

# 2019 SUSTAINABILITY REPORT

Lundin Mining Corporation is a diversified Canadian base metals mining company with operations in Brazil, Chile, Portugal, Sweden and the USA, primarily producing copper, zinc and nickel.



## GOVERNANCE

Our Approach Our Governance Our Performance Human Rights

#### HEALTH AND SAFETY

Materiality Our Approach Our Performance Industrial Hygiene and Occupational Health Crisis Management Planning and Emergency Preparedness



#### OUR COMMITMENT TO THE UN GLOBAL COMPACT

Lundin Mining Corporation joined t United Nations Global Compact in supports the Ten Principles on hun rights, labour standards, environm anti-corruption, and promotes the 17 Sustainable Development Goals of our 2019 activities are presented annual Communication on Progress in the Appendix section of this repo

CEO	2 4 5 6
s SDGs	8 11 12 13
rgets	14 15 16
	20 20 22 24
	+
	26 26 30 33
	35
f the 2016, man nent and e UNGC's is. The res ed in our ss, locate port.	

ECONOMIC PERFORMANCE	للد
Materiality	36
Our Approach	36
Our Performance	38
Local Procurement	39
OUR PEOPLE	
Our Approach	40
Our Performance	40
Local Hiring	43
Labour Relations	44
SOCIAL PERFORMANCE	
Our Approach	46
Our Performance	48
Stakeholder Engagement	49
Indigenous Relations	55
Managing Social Impacts	57
Community Development	60
MATERIALS AND	
PRODUCT STEWARDSHIP	
Our Approach	
PRODUCT STEWARDSHIP	64 67
Our Approach	
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT	67
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach	67 7 68
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach Tailings and Waste Rock	67 67 68 73
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach Tailings and Waste Rock Water	67 67 68 73 77
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach Tailings and Waste Rock Water Climate Change, Energy	67 68 73 77 85
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach Tailings and Waste Rock Water Climate Change, Energy and GHG Emissions Reclamation and Closure	67 68 73 77 85 95
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach Tailings and Waste Rock Water Climate Change, Energy and GHG Emissions Reclamation and Closure Air Emissions, Noise and Vibration	67 68 73 77 85 95 96
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach Tailings and Waste Rock Water Climate Change, Energy and GHG Emissions Reclamation and Closure Air Emissions, Noise and Vibration	67 68 73 77 85 95 96 98
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach Tailings and Waste Rock Water Climate Change, Energy and GHG Emissions Reclamation and Closure Air Emissions, Noise and Vibration Biodiversity and Land Non-Mineral Waste	67 68 73 77 85 95 96 98 102
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach Tailings and Waste Rock Water Climate Change, Energy and GHG Emissions Reclamation and Closure Air Emissions, Noise and Vibration Biodiversity and Land Non-Mineral Waste Appendix A	67 68 73 77 85 95 96 98 102
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach Tailings and Waste Rock Water Climate Change, Energy and GHG Emissions Reclamation and Closure Air Emissions, Noise and Vibration Biodiversity and Land Non-Mineral Waste Appendix A Key Performance Data	67 68 73 77 85 95 96 98 102 103
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach Tailings and Waste Rock Water Climate Change, Energy and GHG Emissions Reclamation and Closure Air Emissions, Noise and Vibration Biodiversity and Land Non-Mineral Waste Appendix A Key Performance Data Appendix B Basis for Energy and	67 68 73 77 85 95 96 98 102 103 103 106
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach Tailings and Waste Rock Water Climate Change, Energy and GHG Emissions Reclamation and Closure Air Emissions, Noise and Vibration Biodiversity and Land Non-Mineral Waste Appendix A Key Performance Data Appendix B Basis for Energy and Greenhouse Gas Reporting	67 68 73 77 85 95 96 98 102 103 103 106 106
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach Tailings and Waste Rock Water Climate Change, Energy and GHG Emissions Reclamation and Closure Air Emissions, Noise and Vibration Biodiversity and Land Non-Mineral Waste Appendix A Key Performance Data Appendix B Basis for Energy and Greenhouse Gas Reporting Independent Assurance Statement	67 68 73 77 85 95 96 98 102 103 103 106 106 106
PRODUCT STEWARDSHIP Our Approach Our Performance ENVIRONMENT Our Approach Tailings and Waste Rock Water Climate Change, Energy and GHG Emissions Reclamation and Closure Air Emissions, Noise and Vibration Biodiversity and Land Non-Mineral Waste Appendix A Key Performance Data Appendix B Basis for Energy and Greenhouse Gas Reporting	64 67 68 73 77 85 95 96 98 102 103 103 106 106 107 110 117

# Message from the President and CEO

2019 proved to be another successful year for Lundin Mining. Throughout the year we continued to demonstrate strong business and sustainability performance across our operations. There were several milestones celebrated and many lessons learned as we continued our journey as responsible stewards of the natural resources in the regions where we work. In recognition of our company Mission to **responsibly mine base** metals vital to society, creating meaningful value for our stakeholders. I am pleased to introduce our 2019 Sustainability Report.

Our *Mission and Values* form the foundation of our approach to responsible mining. We seek to create enduring relationships and meaningful shared value with our local communities and our stakeholders, doing so through our Values of Safety, Respect, Integrity and Excellence. Our role as a good corporate citizen is central to how we do business and vital to the long-term economic success and sustainability of our operations.

Securing additional assets within our portfolio provides long-term viability of the business and allows us to extend the employment and economic benefits of our operations to new host communities. In July 2019, we were excited to welcome the Chapada mine in Brazil to complement and strengthen our world-class operations. The integration of Chapada progressed extremely well and we are happy to present the data collected since its acquisition in this current report.

Throughout 2019 we celebrated many production successes. First ore from Eagle East was mined ahead of schedule and under budget. The rejuvenated exploration program at Zinkgruvan continued and the Dålby mining concession was granted in July. We delivered a key milestone with the handover of the Candelaria South Sector underground mine to the operations team. Neves-Corvo significantly improved copper production, while the Zinc Expansion Project (ZEP) continued to make meaningful progress.

During 2020 momentum was expected to continue with increased tonnages from Candelaria, completion the Candelaria Mill Optimization Project and ramp-up the Neves-Corvo ZEP. However, with the development of the global COVID-19 pandemic, it became necessary for us to adjust project plans, including the temporary suspension of the ZEP activities. As we prepare for what may be a sustained period of change, Lundin Mining will continue to support relief efforts

while taking the measures necessary to ensure the health and well-being of our employees, contractors and communities.

Since joining the United Nations Global Compact (UNGC) in 2016, Lundin Mining continues to commit to the initiative, documenting our support of the 10 Principles on human rights, labour standards, environment and anti-corruption, and the 17 Sustainable Development Goals (SDGs), through an annual Communication on Progress (COP). We have demonstrated sustainable improvements in our safety, environmental, social and operating performance over the past several years, and with focused disclosure in our Sustainability Report, Lundin Mining's goal of strengthening our approach to sustainability will continue to drive our progress.

Our overall safety performance resulted in an increase in total recordable injuries compared to 2018, attributed to the addition of a new mine, increased work hours, activities associated with improvement projects, and several significant, planned maintenance shutdowns. While the overall Total Recordable Injury Frequency (TRIF) rate in 2019 did not meet our target of 0.60, there was a slight improvement over 2018. Health and safety challenges encountered in the year were addressed with immediate implementation of Health and Safety Action Plans. I am proud of each of our operations for actively developing and implementing creative initiatives to support our Zero Harm objective.

Effective environmental management is integral to the success of our operations. We are fully committed to sustainable water management, and in 2019, we made water stewardship gains with measurable reductions in fresh water use. We continued our comprehensive monitoring of environmental parameters to confirm the effectiveness of our



protection measures, and followed strict protocols for management of hazardous materials and wastes. We classify incidents on a significance scale with Level 3 or above reported to our Board of Directors. While there were two Level 3 incidents reported in 2019, environmental impact was minimized through a swift site response and corrective actions. We continue to strive for zero Level 3 incidents at any of our operations in 2020.

Lundin Mining recognizes the need for effective approaches to fulfilling climate-related responsibilities. We annually publish our CDP climate change report which is aligned with the Taskforce on Climate-related Financial Disclosures (TCFD) recommendations. Since our first submission in 2010, we have steadily improved our scoring and received a B rating in 2019, which we consider to be a great achievement. Linked to our increasing focus on emerging climate-related risks, a corporate climate change adaptation and mitigation planning toolkit was developed in 2019. This initative will enhance the climate change resilience of our operations following its roll out over the next two years.

In recognition of the increasing importance of operational excellence, asset management and supply chain practices, Lundin Mining established a corporate function to create a global framework and deliver a strategic roadmap of process improvements, operational efficiencies and governance at all operations.

Commitment to our core Values guides all aspects of our business, including community relations and social performance. In 2019, we finalized three key management standards and commenced workshop training at several of our sites. These standards guide sites in understanding and assessing social risks, current and potential impacts, stakeholder engagement and Lundin Mining social investment priorities, which are highlighted in case studies throughout this report.

Our social performance teams continued to refine and implement site-level, five-year social performance strategic plans. These plans anchor decisions and ensure the best allocation of resources in a systematic and consistent approach when

engaging with communities, employees and other stakeholders. The team has been working to assess our practices related to Human Rights and identify opportunities to enhance our commitment to the Universal Declaration of Human Rights. With social challenges, such as the recent civil unrest in Chile and the global pandemic in early 2020, we are focused on maintaining the safety and security of our employees as well as the environment and our facilities.

Embracing diversity and inclusion at Lundin Mining is representative of our core Values, particularly respect. In 2020, we will continue to create an inclusive work environment and have zero-tolerance for discrimination or harassment in our workplaces. Our Diversity and Inclusion policy was approved and communicated globally in 2019. Global benchmarking occurred at all sites to further increase gender parity and diversity at all levels of the organization. We continued with multiple women in mining initiatives, internships and new graduate-hire programs.

Lundin Mining has been reporting on our sustainability performance in a comprehensive, standalone document since 2011. I am proud to introduce this report as President, CEO and Director and am already fully focused on driving us forward toward achieving our sustainability goals for 2020. I believe you will find our 2019 Sustainability *Report* a comprehensive disclosure of our past performance, commitments and strategy for the future.

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Marie Inkster President and CEO

# About This Report

Lundin Mining Corporation has published an annual sustainability report since 2011, providing updates on the economic, safety, environmental and social issues that are of greatest interest to communities near our operations, our employees, our investors and other stakeholders. Detailed information regarding our nature of ownership, legal form, financial and operational results for the reporting period can be found in our Annual Information Form (AIF), 2019 Annual Management's Discussion and Analysis (MD&A) and Financial Statements and the Management Information Circular.

#### SUSTAINABILITY REPORTING FRAMEWORK AND CYCLE



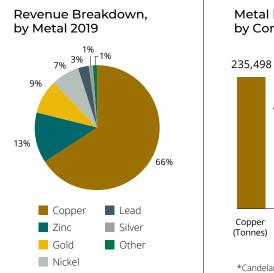
#### **REPORT SCOPE**

- Significant change to scope and material topic boundaries, compared to 2018 Sustainability Report:
- > Inclusion of data for the Chapada mine, Brazil, acquired by Lundin Mining on July 5, 2019.
- Key focus on operating mines, majority-owned and managed by Lundin Mining through its subsidiaries:
- > Candelaria Complex, Chile (80% interest)
- > Chapada mine, Brazil (newly acquired in July 2019)
- > Eagle Mine, USA
- > Neves-Corvo mine, Portugal
- > Zinkgruvan mine, Sweden
- Inclusion of selected health and safety and employment data for additional areas of our business:
- > Corporate headquarters in Toronto, Canada
- > Exploration projects in the vicinity of all our operating mines
- > Amauta exploration site in Peru
- Exclusion of Freeport Cobalt Oy business, Kokkola, Finland, operated by Freeport-McMoRan Inc. (Lundin Mining 24% non-operating equity interest)

\*Unless otherwise stated, all references to "\$" are United States dollars. "Lundin Mining" or "Company" refer to Lundin Mining Corporation and / or its subsidiaries. This report contains non-GAAP ("generally accepted accounting principles") measures. These performance measures have no meaning within GAAP under International Financial Reporting Standards as issued by the International Accounting Standards Board and, therefore amounts presented may not be comparable to similar data presented by other mining companies.

