the onboarding process, induction briefing or initial safety orientation, our health and safety requirements are communicated to all employees and contractors. These expectations are also communicated to consultants and any mine

²⁸Local spend are businesses in communities most directly impacted by Centerra’s operations. At Kumtor, despite the constant effort we make to maximize our local national procurement, there are still many goods and services that are not produced or not available in the Kyrgyz market and that we need to import for operations, such as specialist operational equipment and related services, large dump trucks, spare parts from the manufacturer, tires, main consumables and chemicals.

²⁹These numbers reflect all of our Canadian operations, including the Mount Milligan Mine, Kemess and the Endako Mine. Mount Milligan represents the most significant portion of our spend as it is our only operating mine in British Columbia. The 2017 procurement numbers reported in Centerra’s 2018 Data Supplement were incorrectly stated. The correct 2017 total spend is \$256,188,105, local procurement was \$58,439,328 and proportion of spending on local suppliers was 25%.



GOVERNANCE



ENVIRONMENT



SOCIAL

site visitors ensuring that each person at site is aware of their health and safety responsibilities in a manner appropriate for their role on the site. All mine site employees and visitors receive appropriate personal protective equipment (PPE) from boots, goggles, insulated jackets and vests.

We assign responsibilities and accountability at each level of the organization and require senior management at all sites and subsidiaries to be accountable for the establishment, maintenance and implementation of documented site programs, plans and procedures consistent with set Centerra standards. Health and safety is incorporated into our business and financial planning, ensuring that adequate and appropriate resources are provided to all sites to implement best practices in health and safety.

Each site has a Joint Health & Safety Committee (JHSC) which includes employees, contractors and management representatives from various departments. Ensuring representation from both employees and management ensures the JHSC can act as an effective platform for communication, decision making and collaboration between those who have both in-depth practical knowledge of specific tasks and those individuals with a greater understanding of the Company's policies and procedures.

We regularly monitor and conduct program assessments to ensure our health and safety performance is aligned with leading international industry practices as we remain focused on continuous improvement.

2. Work Safe | Home Safe Program

We continue to prioritize H&S training for all employees and contractors.

The implementation and rollout of Centerra's *Work Safe | Home Safe Program* was completed in 2018. The program is central to our delivery of health and safety training throughout the organization. The focus of the program is to build a Centerra-wide culture of safety leadership. The program focuses on both senior management communication and the implementation of practical tools to empower employees. The aim is that these elements will work together to effectively create an employee commitment to safety-related behavioural changes by adding a personal and emotional element and encouraging open communication across to site to improve operational practices related to health and safety.

Our utmost priority is to ensure that every employee, contractor and site visitor returns home safely after every shift or mine visit.

One main tool of the program is the promotion of "STOP Conversations". STOP Conversations encourage all employees and contractors to speak-up if they see someone exhibiting unsafe work practices. We also provide employees with the opportunity to submit health and safety concerns anonymously and without any threat of retribution.

In 2019, we rolled out a second phase of the *Work Safe | Home Safe Program* which focused



on supervisor leadership and development training, as well as a reiteration of the program's key messages. We also implemented a new aspect of the program called Visible Felt Leadership. This aspect focused on safety leadership field interactions between Centerra's senior and line management personnel and employees. These interactions are excellent opportunities for Centerra's leadership to demonstrate and reiterate the importance of employees performing their tasks safely and going home to their families. It is also an opportunity for management to show they genuinely care for employees' wellbeing by giving them time while in the field.

Our commitment to health and safety extends to all contractors. We take ownership for ensuring that each contractor receives initial safety orientation and continuing safety training and education. In addition, contractors are subjected to a pre-project selection process that includes robust health and safety criteria including consideration of historical health and safety performance. While on any Centerra site each contractor group is assigned a site based Centerra "owner" who is directly responsible and accountable for the H&S performance of their respective contractor groups.

3. Emergency Preparedness

To ensure our teams have the tools, skills and resources required to address an emergency, each site has proactive emergency response plans and highly skilled, trained teams in place that are constantly tested.

All Centerra sites have emergency response teams which receive regular training on emergency prevention, including on high-hazard priority incident training such as cyanide and chemicals spills and dispersal, high-angle rescues, vehicle extrications and fires. In addition to training, periodic drills and mock exercises are conducted to ensure teams understand proper procedures and identify areas for improvement. Centerra's highly skilled Emergency Response Teams (ERTs) at Mount Milligan and Kumtor participate and compete in annual district and regional Mine Rescue Competitions. Centerra will continue to participate in these competitions as they provide excellent opportunities for continuous improvement and skills honing for our emergency response teams.

4. Protecting Employee and Community Health

To protect our employees and communities, we take proactive measures to raise awareness and promote good hygiene and wellbeing practices. We conduct a pre-employment health screening for employees and contractors and on a periodic basis throughout their employment or contract.