# About Lundin Mining

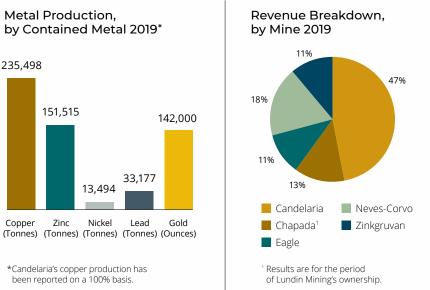
Lundin Mining Corporation is a diversified Canadian base metals mining company with headquarters in Toronto, Canada and operations in Brazil, Chile, Portugal, Sweden and the United States of America. Greenfield exploration activities are also being conducted in Peru. A new mine was added to our portfolio of operations with the acquisition of the Chapada mine in Brazil on July 5, 2019. The Company's principal products and sources of sales are copper, zinc and nickel concentrates, with the copper concentrates from Candelaria and Chapada containing significant gold content. The Company holds a 24% (non-operating) equity interest in Freeport Cobalt Oy, Kokkola, Finland, operated by Freeport-McMoRan. On December 2, 2019, Lundin Mining and Freeport divested the cobalt refinery business. Freeport Cobalt continues to operate a smaller fine powders, chemicals, catalyst, ceramics and pigments business.



Copper Zinc Nickel Lead

been reported on a 100% basis.





# About Lundin Mining

The Company's Mission and Values updated in 2018 are summarized as follows:

#### OUR MISSION

We responsibly mine base metals vital to society, creating meaningful value for our stakeholders.

#### OUR VALUES



We hold health and safety as our top priority in everything we do.



We embrace diversity, and collaboration.



We do what is right and honour our commitments.

EXCELLENCE We set high standards and challenge ourselves to deliver superior

#### **OUR APPROACH TO RESPONSIBLE MINING** AND SUSTAINABILITY

At Lundin Mining, our Mission and Values form the foundation of our sustainability approach. Our reputation as a good corporate citizen is central to our *Mission and Values* and vital to the long-term economic success and sustainability of our business. We seek to create and foster enduring relationships and meaningful shared value with our local communities and our stakeholders with Safety, Respect, Integrity and Excellence.

We are committed to operating in compliance with applicable laws and regulations in all jurisdictions where we operate, and we seek to continuously improve our sustainability performance. We strive to align our policies and procedures with international best practice and guidance for economic, safety, social and environmental performance and to meet our business

objectives and targets. Managementlevel monitoring and review of our performance is conducted regularly.

We have established a Responsible Mining Policy (RMP) that describes our specific management commitments to responsible mining, which may be viewed on our website. These commitments are further developed and supported by internal Company initiatives including:

 Our Responsible Mining Framework (RMF) provides a comprehensive, single point of reference for information relating to our commitment to sustainable development, where we commit to develop and implement management systems and operating practices that take into consideration applicable international guidelines, defining how we manage material economic, social, health, safety and environmental issues;

 Our Responsible Mining Management System (RMMS) standard specifies the Companywide requirements for the management of health, safety, environment and community (HSEC) aspects of our business and is aligned with the ISO 14001:2015 Environmental Management System standard and the OHSAS 18001 Occupational Health and Safety Management standard; and

 Our HSEC technical standards form the basis for continual improvement and enhanced HSEC performance and compliance to both support the RMMS and establish the foundation for continuing development of the Company's Five-Year Sustainability Strategy.

Lundin Mining's Board of Directors established an HSEC Committee to provide oversight of health, safety, environmental and community issues. Consisting of three standing members, the HSEC Committee meets at least guarterly. Informed by guarterly reports from key departments, the committee is responsible for reviewing the effectiveness of Company HSEC governance, including implementation of the RMMS, ensuring compliance with applicable legal and regulatory requirements, and reviewing performance, leadership, risks and external reporting on HSEC matters.

In 2019, the first third-party RMMS audit program was conducted across our operations to assess HSEC performance and compliance, with the results reported to Lundin Mining management. This process will continue bi-annually under the new program with the next verification cycle in 2021.

In 2016, Lundin Mining joined the United Nations Global Compact (UNGC), promoted as the world's largest corporate sustainability initiative to address the priority economic, social, environmental and governance challenges. Through this initiative, we joined the global business community in a commitment to sustainable business practices, aligning our strategies with the UNGC's Ten Principles on human rights, labour, the environment and anti-corruption, the UNGC Sustainable Development Goals (SDGs) and related 2030 SDG targets. Our *Mission and Values* and Responsible Mining Policy all align with the UNGC Principles and SDGs, and we have undertaken programs at site and corporate levels to advance positive change in these priority areas. The results have been reported annually in our UNGC Communication on Progress (COP), the most recent of which can be found in the Appendix of this report. We have also included a selection of case studies that further demonstrate our overall commitment to advance key-focus SDGs.

In 2018, we initiated the development of our Five-Year Sustainability Strategy to provide strategic sustainability governance throughout the Company and to further advance the integration of the UNGC Principles and SDGs into our business practices. Our sustainability strategy is intended to provide a framework for the identification of sustainability focus areas that will reduce risks, increase opportunities, add long-term value and ensure the ongoing health and competitiveness of our business. Although a formal sustainability strategy was not fully developed in 2019, several initiatives were implemented throughout the year that will complement the full strategy when it is completed in 2020.

WE SUPPORT



SUSTAINABLE

# Our Operations



Zinkgruvan, Örebro County, Sweden

Neves-Corvo. Alentejo, Portugal



Lundin Mining Head Office, Toronto, Canada Number of

Employees: 79 Lundin Mining Photo Credit: Ezio Molinari

#### Candelaria, Atacama, Chile COPPER / GOLD / SILVER

Interest: 80%

Number of Employees: 1,467

Mine Type: Open pit and underground

Current Mine Life: 21 years to 2040

Annual Tonnage: 27.0 mtpa Candelaria, 1.3 mtpa PAC

Expansion Project: New underground South Sector

#### Chapada, Goiás, Brazil COPPER / GOLD

Interest: 100%

Number of Employees: 755 Mine Type: Open pit Current Mine Life: 31 years to 2050 (open pit and stockpiles) Annual Tonnage: 24.0 mtpa

## Eagle, Michigan, USA NICKEL / COPPER

Interest: 100% Number of Employees: 196 Mine Type: Underground Current Mine Life: 5 years to 2025 Annual Tonnage: 0.7 mtpa **Expansion Project:** Eagle East

#### Neves-Corvo, Alentejo, Portugal COPPER / ZINC / LEAD / SILVER

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Interest: 100% Number of Employees: 1,224 Mine Type: Underground

Current Mine Life: Over 10 years

Annual Tonnage: 2.7 mtpa copper, 1.1 mtpa zinc

**Expansion Project:** Zinc Expansion Project (ZEP)













Sweden







# **Our Operations**



Neves-Corvo Underground Employees

#### CANDELARIA

The Candelaria Mining Complex comprises two adjacent copper mining companies, Candelaria and Ojos del Salado in the community of Tierra Amarilla in the Atacama Region of Chile. Candelaria operates an open pit, underground mines providing copper / gold ore to an onsite processing plant, as well as the operation of a desalination plant and port facility at Punta Padrones near the community of Caldera in the Atacama. Ojos del Salado comprises two underground mines: Santos and Alcaparrosa. The Santos mine provides copper / gold ore to the nearby Pedro Aguirre Cerda (PAC) processing plant, and the remainder of ore extracted from these two mines is processed at the Candelaria plant.

#### **CHAPADA**

In July 2019, Lundin Mining acquired the Chapada mine, which comprises three open pits providing copper / gold ore to an onsite processing plant.

#### EAGLE MINE

Eagle Mine is an underground nickel and copper mine that was extended underground to the Eagle East deposit, from which the first ore was produced in 2019. Ore from the mine is transported by truck approximately 105 km to a processing plant at the Humboldt processing facility.

#### **NEVES-CORVO**

Neves-Corvo is a copper, zinc and lead underground mine providing ore to two onsite processing plants. Development of the Zinc Expansion Project (ZEP) that, at completion will double the zinc production, continued throughout 2019.

#### ZINKGRUVAN

The Zinkgruvan mine consists of an underground mine that produces zinc, lead, silver and copper ore that is delivered to onsite processing facilities.

#### **OUR EXPLORATION** AND NEW BUSINESS **DEVELOPMENT GROUP**

The strategy of the Exploration and New Business Development Group is to support production growth, economic viability and sustainability of Lundin Mining by further developing and expanding mineral resource and mineral reserve potential at existing operations to extend mine life, and to seek new business and discovery potential from advanced-stage exploration projects.

Our total exploration expense for 2019 was \$61 million, a decrease of approximately \$14.2 million from 2018 levels. The majority of exploration activity for 2019 was directed towards near-mine targets, which continued to be highly successful at Candelaria and Zinkgruvan. Exploration drilling was concluded at Eagle in August 2019. Following the acquisition of Chapada in July 2019, Lundin Mining accelerated exploration drilling with a focus towards near-mine copper exploration.

#### **OUR CUSTOMERS** AND MARKETS

Lundin Mining's mineral concentrate products are transported in bulk by covered trucks or rail cars to outbound ports for shipping or directly to smelter facilities for further processing. Concentrates are mainly sold under multi-year sales contracts to a variety of smelter customers in Europe, Asia and the Americas. The end-users of our products are global. More information on our customers and markets is in the Materials and Product Stewardship section of this report.

#### **OUR SUPPLY CHAIN**

Lundin Mining relies on an international network of suppliers for the provision of products and services required to support business activities at our mines. The largest categories of suppliers across our operations in 2019 included, in alphabetical order: cement, chemicals, construction, electrical, energy, engineering, equipment and parts, exploration drilling, explosives, fuel, maintenance, mechanical, mining contractors and transportation. In recognition of the increasing importance of supply chain practices, Lundin Mining established a corporate supply chain function to create a global framework and deliver a strategic roadmap of deploying process improvements and governance at all operations. Aligned with our RMMS Standard, Supply Chain focuses on increased service levels to customers, optimizing working capital and delivering on value-add initiatives. Supply Chain has implemented standards to govern best practices and to ensure fair and equitable bidding processes, evaluations and awarding of contracts under competitive environments that are managed responsibly. Lundin Mining has also established a Collaborative Sourcing Strategy focused on synergies and volume-level benefits across our portfolio of operations that aims to establish ongoing global framework agreements with strategic suppliers and to focus on specific large spend categories for the benefit of multiple operations.



Eagle East – Exploration Aerial View

#### **DEFINING OUR REPORT CONTENT**

Our 2019 Sustainability Report focuses on topics that are most material – of greatest interest – to our business and stakeholders. In our most recent materiality assessment (2017), we undertook a comprehensive update of our materiality approach through an extensive internal and external stakeholder consultation process, in alignment with the GRI Standards framework and the reporting principles of stakeholder inclusiveness, sustainability context, materiality and completeness. This process identified material sustainability topics in terms of the potential economic, environmental and societal impacts of Lundin Mining's activities, based on their importance to stakeholders, as well as for the minerals sector in general. We report on these material topics in significant detail. This report also contains information on topics that were not formally assessed to be material, to present a more comprehensive view of our operations and activities. Our material topics have not changed since the last reporting period; we plan to update our materiality assessment in 2021, with the full integration of our Chapada operation. As we continue to advance our efforts to integrate the SDGs into our business strategy, day-to-day operations and organizational culture, we have prioritized the SDGs that are most relevant to our material topics.

# **Our Material Topics** and Key Focus SDGs

Labour Relations

Child labour,

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forced labour

Freedom of association

and labour relations

Employee engagement

# OUR PEOPLE

Health and Safety

Workplace health and

safety management

and performance

Emergency and crisis

preparedness

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## 40

44



36



Economic Performance

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 Economic value creation Financial performance

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36



 Local procurement Local employment



ENVIRONMENT



Water

73 **Rock Management** Integrated watershed

- Tailings management
- Waste rock management
- Emergency and crisis preparedness



Water availability



**Climate Change** 

GHG emissions

GHG reductions

Adaptation

Reclamation and Closure

- Mine closure plans (including environmental and social elements)
- Long-term water stewardship
- Long-term land stewardship
- · Social framework for closure
- Financial provisions



85



SOCIAL PERFORMANCE

49

26



#### Stakeholder Engagement

- Community relations
- Grievance mechanisms and feedback



- Indigenous Relations 55
- Engagement Free prior and
- informed consent Use of traditional
- knowledge
- Collaboration agreements









46

16

Community

- Community investment
- Capacity building

60





Development





77

management and sharing of water

 Water withdrawal and recycling • Water quality (including discharges



95

#### **Independent Assurance** of Our Report Content

Our commitment to transparent and credible sustainability reporting is demonstrated by our choice to have selected material disclosures independently assured since 2014. We aim to maximize the value of our sustainability reporting by providing our local communities, investors and other stakeholders with a greater sense of confidence in our disclosures. Each year, our assurance process includes a representative site visit and data audit at one of our mines, as well as a detailed audit of selected GRI data from our operations used in the development of this report. Due to the COVID-19 outbreak, the assurance visit planned for our Neves-Corvo mine in Portugal in March 2020 was cancelled. Instead, the assurance process was conducted remotely, based on data review and conference calls with corporate staff.

The 2019 independent assurance process was conducted for the following performance indicators for all Lundin Mining operations, according to GRI Standards:

- **Safety** Total Recordable Injury Frequency rate (TRIF) and Lost Time Injury Frequency rate (LTIF);
- Water total amount of water withdrawn from all sources and total amount of water discharged;
- Energy total energy consumption within Lundin Mining's operations, including electricity and liquid and gaseous fuel consumption;
- Greenhouse Gas (GHG) Emissions Scope 1 and Scope 2 (location-based and market-based) emissions;
- Stakeholder Engagement as it relates to the AA1000AS 2008 principles of inclusivity, materiality and responsiveness; and
- **Grievance Mechanism** grievances filed during the year, including number, description, actions taken and outcome.

# 2019 Performance Highlights



# 2020 Sustainability Goals



## + HEALTH AND SAFETY

Injury Frequency (TRIF) rate

# ECONOMIC PERFORMANCE

Continue to maintain balance sheet strength and flexibility to act on compelling growth opportunities.

Manage efficient, effective, operating expenditures ensuring more productive operations and achievement of financial returns.

Execute Neves-Corvo's ZEP Project as planned while optimizing sustaining capital expenditures.\*

Evaluate climate change risk to operations and communities and develop initiatives or action plan.

Finalize a corporate-wide sustainability strategy to supplement and align with longterm environmental strategy.

# SOCIAL PERFORMANCE

Advance implementation of the site-level 5-year social performance plans and develop a 5-year strategic social performance plan for Chapada

Implement our Human Rights Policy and act to address the opportunities for improvement from site-level HRRIA findings.

Develop a corporate approach and methodology for the routine monitoring of community perception at each site.

\*The 2020 Sustainability Goals are established during the annual planning cycle. The March 15, 2020 announcement that the Company has temporarily suspended the ZEP Project to mitigate COVID-19 risks will affect the achievement of this goal, although the Company will continue to work to optimize capital expenditures.

# Our Performance Against 2019 Targets

of Human Rights Policy.

**OUR ANNUAL SUSTAINABILITY TARGETS** are aligned with our Responsible Mining Policy and help us achieve continuous performance improvement in priority areas. In establishing our targets, we consider the results of internal risk assessments, stakeholder feedback monitoring and continuous improvement of existing processes and procedures.

2019 Target	Result	Highlights
Ø GOVERNANCE		
Roll out the Diversity and Inclusion Policy to all employees and Board members.		The Diversity and Inclusion (D&I) Policy, approved in early 2019, was released. The corporate office developed and rolled out a gender diversity plan.
Support the corporate social team to conduct a Company- wide Human Rights Risk Impact Assessment (HRRIA).		An HRRIA was initiated at several of our operations using the framework of the UNGPs, Voluntary Principles on Security and Human Rights, UNGO and other codes and standards reflecting international best practice. Candelaria and Chapada assessments are scheduled for 2021.
Executive Risk Committee to approve updated risk likelihood and impact definitions as part of a broader review and update of Lundin Mining's Risk Management Statement and Framework.		The Risk Management Statement and Framework were updated but approvals were not completed by year end.
Improve operational risk management understanding and practices through redeployment of the refreshed Risk Management Framework.	•	The Risk Management Framework was reintroduced to all operations, and formal risk reviews were conducted with each operation. The Risk & Uncertainties section of the <u>AIF</u> was materially revised and updated based on a best-in-class benchmark exercise.
Support development and implementation		The Human Rights Policy was drafted in 2019 and is expected to be adopted in 2020.

2019 Target	Result	Hig
+ HEALTH AND SAFETY		
Ensure zero fatalities.		The
Achieve a Total Recordable Injury Frequency (TRIF) rate of 0.60 or better.	•	The
Increase Zero Harm weeks over 2018 performance.		Wit Zer whi
Meet 2019 industrial hygiene sampling plan targets.		2,15
ECONOMIC PERFORM	ANCE	
Manage efficient, effective, operating and capital expenditure ensuring more productive operations and achievement of financial returns.	•	Anr Car casl half a re <u>ope</u>
Advance growth through internal expansion and exploration initiatives, maximizing the value of our assets.		Pre- Sou ahe of o at C ZEP
Maintain balance sheet strength and flexibility to act on compelling growth opportunities.	•	Our the fina

## lighlights

here were no fatal injuries.

he 2019 TRIF of 0.66 was a modest improvement over 2018's TRIF of 0.67.

Vith the integration of Chapada mid-year, Company-wide ero Harm weeks were unchanged at 10 compared to 2018, *I*hile site Zero Harm weeks increased by 22 over 2018.

,159 industrial hygiene samples were collected against a plan of 1,205.

Innual production guidance was achieved for all metals at all operations. Fandelaria, Chapada, Neves-Corvo and Zinkgruvan achieved annual ash costs in-line with or better than Company guidance. The second alf of 2019 saw the realization of benefits from improvements made as result of our investments. This is reflected in the Company's <u>published</u> <u>perating and financial results</u>.

re-production development of the Candelaria Underground outh Sector project and first ore from Eagle East were both completed head of schedule. Our exploration program contributed to the expansion f our mineral resources and reserves with significant increases achieved t Candelaria. Candelaria's Mill Optimization Project and Neves-Corvo's EP Project made significant progress.

Our strong balance sheet allowed us to successfully acquire and finance ne Chapada mine in July. Post-acquisition, the Company retains the nancial flexibility to pursue further growth opportunities.

# **Our Performance** Against 2019 Targets

 Partially Achieved
 Not Achieved Achieved

2019 Target	Result	Highlights
CUR PEOPLE		
Measure and monitor employee engagement and develop action plans to address areas of opportunity.	•	An employee engagement survey was conducted for corporate and site leadership, with an 89% participation rate achieved. Action plan development was initiated. Our operations also conduct broader surveys with their employees.
Launch a competency-based performance appraisal framework to develop our future leaders.	•	A competency model was designed and will be launched in 2020.
Launch and implement our Diversity and Inclusion Policy that will formalize our commitment to diverse and inclusive workplaces.		The Board Diversity Policy and Diversity and Inclusion Policy were approved in February and May 2019, respectively, and communicated globally. Assessments were completed successfully and priority areas for action identified.
Launch and implement formal Global Mobility Guidelines to ensure transparency and consistency to the management of our global workforce.		Global Mobility Guidelines covering short-term assignments, long-term assignments and relocations were published and rolled out across the organization.
Complete first environmental conformance audits against the new RMMS across all sites.		RMMS conformance audits were completed at all our pre-Chapada acquisition sites. The development of action plans to address findings and recommendations was initiated for follow-up in 2020.
Continue to demonstrate measurable progress on key water, closure and permitting- related initiatives.		The Company Mine Closure and Water Standards were updated, approved and rolled out to sites. All site project-permitting-related initiatives were completed (e.g., ZEP, Eagle East).
No Level 3 or above environmental incidents.	•	Two Level 3 incidents were recorded, both resulting from the rupture of the tailings pipeline at our Neves-Corvo mine. The tailings and any contaminated soils were removed and the section of the pipeline was subsequently replaced.

2019 Target	Result	Hig
Advance development and implementation of the Five-Year Sustainability Strategy to provide direction and support to site-level initiatives.		Dev a Se agre of ir
Advance Company-wide climate change adaptation planning.		Lun tool and
SOCIAL PERFORMANCE	Ξ	
Finalize development and implement our Human Rights Policy. Conduct a Company-wide Human Rights Risk and Impact Assessment (HRRIA).		The rele Eag Cha
Develop local procurement objectives and targets as part of our Company-wide approach to economic development and diversification.		Give Lun this targ sup
Focus community investments to support:		Lun sup
<ul> <li>Economic empowerment of women;</li> </ul>		and and for
<ul> <li>Increase representation of women in our workforce; and</li> </ul>		101
<ul> <li>Education programs for girls in our host communities.</li> </ul>		
Develop action plans in response to community- perception survey results for at least two of our sites.		Eag rest stra and
Develop a gender parity strategy and plan for at least one site.		Our dive and ben and incr

## ghlights

evelopment of sustainability strategy was advanced, including Senior Management review of the sustainability approach and reement on areas of focus. Although not progressed to the point implementation, the strategy remains an area of focus for 2020.

ndin Mining developed a climate adaptation and mitigation planning olkit which will be used throughout the Company to assess risks d opportunities related to climate change adaptation and mitigation.

e Human Rights Policy was drafted and is expected to be publicly eased in early 2020. HRRIA assessments have been completed at gle, Zinkgruvan, Neves-Corvo and Peru. HRRIA's are planned for apada and Candelaria in 2021.

ven the success of tailored local procurement initiatives across our sites, ndin Mining has decided not to establish a Company-wide approach at s time. Each site prioritizes and supports local procurement through geted programs and initiatives, including community investment to pport economic development and diversification.

ndin Mining continued to focus community investments in pport of the goals identified, including support for career fairs d funding programs for women entrepreneurs, in-house hiring d recruitment initiatives and a corporate-level mentorship program women in mining.

gle and Neves-Corvo incorporated community perception survey sults into their respective annual and five-year business plans and ategies to ensure community concerns are integrated into planning d decision-making.

Ir corporate Diversity and Inclusion Policy was released and a gender versity plan developed and rolled out. All sites conducted a gap analysis, d Neves-Corvo, with corporate support, initiated the development of a nchmarking tool to assess opportunities to advance gender diversity d inclusion. Global benchmarking was undertaken to inform and further crease gender parity and diversity at all levels of the organization.