In certain operating jurisdictions, we take extra health precautions for all employees, contractors and visitors to site where there are increased health risks. For example, our Kumtor Mine is situated at a high altitude of 4,000 metres which presents challenges to living and working in a cold climate and reduced oxygen levels. Average annual temperatures are -8°C with a minimum as low as -38°C. All visitors to site must receive medical clearance at two different points: once in Bishkek and again upon arrival on site. If any symptoms of acute mountain sickness (AMS) arise upon arrival, we have trained medical staff on hand to provide necessary treatment.

We also invest in preventative health programs, which may include voluntary flu vaccinations, inter-site fitness challenges and ad hoc guest speakers.



Our COVID-19 Response

The safety of our employees remains our top priority during the COVID-19 pandemic and we are taking action based on the best available information we have. Since March 2020, we have been continuously monitoring information published by the Public Health Agency of Canada, U.S. Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO) and other guidance released from appropriate government agencies.

Centerra has taken the following measures to provide its employees with accurate information, help prevent infection and reduce the potential transmission of COVID-19:

- **Pandemic & Crisis Management:** A global crisis management team was activated in early March. The team, comprising executives and local site leaders, has been leading Centerra's global response and has implemented a corporate pandemic response plan complemented by local site specific crisis management plans.
- **Health and Mental Wellbeing Support:** Centerra continues to educate and raise awareness on COVID-19 facts and preventative actions through frequent communication with employees and is directing leaders to offer compassionate support for employees who are concerned about their wellbeing and the wellbeing of their families. Any employee who is feeling unwell or experiencing flu-like symptoms

has been advised to stay home. The Company is conducting temperature checks using non-contact thermometers and asking health questions of all individuals entering any of its sites. A standard operating procedure has been implemented in case there is a need for individual isolation and subsequent transportation from site for any individual who exhibits COVID-19-related symptoms.

- **Workplace Hygiene:** All sites have increased daily cleaning of all common areas and spaces where there is frequent employee contact, including shared objects and any high-touch surfaces. Proper food hygiene and preparation practices have been reinforced at the Company's mine sites which have on-site living quarters.
- **Remote Working:** To promote social distancing practices, corporate and global regional offices have implemented flexible work arrangements, including some office closures. The Company has also moved to virtual meetings across the organization where possible to limit in-person meeting attendees.
- **Operating mine sites** have been actively assessing the resiliency of their supply chain, increasing mine site inventories of key materials and developing contingency plans to allow for continued operations.

The Company notes that the situation is fluid and has been changing rapidly. The measures enacted reflect the Company's best assessment at this time but will remain flexible and be revised as necessary or advisable and/or as recommended by the public health and governmental authorities.

3.4.2 Performance

In December 2019, the Kumtor Mine experienced a significant waste rock movement at the Lysii waste rock dump resulting in two employee fatalities. Furthermore, subsequent to the year end, on February 15, 2020, a Kumtor Mine employee succumbed to a fatal injury while operating an excavator.

We are fully committed to understanding the circumstances that led to these safety incidents at Kumtor Mine so that so that we can take all necessary steps to prevent such incidents from happening in the future.

In the second quarter of 2020, Centerra commenced a Mitigation of Fatal Risks (MFR) program involving the implementation and management of Critical Safety Controls. This involves the engagement of site-based, as well as international subject matter experts, developing and implementing life saving controls when frontline workers and relevant management teams are facing critical safety tasks such as working at heights, potential release of energies and the use of light and heavy mobile equipment. The MFR program will continue to evolve through ongoing risk assessment processes to address other critical safety risks as well. It is expected that from this work Centerra will move into a next phase of health and safety risk mitigation by eventually introducing health and safety leading indicators.

In January 2020, Centerra completed its first global health and safety week. The week was focused on field visits by Executives and Senior Management personally communicating and reiterating key health and safety messages and topics, initiatives and activities including partial and full-crew safety huddles.

To commence the week and underscore the importance of health and safety and our leadership's commitment, we partially

suspended operations at all sites to stress the importance of safety over production. The week was full of reflection, thoughtfulness, innovation and, most importantly, a recommitment and "doubling down" across our Company on safety and the importance of every employee, contractor and site visitor returning home safely after every shift and/or site visit. More information on these 2020 initiatives will be provided in the 2020 SASB report.