# IN THIS SECTION

Our Approach	20
Our Governance	20
Our Performance	22
Human Rights	24

## OUR APPROACH

Lundin Mining is committed to maintaining high standards of ethics, corporate governance, honesty and accountability, aligned with our *Mission and Values*, in all aspects of our business by enacting robust corporate governance processes and ensuring our employees understand, and consistently meet, the standards formalized in the Company's RMMS, RMP and RMF. Lundin Mining values the benefits that diversity can bring to its Board of Directors, members of senior management and employees of the Company and its subsidiaries. This commitment to diversity and inclusion contributes to making our Company a more successful business and an employer of choice. We foster an inclusive and diverse workplace that does not tolerate harassment or discrimination based on gender, age, race, national origin, marital status, sexual orientation, religious beliefs, disability or any other personal characteristics protected by applicable law.

## OUR GOVERNANCE

The Board of Directors (the Board) is primarily responsible for the oversight of management, as well as Lundin Mining's strategy and business affairs. The Board ensures that appropriate governance mechanisms are in place to monitor the Company's development, and that relevant information and reporting are provided, including progress and continuous improvement efforts concerning its economic, environmental and social performance. The Board has eight members (75% male and 25% female), six of whom are independent, non-executive directors.



# Governance



#### **Business Ethics**

The Company, its subsidiaries and their respective directors, officers, employees, consultants and contractors are expected to conduct business activities ethically and transparently by following our <u>Code of Conduct, Ethical</u> <u>Values and Anti-Corruption Policy (the Code)</u> in accordance with the <u>by-laws of Lundin Mining Corporation</u>, relating generally to the conduct of the business and affairs. The Code, available in all our operational languages, articulates definitions and expectations related to the avoidance of situations that may constitute a conflict of interest. Measures are in place to support key employee reviews of the Code annually or during on-hire induction.

The Disclosure and Confidentiality Policy establishes procedures that regulate the disclosure of information about Lundin Mining to the public promptly and ensures that when information has not been publicly disclosed it remains confidential. Employees have certain responsibilities under the provincial securities laws of Canada and applicable



Chapada – Mission and Values

LUNDIN MINING

22

securities laws and regulatory policies in Sweden regarding inside information and the trading of the corporation's securities. Employees have an obligation to the corporation with respect to business conduct and conflicts of interest; the <u>Blackout Period Policy</u> explains the obligations that employees have under the law and to the corporation.

#### Whistleblower Policy

The Board, through the Audit Committee and the Corporate Governance and Nominating Committee (CGNC), has enacted a Whistleblower Policy, revised in 2019, to establish a protocol for the receipt, retention and treatment by the Company and its subsidiaries of concerns reported from its directors, officers, employees, consultants and contractors regarding any known or suspected accounting, financial or auditing irregularities or any other known or suspected violations of the Company's Code of Conduct. The Whistleblower Policy establishes a Company-wide protocol and line of communication for the confidential and, if desired, anonymous reporting of improper conduct and investigation of any fraudulent, unethical or illegal financial activity, or any behaviour that violates the Code. The Company has a strict non-retaliation policy to ensure that those who report in good faith are protected from reprisal.

## OUR PERFORMANCE Diversity and Inclusion Policy

In March 2016, the corporation adopted a written Diversity Policy. In 2019, the corporation adopted a Board Diversity Policy and a Company-wide <u>Diversity and Inclusion Policy</u>. The two policies were amended and unified in 2020 to align with legislative changes. The updated policy also reiterates Lundin Mining's commitment to workplace diversity and inclusion with a focus on supporting the representation of women at the director, executive and senior management levels of Lundin Mining. Under the Diversity and Inclusion Policy, as updated in March 2020, the CGNC is responsible for making recommendations to the Board regarding targets and timeframes for achieving the representation of women on the Board and in Executive Officer positions, as applicable.

#### Anti-Corruption and Anti-Bribery

In 2019, there were no known incidents of corruption. In alignment with UNGC Principle Ten: Anti-Corruption, Lundin Mining has a zero-tolerance policy for bribery and corruption by directors, officers, employees, consultants and contractors of the Company, with even the appearance of impropriety deemed unacceptable. We conduct internal audits of all our business units and have robust internal financial controls and processes in place for monitoring and oversight concerning financial aspects of operations. The Company's internal control over financial reporting (ICFR) is designed to provide reasonable assurance regarding the reliability of financial reporting and preparation of financial statements for external purposes.



Lundin Mining – Board of Directors

#### Risk Assessment and Management

Lundin Mining has a systematic approach to identify, analyze, evaluate and manage material business risks. Our approach is based on the ISO 31000 Risk Management standard and follows a "plan-do-check-act" model that considers a broad spectrum of stakeholders and risk exposures. both internal and external, intended to identify and leverage potential opportunities that may be identified through the risk assessment process. At site and corporate levels, we conduct risk assessments to evaluate operational, health and safety, environmental, social, business, finance and reputational risks and opportunities, among others. We rank identified risks based on the likelihood of event occurrence and the nature and degree of event impact on business strategies and objectives. Significant, or "key," risk exposures are those that are assessed as having

organization and its stakeholders. Our risk assessment process is iterative, based on both quantitative and gualitative data, and is incorporated into our business activities. Identified key risks and the implementation and effectiveness of related risk mitigation strategies are monitored and reported quarterly to the Executive Risk Committee (ERC), the Board HSEC Committee and the Board Audit Committee. The precautionary principle is integrated into our risk management process whereby, to protect the environment, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation aligned with UNGC Principle Seven: Environment.



the potential to result in a major or catastrophic net impact on the organization and its stakeholders.

At an enterprise level, and as noted in Lundin Mining's most recent AIF, we focus on proactively managing our most significant risks. These risks include, among others, monitoring commodity price and exchange rate fluctuations; managing the impact of infectious disease and viral outbreak. including the novel COVID-19 virus; securing environmental and other permits critical to our operations; maintaining our social license and community support; addressing the evolving regulatory landscape; eliminating or controlling environmental risks associated with mining activities; ensuring tailings storage facility integrity; and eliminating, minimizing and controlling key operational and health and safety risks.

# Governance

#### **External Commitments**

Lundin Mining's RMP, RMF and our RMMS are aligned with the Government of Canada's Enhanced Corporate Social Responsibility Strategy and other voluntary national and international initiatives to which we commit, including the following:

- Organization for Economic Cooperation and Development Guidelines for Multi-National Enterprises;
- United Nations Guiding Principles on Business and Human Rights;
- United Nations Global Compact;
- Voluntary Principles on Security and Human Rights;
- International Finance Corporation Performance Standards on Social and Environmental Sustainability;
- Global Reporting Initiative;
- Prospectors and Developers Association of Canada e3 Plus; and
- CDP Climate Change, which is aligned with the voluntary Task Force on Climate-related Financial Disclosures (TCFD) recommendations.

#### Memberships and Associations

Involvement with memberships and industry associations enables Lundin Mining to keep current regarding matters of public policy, emerging sector and sustainability trends, regulatory updates, stakeholder interests and the sharing of industry best practices. In 2019, Lundin Mining was a member of, or participant in, associations listed at https://www.lundinmining.com/responsible-mining/lundinmemberships-and-associations/

#### **HUMAN RIGHTS Our Approach**

Lundin Mining conducts its business in alignment with the United Nations Guiding Principles on Business and Human Rights. Respect for human rights is a fundamental commitment, consistent with our Mission and Values, and is stated within our Code and the RMP. As a signatory to the UNGC, Lundin Mining has committed to advancing all Ten Principles of the UNGC, including Principles One and Two: Human rights and respect for human rights, as outlined in the United Nations Universal Declaration of Human Rights. Our Human Rights Policy was drafted in 2019 and is expected to be adopted in 2020 following presentation to and approval by the Board of Directors.

#### **Our Performance**

In 2019, we initiated a Company-wide Human Rights Risk and Impact Assessment (HRRIA), using the frameworks of the United Nations Guiding Principles (UNGPs), Voluntary Principles on Security and Human Rights, UNGC and our codes and standards reflecting international best practice. A team of independent experts led the assessments, which included site visits and interviews with site personnel and local stakeholders. The assessments are broad in scope, covering areas including:

- impacted communities;
- environmental impacts;
- security arrangements;
- worker arrangements;
- procurement and supply chain management; and
- business relationships (e.g., business partners and host governments).

Human Rights	Salient Issue	Description	Actions to address
Right to a remedy and access to a remedy	Grievance mechanisms	Not all community members are aware of the grievance mechanism available to them	New stakeholder engagement standard includes specific requirements for communicating the grievance mechanism
Non-discrimination,	Non-discrimination,	Gender barriers in the workplace	Diversity and inclusion benchmarking
just and favorable working conditions, decent work	equal opportunities and fair treatment	Use of offensive or inappropriate language in the workplace	Reinforcement of the Code of Conduct and Whistleblower Policy
		Perception of unequal treatment among workers	

## Zinkgruvan's Second Annual Askersund Lakeside Pride



For the second consecutive year, Zinkgruvan co-hosted the Annual Askersund Lakeside Pride festival. Closely aligned with Lundin Mining's Mission and Values, as well as corporate diversity and inclusion policies, the event aimed to encourage inclusion, collaboration and open dialogue between the community and the operation. Following up on last year's LGBTQ+ Pride event in

the region, this year's festival featured drag shows, talk shows, dance, music and dramatic performances, and a movie screening. Zinkgruvan flew its rainbow Pride flag at its main building during the event to demonstrate its commitment to equality, tolerance and inclusion. It also led an educational component at the event, offering diversity and inclusion training to other companies and community members.



SDG TARGETS: 4.4





Any form of discrimination in the work place is deemed unacceptable by Lundin Mining. Several human rights-related grievances were filed in 2019 through the Company's grievance mechanism or whistleblower reporting hotline. In each case, management investigated the matter and, where the claim was verified, appropriate management actions were taken.

In 2019, our Candelaria operation was notified by the Chilean National Contact Point of a complaint filed on behalf of a group of people living in the local area alleging a breach of the OECD Guidelines on human rights and associated environmental damage. Factors cited mostly related to dust, blasting and impacts or potential impacts associated with waste rock piles. The Company operates in accordance with all permits and legal requirements and therefore disputes the allegations. Nevertheless, Candelaria values constructive dialogue and has actively engaged with the Chilean National Contact Point to provide information and offered a site visit, anticipated to take place following the lifting of COVID-19 travel restrictions.

Assessment reports evaluate the risk of human rights impacts and provide recommendations to address these potential impacts. In 2019, we completed HRRIAs at Eagle, Zinkgruvan, Neves-Corvo and Amauta Peru. Chapada's and Candelaria's assessments are scheduled to start in 2021. HRRIA findings include positive contributions to the enjoyment of Human Rights and related SDGs in the areas of engagement with local communities (Right to information, consultation and participation), positive impacts on local employment (Right to an adequate standard of living), and confirmation of health and safety as priorities for employees and contractors (Right to safe and healthy working conditions), among others.

Although all sites met local requirements regarding human rights, several opportunities for improvements were identified as a result of comparing local performance and stakeholder perception with international standards, current systems and effective implementation. Where an HHRIA was completed in 2019, our sites are working on action plans to address issues and reinforce positive contributions. Examples of the current approach are detailed in the table below.



Candelaria – Employee Meeting

# 4

## IN THIS SECTION

Materiality	26
Our Approach	26
Our Performance	30
Industrial Hygiene and Occupational Health	33
Crisis Management Planning and Emergency Preparedness	35

## 

Health and safety is a material topic for Lundin Mining because the health, safety and well-being of our workforce is our first value as a Company. We hold health and safety as our top priority in everything we do. We believe that all occupational injuries and workrelated illnesses are preventable. Our aim is Zero Harm. We have translated this into an operational objective to send everyone home safe – every shift – every day. This objective applies to our employees, contractors, suppliers and visitors.

## OUR APPROACH

At Lundin Mining, we are committed to Zero Harm and to providing our workforce with a safe, healthy and productive work environment wherever we operate. Our *Values*, Safety, Respect, Integrity and Excellence, were established as the foundation for our approach to health and safety in 2019. Throughout the year, we worked to materially improve our hazard identification and elimination processes; enhance personal safety accountability across all levels of the organization; reduce long-term occupational health risk exposures; and improve our fatality prevention efforts.

While 2019 presented us with a few performance challenges in health and safety, each of our operations was actively involved in implementing creative initiatives to help reduce risks and incidents and to eliminate injuries and illnesses in support of our Zero Harm objective. With Chapada joining Lundin Mining mid-year, we brought another mature and robust safety culture into the business.



AND SA

# Health and Safety



Eagle - Safety Underground



Zinkgruvan – Industrial Hygiene Sampling

#### **Success Through Collaboration**

To achieve our Zero Harm objective and our goal of making Lundin Mining "Safer Every Day," we depend on the collaboration, teamwork, engagement, commitment and involvement of everyone in our workforce - employees and contractors alike. Our workforce is actively involved in health and safety through our participation in working groups, project teams, business improvement initiatives and health and safety committees, or by way of designated health and safety representatives. All operations have active safety committees with both worker and management representation and hold regular safety meetings. Segments of our workforce are also represented by collective employee labour agreements that contain specific safety provisions.

#### Making a Difference

By continually striving to improve the health and safety of our work practices, we can have a direct and positive effect on our stakeholders, including our employees, contractors, suppliers and those who live and work in the communities where we operate. We work to set the example when it comes to health and safety, and we share safe work practices and any lessons learned with all who are interested.



#### Health and Safety Management Systems

Lundin Mining's RMP and RMMS standards set the context for the Company's health and safety management system. RMMS requirements apply to all employees and contractors working at Lundin Mining. The RMMS standard is aligned to OHSAS 18001 requirements. Two of our operations, Candelaria and Chapada, are also certified to OHSAS 18001. Our health and safety management system is rounded out with workplace hazard identification and control,



Neves-Corvo – Underground Operations

gualitative and guantitative risk assessments, Life-Saving Rules, High Consequence Protocols (HCPs), safe work procedures and permit systems, safe work observations, and incident reporting and investigation. Each of our operations must have training and formalized safe-work procedures to address each of the requirements of the HCPs.

#### Health and Safety Reporting

All incidents that result in a reportable injury, and noninjury incidents with high potential for injury, are analyzed and shared weekly across the Company to emphasize key learnings and to contribute in a timely way to the prevention of recurrence. Lessons learned from the most significant incidents are shared and discussed across operations during quarterly meetings.

Consolidated health and safety performance data are frequently evaluated to identify trends and develop focused incident and injury prevention strategies. Statistics, incident details and summary investigation findings are readily available and accessible to employees, contractors and visitors. Health and safety performance results are reported to corporate senior leadership and shared across our operations monthly, then reviewed guarterly with the Board's HSEC Committee.

## Not Myself Today<sup>®</sup> – Mental Health Awareness

In 2019, Lundin Mining's Toronto Head Office participated in a mental health awareness initiative in partnership with the local mental health association to bring awareness and start a conversation about mental health. Not Myself *Today*<sup>®</sup> is an initiative from the Canadian Mental Health Association (CMHA) and is based on the insight that there are days when we don't feel like ourselves. Most of us learn or are told to suppress these feelings or thoughts about our mental health; however, it's important to take care and acknowledge them. An important part of this conversation is connecting people to the resources they need to address their mental health and to build empathy and understanding toward those living with mental illness. The first stage of this campaign was the dissemination of mood pins that employees can voluntarily wear while at work. Since 2013, more than 450 companies and organizations across Canada have taken part in the Not Myself <u>Today</u><sup>®</sup> campaign, with all funds generated directly supporting the work of CMHA.

> PRIMARY SDG(S):



SDG TARGETS: 3.4



# Health and Safety

# Lundin Mining Supporting Good Health and Well-Being

In 2019, as part of an agreement with the local municipality, and to encourage women's health in the Copiapó Valley, Candelaria inaugurated a new digital mammography clinic at the Family Health Center of Tierra Amarilla. It includes a state-of-theart mammography unit and will allow for early diagnoses of breast cancer in both men and women in the community. The clinic averages 100 scans per month for patients between 20 and 50 years of age.

At our exploration site in Peru, a health campaign was conducted in collaboration with the staff at the local medical centre in Acarí. Approximately 50 residents of the towns of Amato and Otapara were seen by the medical staff. who conducted health checks and administered vaccinations.

In October, through the Partnership Seminar, Chapada donated a new dental chair to the Santa Rosa Health Center, of the Nova Iguacu de Goiás City Hall. The city installed additional equipment and furniture and adapted the room with its own resources. As a result, the facilities were modernized in order to improve dental care for the population. The Health Secretariat and the City Hall are now renovating a second room with their own resources, ensuring healthy living and promoting well-being for all ages.



#### **OUR PERFORMANCE**

We measure our health and safety performance using a combination of leading indicators, lagging indicators and performance targets established during the annual business planning process. These are published in corporate and site Annual Health, Safety and Risk Action Plans that are available to our employees and contractors. Lundin Mining follows the US Occupational Safety and Health Administration (OSHA) definition of medical treatment for classification of recordable injuries at all operations, and our reporting is aligned to the International Council on Mining & Metals (ICMM) Health and Safety Performance Indicators manual.

Select leading indicators are used to help identify strengths and weaknesses in our health and safety systems, and to highlight areas where we need to act upon issues or risks with the potential to result in an incident, injury or illness. During 2019, more than 33,000 leading indicators were reported.

Our primary lagging indicator for measuring health and safety performance, and for benchmarking against our peers, is the Total Recordable Injury Frequency (TRIF) rate. Other lagging indicators are Lost Time Injury Frequency (LTIF) rate, Medical Aid Frequency (MAF) rate, Lost Time Severity Rate (SR) and All Injury Frequency rate, the latter of which includes first-aid injuries. All rates are calculated based on a 200,000-hour formula.

There were 75 recordable injuries during 2019, with 46 being lost-time cases, resulting in a TRIF rate of 0.66. While the TRIF rate did not meet our target of 0.60, it was a slight improvement over 2018, when the TRIF rate was 0.67. The 2019 LTIF rate was 0.40; the SR was 15 against a target of 18; and the All Injury Frequency rate was 1.83 against a target of 2.0. There were 133 first-aid injuries across the business in 2019, down from 143 in 2018.

Hours worked during 2019 increased 19% over 2018, principally due to acquiring Chapada in July, an increase in near-mine exploration activities, increased project-related activities (notably ZEP) and other construction across the business.

Overall, 2019 safety performance was impacted by an increase in total recordable injuries compared to 2018. This increase is attributed to the increased hours worked, activities associated with Candelaria improvement projects, the Neves-Corvo ZEP program, Eagle East-related work, the addition of the Chapada mine and several significant, planned maintenance shutdowns. Lundin Mining's safety objective remains Zero Harm, and our aim is to send everyone home healthy and safe every day. The 2020 Health, Safety and Risk Action Plan will focus on recordable injury prevention at each operation through the elimination of repeat or similar incidents and by enhancing workplace hazard recognition and elimination processes.



Neves-Corvo – Safety

#### Safety Perfo

Total Recorda Frequency Lundin Minir Lost Time Inj Lost Workday Lost Time Se Fatalities Total Hours \

<sup>1</sup> Our safety performance includes both employees and contractors. <sup>2</sup> Total Recordable Injury Frequency rate (TRIF) is calculated as (total number of recordable injuries [including fatalities, lost time injuries, restricted work and medical treatment injuries] x 200,000) / total hours worked. <sup>3</sup> Lost Time Injury Frequency rate (LTIF) is calculated as (total lost time injuries x 200,000) /

total hours worked

1.80 1 60 1.40 1.20 1.00 0.80 0.60 0.40 0.20 0.00

0.76
2014



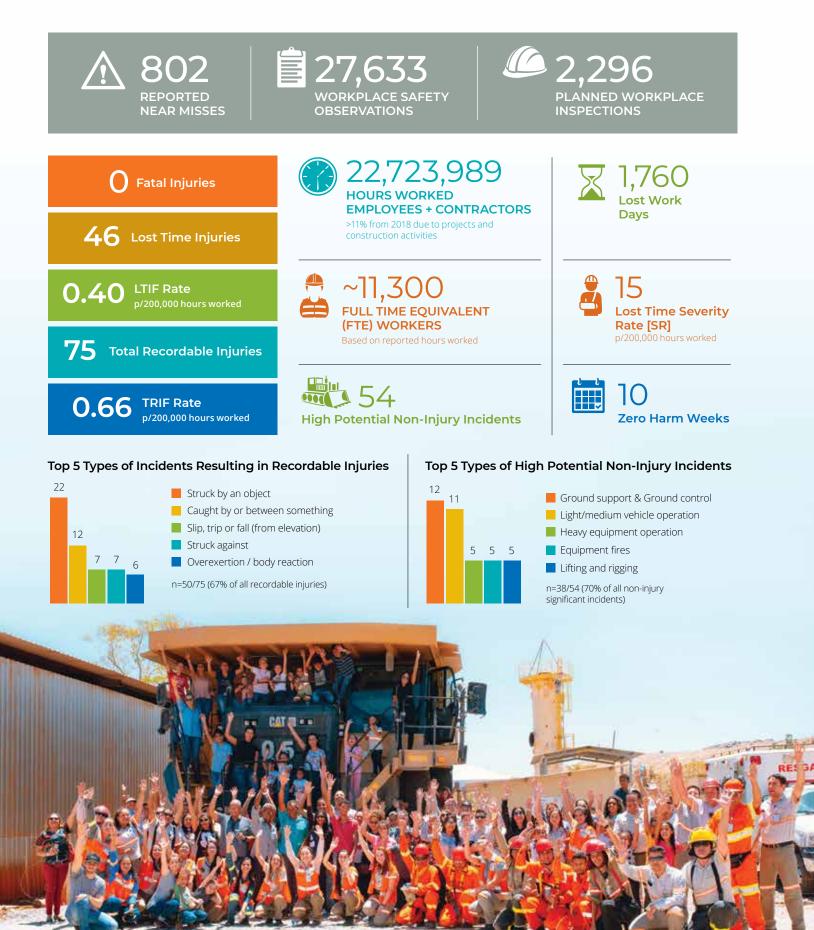
ormance Comparison <sup>1</sup>	2019	2018	2017
lable Injury y Rate (TRIF)²	0.66	0.67	0.56
ng TRIF Target	0.60	0.70	0.80
jury Frequency Rate (LTIF) <sup>3</sup>	0.40	0.35	0.30
iys	1,760	1,094	1,223
everity Rate (SR) <sup>4</sup>	15	12	14
	0	0	0
Worked	22,723,989	19,019,632	17,117,550

<sup>4</sup> Lost Time Severity Rate (SR) is calculated as (total lost workdays x 200,000) / total hours worked.