Table 28. Centerra Employees Global Health and Safety Detailed Summary³⁰

	Unit	2019	2018	2017
Total Hours Worked	Person Hours	6,906,460	6,835,631	6,757,974
Total Workdays	Number	N/A	N/A	N/A
Total Number of Fatalities	Number	2	0	1
Fatality Rate	Rate	0.06	0.00	0.03
Total Injury Severity Rate	Rate	351.12	10.30	185.11
Total Reportable Injuries (TRI's)	Number	12	15	11
Total Reportable Injury Frequency Rate (TRIFR)	Rate	0.35	0.44	0.33
Total Health and Safety Related Training	Hours	153,573	97,978	62,385
Work Safe Home Safe Training ³¹	Hours	91,995	96,059	99,075

Notes

1. Worked hours used in injury performance calculations means the total number of hours worked by employees and/or contractors carrying out work-related activities during the recording reporting period (typically a calendar year).
2. Fatality rate calculations are for both full-time employees and contractors. Calculation: Rate: [Number of fatalities as a result of work-related injury x200,000 / Number of hours worked]. This does not include fatalities from occupational-related diseases.
3. Centerra's Total Injury Severity Rate uses two metrics in this calculation: [Total Lost Days] and [Total Restricted Workdays]. Lost time is an occupational injury or disease that results in the worker's inability to perform routine work functions on the next calendar day after the injury is a recordable reportable injury case. Inability to perform routine work functions includes cases resulting in either assignment of alternate or restricted duty or missed workdays.
4. Centerra's Incident Reporting Standards requires that when a fatality occurs at a site or project, a penalty of 6,000 lost days is automatically charged to the site / project injury severity rate.
5. Our metrics align with the ICMM health and safety recommended performance indicators and are reviewed regularly to ensure they align with best practices and reflect Centerra's operations. We will review our reporting metrics in 2020 – 2021 again.

³⁰The February 2020 fatality has not been included in this summary. This will be covered under our 2020 sustainability report.

³¹Work Safe | Home Safe training hours includes both employees and contractors.

**Table 29. Centerra Contractors Global Health and Safety Detailed Summary³²**

	Unit	2019	2018	2017
Total Hours Worked	Person Hours	4,551,294	2,929,362	1,692,734
Total Workdays	Number	N/A	N/A	N/A
Total Number of Fatalities	Number	0	0	0
Fatality Rate	Rate	0.00	0.00	0
Total Injury Severity Rate	Rate	1.01	3.00	4.14
Total Reportable Injuries (TRIs)	Number	14	8	5
Total Reportable Injury Frequency Rate (TRIFR)	Rate	0.62	0.55	0.59
Total Health and Safety Related Training	Hours	82,510	58,712	40,954

Notes

1. *Worked hours used in injury performance calculations means the total number of hours worked by employees and contractors carrying out work-related activities during the recording reporting period (typically a calendar year).*
2. *Fatality rate calculations are for both full-time employees and contractors. Calculation: Rate: [Number of fatalities as a result of work-related injury x200,000 / Number of hours worked]. This does not include fatalities from occupational-related diseases.*
3. *Centerra's Total Injury Severity Rate uses two metrics in this calculation: [Total Lost Days] and [Total Restricted Workdays]. Lost time is an occupational injury or disease that results in the worker's inability to perform routine work functions on the next calendar day after the injury is a recordable reportable injury case. Inability to perform routine work functions includes cases resulting in either assignment of alternate or restricted duty or missed workdays.*
4. *Centerra's Incident Reporting Standards requires that when a fatality occurs at a site or project, a penalty of 6,000 lost days is automatically charged to the site or project injury severity rate.*
5. *Our metrics align with the ICMM health and safety recommended performance indicators and are reviewed regularly to ensure they align with best practices and reflect Centerra's operations. We will review our reporting metrics in 2020 – 2021 again.*

³²The contractor statistics represented here only considers the contractors activities while working with Centerra and does not include any other business the contractor may be engaged on.

SASB Index

Topic	Accounting Metric	Page Number and Notes
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	23 - 24
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	23 - 24 As of 2019, Centerra has not set emissions reduction targets.
Air Quality	Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N2O), (3) SOx, (4) particulate matter (PM10), (5) mercury (Hg), (6) lead (Pb), and (7) volatile organic compounds (VOCs)	25 - 27
Energy Management	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	27 - 29
Water Management	(1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	32
	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	32
Waste and Hazardous Materials Management	Total weight of tailings waste, percentage recycled	36
	Total weight of mineral processing waste, percentage recycled	This information has not been included in the 2019 report.
	Number of tailings impoundments, broken down by MSHA hazard potential	36
Biodiversity Impacts	Description of environmental management policies and practices for active sites	20, 22, 37 - 40
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	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	43

Security, Human Rights and Rights of Indigenous Peoples	Percentage of (1) proved and (2) probable reserves in or near indigenous land	52
	Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	48 - 50
Labor Relations	Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees	57
	Number and duration of strikes and lockouts	57
Community Relations	Discussion of process to manage risks and opportunities associated with community rights and interests	58 - 62
	Number and duration of non-technical delays	62
Workforce Health and Safety	(1) MSHA all-incidence rate, (2) fatality rate, (3) near miss frequency rate (NMFR) and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees	67 - 68 The near miss frequency rate is not included in this report.
Business Ethics and Transparency	Description of the management system for prevention of corruption and bribery throughout the value chain	16 - 17
	Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	17

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