## Lundin Mining – TRIF / LTIF Rate Trends



# 2019 Safety at a Glance



#### **INDUSTRIAL HYGIENE** AND OCCUPATIONAL HEALTH **Our Approach**

Industrial Hygiene (IH) and Occupational Health are integral to our overall health and safety program. While our health and safety efforts focus on hazards that can result in an immediate incident or acute injury, our occupational health efforts are focused on identifying, monitoring and mitigating exposures to potential workplace hazards such as chemical, biological, physical or ergonomic agents that can lead to both acute illness or to chronic occupational disease.

Each of our operations maintains a risk-based IH program with a focus on identifying and monitoring potential exposures unique to their operating environment, processes or mining methods. When potential exposures are identified, we develop plans and strategies based on the hierarchy of controls to eliminate, control or to reduce potential risk to human health.

Building on work initiated in 2017, each of our operations has established baseline exposure data and profiles for their workforce and physical workplaces. These data are used to develop annual sampling and action plans to targe assess, control and reduce the risk of potential workforce exposure to harmful agents. Along with our planned sampling, additional IH samples are collected to support projects and studies; when new issues or concerns are identified; or when necessary, based on governmental or legislative compliance requirements.

#### **Our Performance**

During 2019, working with Zinkgruvan and Neves-Corvo management, Lundin Mining's Corporate Health & Safety Department kicked off a multi-year assessment study of lead. This study is focused on improving work practices and processes related to the production of lead concentrates. The objectives are to reduce workforce exposure to lead in line with best-in-class industry objectives and to meet voluntary consensus standards for lead-in-blood levels that surpass existing regulatory limits.

#### HEALTH AND SAFETY

Zinkgruvan – Health and Safety Underground

Industrial Hygiene Sampling Plan 2019			
Planned Samples		Additional Samples Taken	
1,205	1,488	671	2,159

In 2019, our IH program sampling and monitoring focused on 12 different workplace issues and agents of concern.

#### 2019 Industrial Hygiene Sampling Plan -Issues and Agents of Concern

	Diesel Particulate Matter	Relative Humidity
		5
	(DPM)	Ventilation
nd	Oxides of Nitrogen	Respirable Dust / Total Dust
	Temperature	Heavy Metals
	Noise	Workplace Illumination
	Silica	Metal Fume / Metal Dust
at	Radon	

# Health and Safety

## Safety Leadership Involves Everyone – Managing Risk<sup>™</sup>

Lundin Mining's Toronto office and many of our operations have participated in the Balmert Safety Leadership workshops. These workshops are part of our strategic Zero Harm initiative and are used to enhance the safety knowledge and awareness of our employees. We began offering Balmert Safety Leadership workshops across our operations in 2017. The most recent workshop sessions focused on Managing Risk<sup>™</sup> -Recognizing What Can Hurt Us<sup>™</sup> and were based on Paul Balmert's book, Alive and Well at The End of The Day. Balmert Consulting facilitated the workshops, helping our employees improve their risk identification and management skills. The workshop also benefited staff who visit or directly support our operations by ensuring they are equipped to support the broader Zero Harm effort.



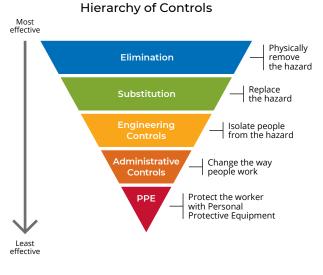




Candelaria – Safety Award

#### **Occupational Health**

We operate professionally staffed, on-site, occupationalmedical facilities at Neves-Corvo, Candelaria and Chapada. Zinkgruvan is supported by part-time medical professionals who conduct employee assessments and evaluations, while Eagle Mine and our corporate offices utilize outside medical service providers and community clinics. All employees have access to Employee and Family Assistance programs and confidential counselling services.



**Occupational health assessments** and workplace medical examinations conducted in 2019

#### **CRISIS MANAGEMENT** PLANNING AND EMERGENCY PREPAREDNESS

We work to maintain a high degree of emergency preparedness across the Company. As part of that process, we have developed crisis management plans and strategies for each of our operations, including our corporate headquarters, and we conduct formal crisis management training and a mix of practice and desktop scenarios annually. Our crisis management plans are supplemented by site-specific emergency response plans that are catered to the unique aspects of each operation. All our operations maintain emergency response capabilities, including a variety of firefighting and rescue equipment, as well as specialized personal protective equipment that is suited to each of the unique working environments and operational jurisdictions.

Our operations-based emergency responders and mine-rescue team members receive monthly in-house training on equipment and emergency response techniques. Practice exercises and simulated emergency scenarios, as well as external training, are provided to ensure that team skills are maintained. During 2019, teams from Neves-Corvo, Candelaria and Eagle participated in a variety of regional and international competitions to test their skills and capabilities against those of their peers.

#### Lundin Mining's Crisis Management Objectives

- and professionally.
  - affected or at risk.
- manage the situation.

- recovery plan.

Surface Emergency Response Teams	Trained Surface Emergency Responders	Underground Mine- Rescue Teams	Trained Underground Mine-Rescue Team Responders	Underground Refuge Chambers	Underground Mine Refuge Chamber Combined Capacity
11	363	8	121	87*	852

\*Includes 44 stand alone capable units

We conducted a third-party assessment of our emergency response and mine-rescue capabilities at Eagle Mine and Neves-Corvo during 2019.

• Take immediate control and manage the crisis effectively

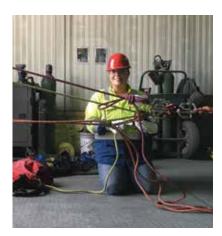
• Provide appropriate support to people who may be adversely

 Communicate effectively both internally and externally, including helping the media to focus on known facts and our actions to

• Provide necessary support to staff, contractors, suppliers, communities and our customers to minimize the impact of events on operations and the business.

 Maintain employee, community, public and shareholder confidence in management's ability to effectively manage the crisis.

 Continue to run the business effectively and efficiently during the crisis, while also developing and implementing an appropriate



Eagle – High Angle Rescue Training





# IN THIS SECTION

Materiality	36
Our Approach	36
Our Performance	38
Local Procurement	39

MATERIALITY Economic performance is a material topic for

Lundin Mining because the economic sustainability of our business is important to all our stakeholders. We strive to create meaningful value through the responsible acquisition, development, operation and closure of base metal mines, delivering shared value through effective partnerships and innovation while maintaining balance sheet strength and flexibility to act on compelling growth opportunities.

## OUR APPROACH

At Lundin Mining, we continuously monitor our performance and objectives, conduct opportunity and risk assessments and integrate these findings into our economic strategy. Financial information is presented in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board, and with interpretations of the International Financial Reporting Interpretations Committee, which the Canadian Accounting Standards Board has approved for incorporation into Part 1 of the *CPA Canada Handbook – Accounting*. Economic performance updates regarding our financial and operational results for the reporting period are available in other publications and financial disclosures. More detailed information can be found in the *Annual Information Form*, 2019 Annual *MD&A and Financial Statements* and the <u>Management Information Circular</u>.

Our economic strategy is focused on delivering strong production, cash costs and cash flow generation, maintaining a strong and flexible balance sheet and executing expansionary projects as planned. The Company is focused on improving productivity through operational excellence initiatives, value-added technologies and continuous improvement programs; and will remain committed to optimizing its sustaining capital expenditures. This strategy positions the Company to generate leading returns in a fluctuating and volatile commodity price environment.



# **Economic Performance**

#### OUR PERFORMANCE

Over the last few years, we have invested significantly in our operations and the Company began to realize the benefits of these investments in 2019. Our economic approach supported the successful acquisition and integration of Chapada, maintaining our balance sheet strength after this significant investment.

Lundin Mining's operations contribute to economic development and prosperity in regions where we operate through wages and salaries paid to employees and contractors, local procurement, taxes, royalties and fees paid to governments, and major community investments or initiatives that advance sustainable development.

As defined by GRI, our Total Economic Value Generated in 2019 was approximately \$1.9 billion, and Total Economic Value Distributed was approximately \$1.2 billion, as detailed in the following table.

US\$ 000s	2019	<b>2018</b> <sup>(a)</sup>	2017 <sup>(a)</sup>
Total Economic Value Generated	1,903,969	1,759,753	2,089,664
Total Economic Value Distributed	1,246,232	1,196,059	1,342,323
Total Economic Value Retained	657,737	563,694	747,341

<sup>(a)</sup> 2018 and 2017 Economic Value Distributed and Retained figures have been restated to include dividends paid to Lundin Mining's shareholders.

Given our commitment to work with our stakeholders to advance socio-economic development in the regions where we operate, we also measure our economic performance in terms of our community investment contributions. This information can be found in the Community Development section of this report.



Candelaria – Open Pit

## LOCAL PROCUREMENT Materiality

Local economic impact is a material topic for Lundin Mining because we recognize the importance in achieving meaningful economic benefits to the communities, businesses and governments of the localities and regions where we operate. Local procurement plays a significant role in terms of benefits to the local communities and their economies.

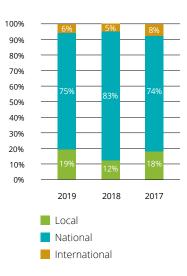
#### **Our Approach**

Lundin Mining's approach is based on local economic procurement decisions and processes that have significant and positive impacts on local economies, with associated benefits to businesses and communities in the regions of our sites.

#### Our Performance

In 2019, approximately \$1.63 billion of our goods and services were procured at the local or country level across the Company's operating sites in the United States, South America and Europe, increasing from \$1.58 billion in 2018 (or 95%, compared to 94% of total procurement in the previous year). The shift in percentages of procurement by local, national and international levels was driven in large part by the recent acquisition of Chapada.

#### **Total Procurement**

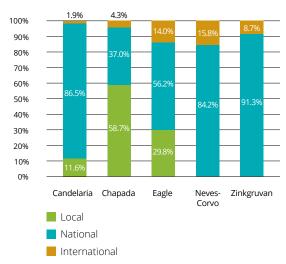




Zinkgruvan – Mill Operations

Zinkgruvan and Neves-Corvo define local procurement to include all goods and services procured at the country level and their local-procurement rates were 91% and 84%, respectively. Given the larger geographic scope of the United States, Chile and Brazil, these sites distinguish between local-level procurement (Michigan state-wide, Copiapó province-wide and Goiás State procurement, respectively) and country-level procurement (all other in-country procurement).

In 2019, goods and services that largely could not be sourced locally included specialized or heavy equipment, chemicals and certain types of specialized technical-consulting services. Rail and vessel shipping are also services that generally are procured outside of local areas.



## Procurement, by Site 2019



## IN THIS SECTION

Our Approach	40
Our Performance	40
Local Hiring	43
Labour Relations	44

#### OUR APPROACH

Lundin Mining is committed to its employees. We work hard to strengthen our culture of respect and transparency, and practice a management style that both listens to employees and actively addresses any concerns. We believe that success depends on a skilled and motivated workforce, and that employee engagement is key to employee retention. To effectively foster a meaningful work experience, we believe it is important that our employees have knowledge of the Company's direction and priorities and understand how their efforts and successes contribute to overall goals.

We continuously seek ways to improve and expand our employee communication channels to ensure that employees are kept up to date and informed. Employee training protocols and focused training initiatives further contribute to motivation and workforce engagement. We aim to create safe work environments that promote dignity and respect, and in which diversity and the contributions of all employees are recognized and valued. The Company supports freedom of association and collective bargaining aligned with UNGC Principles Three, Four, Five and Six: Labour.

#### OUR PERFORMANCE As of December 31, 2019,

Lundin Mining employed 4,170 employees globally, compared to 3,351 in 2018; and 7,192 contract workers, versus 5,564 the previous year. Overall, there were 11,362 people across five operating mines and offices in Brazil, Chile, Portugal, Sweden and the United States; our exploration locations; and our corporate office headquartered in Toronto, Canada. The acquisition of the Chapada operation added 755 employees and 974 contractors to our workforce. Contractors are primarily engaged in maintenance, mine development, mining and project activities; however, they also may temporarily replace workers on leave or are assigned to specific short-term projects.



# **Our People**



Chapada joins Lundin Mining

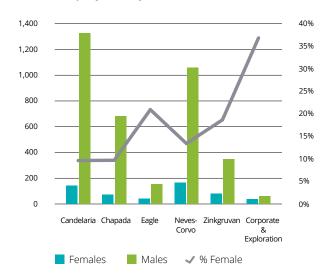
Zinkgruvan – Exploration

All contractors are included in our safety performance statistics and, in compliance with RMMS, are held to the same HSEC standards as our employees. The turnover rate for Lundin Mining in 2019 was approximately 7.0%, which is a decrease from 13.2% in 2018.

In 2019, Lundin Mining proactively recruited female applicants, promoted opportunities for women and made good progress in developing workplaces that accommodate the needs of female workers. Due to the mining industry being traditionally male-dominated, the attraction and retention of female employees are challenging, particularly for operational roles at the industrial sites. Regardless, we increased the number and percentage of female employees at each operation, and commitments were made to strive for continued growth in the number of women we employ across our organization.

The percentage of female employees in senior executive positions and on the Board is publicly disclosed. Diversity and inclusion performance is communicated through our corporate website and in our annual Communication on Progress (COP) to UNGC.

#### Employees, by Gender 2019





Candelaria – Underground Operations

## LOCAL HIRING

Materiality

Local hiring is material as it contributes to the local economy and our local communities and is another aspect of Lundin Mining's local economic impact.

#### **Our Approach**

At Lundin Mining, we make it a priority to draw our workforce from the local communities as much as possible to ensure that the economic benefit of employment remains in our host communities. Due to the developed regions where we operate, we have been fortunate to have the ability to source our workforce locally. However, it is occasionally necessary to source specific skills, levels of experience, or technical expertise from abroad.

#### Our Performance

In 2019, our operational site employees were almost exclusively from in-country, with expatriates accounting for only 0.88% of our employees across our operations. Contractors and suppliers are expected to have practices in place that support and parallel our policies and standards, such as our RMMS, and in this regard, we ask that our contractors and suppliers also adhere to a similar standard with respect to prioritizing local hiring.

42

# LTE / 4G Networks at Lundin Mining Underground Operations

Modernizing our mines and innovation form an important component of sustainable development. Historically, our operations have relied on VHF radio for wireless communication underground, supplemented by low-capacity data systems. To align with our *Mission and Values* and to contribute to the implementation of SDG 9. Lundin Mining has begun to innovate, taking a new approach to wireless solutions. Several underground LTE tests have been carried out and small, proof-of-concept networks are currently operational at Neves-Corvo and Zinkgruvan. This undertaking will be a multi-year project, with some solutions deployed immediately, active tests continuing, and further tests being explored. At Zinkgruvan, a Sandvik Automine LHD was operated successfully using the LTE network. Overall, it is expected that this and other new technologies will improve the health and safety of operators, and improve productivity, planning execution and quality control while reducing operational costs.

> PRIMARY SDG(S):



SDG TARGETS: 9.5



# **Our People**



Candelaria – Geologists Analyzing Drill Core

# LABOUR RELATIONS

Labour relations is a material topic for Lundin Mining as we believe that fostering an engaged workforce is fundamental in our ability to successfully operate, and that consistent and effective operation of our mines is vital to meet the customer and market demand for our concentrate products. The topic is broad, being relevant to our workforce, our business as a whole and our value chain.

#### **Our Approach**

Lundin Mining strives to create a safe, fair and respectful working environment for our employees and supports the unencumbered right to freedom of association and collective bargaining at all our operations. We monitor whether our activities have any adverse impacts on the human rights of our employees to form or join trade unions and to bargain collectively, and whether these rights are at risk at any of our operations. The relationships between the Company, its unions and employees are distinct at each of our mines; however, what is consistent is that our approach focuses on employee representation based on trust and transparency; respectful dialogue; and constructive, peaceful resolution of any concerns, if and when they arise. We engage with union leaders regularly on matters of local labour laws, business changes and the negotiation of contract terms and conditions.

We believe Board, senior management and employee diversity has tangible and intangible benefits that make Lundin Mining a more successful business and employer of choice. The Diversity and Inclusion Policy commits the Company to create an inclusive and diverse work environment. In 2020, we will focus on diversity and inclusion awareness training and establishing minimum requirements across Lundin Mining.

#### **Our Performance**

As of December 31, 2019, unionrepresented employees across our organization equalled 87%, which is slightly higher than 84% in 2018, due to the acquisition of the Chapada mine. The unionized workforce primarily comprises non-managerial employees at the mine sites who are covered under collective bargaining agreements. Employees at Eagle Mine are not unionized, nor are our exploration group or our corporate office employees. There were no strikes, lockouts or work stoppages of significance at our operations in 2019. There is no history of significant labour disruption in the last six years or longer at any of our sites.

Depending on our operations, notice periods provided to
implementation of significant operational changes that co
them vary according to local legislative requirements as f

Candelaria	Before the expiration of the collective agree (60 days) is given at the start of the collecti Labour relations hold formal meetings bas long-term schedules. Additional notice (24 a significant change for planned, non-confi
Chapada	Notice periods are not defined in the colle however, in the event of significant operat employees are notified individually and / o communication channels. The local union provides input.
Eagle	There is no collective bargaining agreeme period (60 calendar days) is required by th and Retraining Notification Act.
Neves-Corvo	In 2019, the operation implemented chan, of the underground shift and a new site a Both changes were discussed and negotia union and employees and were communi advance. Notice periods are defined on a there is no Company-specific collective ba
Zinkgruvan	Although notice periods are not specified i agreement, planned operational changes a unions and, if required, are agreed upon th the Company decides to change a shift ros group, the minimum notice period is three

In 2019, notices were filed by two labour unions at Candelaria alleging limitation of union rights. In each case, management engaged with the notifying unions and appropriate steps were taken to resolve the complaint. Neither resulted in strike action. No operations have been identified as being at risk for incidents of child labour or having young workers exposed to hazardous work. Lundin Mining has strict proof-of-age requirements for its workforce upon hiring, at all sites, preventing anyone under the legal industrial working age from obtaining employment at any of our sites or operations. Similarly, our operations are not considered to be at risk for incidents of forced or compulsory labour.

to employees before the could substantially affect follows:

eements, notice period tive bargaining process. Ised on medium- and 4 weeks) is given before fidential changes.

lective agreement; ational changes, ' or through internal n is notified and

ent. Minimum notice he Worker Adjustment:

nges to the length access system. iated with the national nicated six months in a case by case basis as pargaining agreement.

in the collective are shared with the local brough negotiation. If ster system for a specific e weeks.



Neves-Corvo – Processing Plant Workshop



Chapada joins Lundin Mining



## IN THIS SECTION

Our Approach	46
Our Performance	48
Stakeholder Engagement	49
Indigenous Relations	55
Managing Social Impacts	57
Community Development	60

#### OUR APPROACH

Our social performance approach is guided by leading practices in the mining industry, partnerships with the communities in which we work, and a commitment to continuous improvement across all areas of social performance. Our approach is tailored to adapt to the different contexts of our operations and exploration sites, in six different countries, each with its own unique cultures, languages and levels of economic development.

Mining operations can generate significant direct and indirect social benefits for local communities, including employment and capacity-building opportunities, the stimulation and diversification of local economies, and business and community partnerships. Mining can also contribute to social impacts, including economic dependency, community wellness (e.g., noise, dust and odour) and increased traffic in communities. We value the continuous input we receive from our communities and other stakeholders, and we consistently seek to reduce our social impacts and improve the societal benefits of our operations, aligned with Lundin Mining's RMMS. Understanding and proactively managing these benefits and impacts are integral to the success of our operations. Our approach is to:

- Build strong relationships with those affected by our operations;
- Uphold fundamental human rights;
- Invest in meaningful community projects and sustainable development; and
- Respect cultures, customs and values while engaging in open and inclusive dialogue.





#### **OUR PERFORMANCE**

Our social performance teams continued to refine and implement site-level, five-year social performance strategic plans in 2019. These plans enable sites to allocate resources informed by an understanding and assessment of social risks, current and potential impacts, contextual changes, stakeholder engagement and social investment priorities. In 2019, we finalized three key RMMS management standards: Community Investment, Social Performance and Stakeholder Engagement. We commenced workshop training with the Eagle team on implementation of the standards. to be extended to all remaining sites in 2020. The corporate team also developed and implemented training to build capacity and competency for best practices and for meeting policy commitments articulated in the RMP.

Chapada – Volunteering Services Day

## Neves-Corvo Supporting Girls From Developing Nations for Education and Training

Providing opportunities to enhance the learning, experience and interest in mining is an important cause for Neves-Corvo and Lundin Mining. In autumn 2019, Neves-Corvo welcomed an intern at their underground operations from the Girl MOVE Academy. The Academy and internship were facilitated by the Life Movement, an organization that facilitates the mentorship of young, university-educated women from Mozambique, Africa, and is closely aligned with Lundin Mining's *Values*. The intern had the opportunity to learn and gain experience in mining operations, administration, community outreach and social responsibility at Neves-Corvo. The Girl MOVE Academy is responsible for bringing 30 interns to Portugal every year. These are young Mozambican women with powerful life stories who are motivated to solve challenges in their communities.



SDG TARGETS:



# STAKEHOLDER ENGAGEMENT

Stakeholder engagement, community relations and grievance mechanisms are material topics for Lundin Mining because mining operations can generate significant direct and indirect benefits and impacts to local communities and beyond. Understanding stakeholder concerns and actual or perceived impacts allows our sites to manage and continually improve their operations to reduce risk exposure and improve value creation.

#### **Our Approach**

Lundin's stakeholder engagement approach, based on clear communication, transparency and trust, helps us to understand the interests and concerns of our stakeholders, as well as the emerging issues and risks to our operations.

Our Stakeholder Engagement Standard and accompanying Guidance help ensure a consistent approach to engaging with communities, employees and other stakeholders. Each of our sites uses a systematic and recurring stakeholder mapping process to identify and prioritize stakeholders from direct and indirect influence areas, as well as those interested in, or potentially affected by, the site's activities.

As site activities change (for example, as we cease exploration activities, or as we advance a mine expansion project, or move towards closure), the level of interest of different stakeholder groups and the nature of their interests and concerns can also change. Special consideration is given to identifying potentially vulnerable groups (either within the socio-economic or the political context) whose voices and perspectives may not otherwise be heard.

# Eagle Bringing the Classroom to the Mine and Mill

To enhance local education and interest in mining and technical studies, Eagle Mine welcomed students and instructors from Michigan Tech's Field Geology class to the operation for a tour and showcase led by site leaders. The students were able to see the mine surface facilities and the mill, where they saw their learnings in practice. The students were prepared with many questions and Eagle employees were eager to share their knowledge of Eagle's mining and milling operations. The initiative is one of several university and local partnerships with our Eagle operations aimed at fostering interest in mining education and technical training in science, technology, engineering and mathematics.





SDG TARGETS: 4.4



# **Preserving Cultural** Heritage in Castro Verde

Preservation of our host communities' heritage and ensuring that value is lasting is a focus of the Company's community investment program and our commitment to our stakeholders. In 2019, Neves-Corvo announced its support for the restoration of the Royal Basilica of Castro Verde, pledging \$61,678. The monument, located in the centre of the village, contains murals made up of thousands of tiles depicting the Battle of Ourique. The first phase of the restoration was celebrated in December 2019, including the blessing, restoration and ringing of the Basilica bells in honour of Our Lady of Conception, patron of Castro Verde.

> PRIMARY SDG(S):

SDG TARGETS: 11.4





Mining and Minerals Hall

Common forms of stakeholder engagement across our sites include:

- Formal engagement activities, including community, one-on-one and committee meetings (e.g., health and safety), site visits, stakeholder perception surveys, grievance and suggestion mechanisms, and environmental monitoring programs;
- Informal engagement activities, including delivery of presentations at events, timely response to information requests, social media and training sessions; and
- Reporting, including our annual sustainability reports and language-specific brochure, government-focused revenue transparency reports, financial statements, compliance statements and news releases.

These approaches are used regularly to engage with stakeholders on an ad hoc, monthly, guarterly, bi-annual and / or annual basis, however, engagement is not undertaken specifically as part of this report preparation process.

#### **Our Performance**

The table below provides an overview of stakeholder groups with whom Lundin Mining engaged in 2019, the types and frequency of engagement, some examples of key interests and concerns raised in 2019, and how the Company is responding to these concerns. Updates on stakeholder engagement are provided to management every month.

#### Primary Stakeholder Groups, Key Interests and Concerns, and Lundin Mining's Responses

Stakeholder Group	Frequency and Type of Engagement	Key Inte and Con in 2019
Local Communities (Priority group for all sites)	<ul> <li>Regular and ad hoc meetings throughout the year</li> <li>Timely response to requests for engagement</li> <li>Community offices</li> <li>Social media</li> <li>Newsletters</li> <li>Community perception surveys</li> </ul>	<ul> <li>Traffic, vibrati water waste</li> <li>Local e procul econo to loca</li> <li>Sustai fundin for the investi</li> </ul>

Indigenous Peoples (Priority group for Eagle and Peru)	• Continuous engagement with local Indigenous community members, within the context of identified concerns and opportunities for collaboration and partnership	Protectio environm cultural r
<b>Government</b> (Priority group for all sites)	<ul> <li>Regular meetings or consultations</li> <li>Timely and complete reporting as required</li> </ul>	<ul> <li>Environm complian monitorir</li> <li>Commun and safet</li> </ul>

#### erests ncerns Raised

	Lundin Mining's Response in 2019
c, noise, dust, ion issues, use and e stockpiles employment, irement and omic benefits al stakeholders inable ng models e community	<ul> <li>Conducting site assessments, where appropriate, and developing plans to minimize impacts of transportation, noise, dust and vibrations in the communities around our sites (e.g., Candelaria developed a blast-monitoring plan with community members and formed a citizen committee to monitor noise and vibration)</li> <li>Community forums and other engagement activities to share local content plans; local procurement mapping to identify opportunities;</li> </ul>
tment program	local social investment initiatives
	<ul> <li>Economic development projects with stakeholders (e.g., perception held by local fishermen)</li> </ul>
	<ul> <li>Studies to determine future funding models that ensure the longevity of the programs (underway)</li> </ul>
ction of onmental and	<ul> <li>Proactively provide information on operational activities and potential exploration areas</li> </ul>
al resources	<ul> <li>Involvement in community environmental monitoring program</li> </ul>
	<ul> <li>Monitoring of environmental and cultural resources in regional operations and exploration areas</li> </ul>
	<ul> <li>Engagement processes to discuss issues of interest, concerns and investment initiatives</li> </ul>
onmental liance and coring	<ul> <li>Formal environmental management systems (standards and procedures) aligned with the RMMS and permitting requirements</li> </ul>
nunity health afety	<ul> <li>Environmental monitoring is undertaken routinely at all sites and RMMS conformance audits were completed at all sites in 2019</li> </ul>
	<ul> <li>The company has been working with the relevant authorities to develop strategies for the protection of the aquifer at Zinkgruvan</li> </ul>

Stakeholder Group	Frequency and Type of Engagement	Key Interests and Concerns Raised in 2019	Lundin Mining's Response in 2019
Employees and Contractors (Priority group for all sites)	<ul> <li>Each operating site maintains a Joint Health and Safety Committee (JHSC)</li> <li>Regular meetings and email correspondence</li> <li>Employee survey</li> <li>Union meetings and discussions</li> </ul>	<ul> <li>Training and capacity building</li> <li>Visibility of managers</li> <li>Mine closure planning and communications</li> </ul>	<ul> <li>Develop management and action plans to address concerns and recommendations made by employees through surveys and regular meetings</li> </ul>
Labour Unions	<ul><li>One-on-one and group meetings</li><li>Site visits</li></ul>	<ul> <li>Collective bargaining</li> <li>Skilled trade development</li> <li>Health and safety</li> <li>Mine closure</li> </ul>	<ul> <li>Continue to encourage an open dialogue; mine management engages regularly and constructively with employees and trade unions on issues such as working conditions, training and capacity development</li> </ul>
Non- Governmental Organizations	<ul> <li>Community collaboration programs</li> <li>Regular meetings planned throughout the year (quarterly, at a minimum)</li> <li>Timely response to requests for engagement</li> </ul>	<ul> <li>Environmental (including concerns regarding water, air and noise)</li> <li>Community development issues</li> </ul>	<ul> <li>Continuing and creating partnerships with local non-governmental organizations to build capacity and enhance social and environmental performance across our sites</li> </ul>
Industry Associations / Regional Business Associations	<ul> <li>Ongoing membership for industry associations</li> <li>Participation in industry forums and workgroups</li> <li>Site tours and presentations</li> </ul>	<ul> <li>Economic and regulatory performance</li> </ul>	Transparent and proactive communication
Suppliers	<ul><li>Monthly meetings with local contractors</li><li>Annual trade fairs</li></ul>	Local economic impact	<ul> <li>Focus attention on strengthening / supporting fair and open local procurement practices</li> </ul>
Customers	<ul> <li>Regular contact</li> <li>Environmental, social and governance (ESG) surveys to ensure accurate and updated information</li> <li>Timely response to information requests</li> </ul>	<ul> <li>Health and safety</li> <li>ESG performance</li> <li>Reliable supplies</li> <li>High-quality products</li> <li>Hazard information on any hazards</li> </ul>	<ul> <li>Policies and systems in place to support ESG performance, including the Code of Conduct, Ethical Values and Anti-Corruption Policy, Responsible Mining Policy and RMMS</li> </ul>

Additional key stakeholder groups include shareholders, investors, lenders and financial institutions. The corporate office engages directly with these groups through regular reporting (e.g., financial statements, compliance statements, annual reports) and responses to information requests to ensure accurate and updated information. Lundin Mining also engages with shareholders and investors through guarterly and event-specific conference calls, site visits, presentations and investor briefings.

#### **Community Perception Surveys**

Community perception surveys are used by most sites to gather important information from local communities on their views of operations, specific issues where the sites are doing well, and where improvements are needed. In 2019, we met our goal to develop action plans in response to community perception survey results for at least two of our sites.

Eagle's survey is primarily focused on impacted communities and those residents who live along the mine's ore haulage transportation route. The 2018 data was used to guide Eagle's community capacity-building programs, communications and closure planning in 2019.

In 2018, Neves-Corvo partnered with the University of Lisbon to conduct the mine's first stakeholder perception survey. Findings were positive, with 85% of stakeholders in support of the mine. Findings were used to inform stakeholder engagement, communications, community investments and operational activities through integration into the site's annual plan.

Chapada partnered with Commonwealth Scientific and Industrial Research Organisation (CSIRO) to conduct a series of community perception surveys. The results of the survey showed the acceptance level of Chapada was rated as good, with a score of 4.0 out of the possible 5.0. According to CSIRO, it is a sound level of acceptance, but there is still room to improve through enhancement of social performance plans.

## Zinkgruvan Education Next-Generation Leaders in Entrepreneurship and Technology

In June 2019, 100 girls attended Komtek's Technology Camp in Örebro, focused on educating the next generation of leaders in entrepreneurship and technology. Dedicated to developing interest in science through creativity, the camp aims to quide more girls into careers in science, technology and engineering. Zinkgruvan offered scholarships to 10% of the camp attendees from Askersund, Zinkgruvan's close community neighbour, to advance gender diversity in these fields. During the week of programming and lectures, Zinkgruvan's Head of Surface Maintenance spoke to the attendees about her role and career. As a leader at Zinkgruvan and Lundin Mining, she has three direct reports and is responsible for about 60 employees – an inspiration and role model for the future female leaders in attendance.





SDG TARGETS: 4.4



Lundin Mining's operations have continued to strengthen their approach to stakeholder engagement in 2019. The table below provides engagement highlights from 2019. We plan to build on these accomplishments moving forward through 2020.

Site	Engagement Accomplishments
Candelaria	Engaged with fishermen to implement economic development projects.
	<ul> <li>Continued to implement the site's engagement strategy with local communities, including site visits and information sessions on Candelaria 2040 (EIA Candelaria Optimization and Continuity Operations).</li> </ul>
	Continued to liaise and inform residents about blasting times and events.
Chapada	<ul> <li>Entered into a cooperation agreement with Alto Horizonte municipality to support the construction of a bypass to divert heavy traffic around the town.</li> </ul>
	<ul> <li>Implemented the Rural Development Program created to promote adequate benefit sharing among the farmers who live on land adjacent to Chapada.</li> </ul>
	Managed a discussion group on the economic diversification of Alto Horizonte.
Eagle	<ul> <li>Initiated the "Engagement Multiplier" program that allows participants to anonymously complete an employee engagement survey online and summarizes the results immediately.</li> </ul>
	<ul> <li>Negotiated a new Community Environmental Monitoring Program agreement. The new program includes the Keweenaw Bay Indian Community and will continue for the life of the mine.</li> </ul>
	<ul> <li>Hosted an event to promote diversity in the workforce with over 800 community members participating.</li> </ul>
Neves-Corvo	Partnered with relevant stakeholders to identify new social investment opportunities.
	Fostered and promoted the concept of the mine as a catalyst for positive social change.
	<ul> <li>Increased the use of robust and pertinent metrics to assess the social performance of the Company.</li> </ul>
Zinkgruvan	<ul> <li>Maintained and established good relationships with stakeholders and property owners in areas of imminent exploration.</li> </ul>
	<ul> <li>Continued work with Lakeside Pride Askersund to highlight Zinkgruvan's support of diversity and inclusion.</li> </ul>
	<ul> <li>Held Run of Mine, which is an annual race above and below ground for adults and youth that engages hundreds of participants and employees each year.</li> </ul>



Peru – Community Workshop – Sancos

# Chapada Supports Local Entrepreneurs

Core to sustainable development are local economic stimulation and diversification for communities. To support these, Chapada donated materials, equipment and utensils to a local snack factory related to the Association of Entrepreneurial Women of Nova Iguaçu de Goiás. The entrepreneurs took part in a food preparation course and received guidance on opening and maintaining their business. The association has already begun selling snacks in Nova Iguaçu and has plans to expand the business to neighbouring cities. Chapada's contribution expands the Company's investment in the economic diversification of host communities to promote their development and become more sustainable, prosperous places to live and work.



#### INDIGENOUS RELATIONS Materiality

Indigenous relations are a material topic for Lundin Mining because mining projects can impose on the rights, traditional land uses and cultural activities of Indigenous Peoples. Respectful engagement with Indigenous Peoples and associated conservation of cultural heritage is relevant to our operations at Eagle Mine and our exploration project in Peru.

#### **Our Approach**

Lundin Mining is committed to respecting and considering the rights, interests, concerns, traditional land uses and cultural activities of Indigenous Peoples within our sphere of influence, as articulated in our Responsible Mining Policy. For operations whose activities can directly or indirectly affect Indigenous Peoples, our RMMS standard requires the establishment of formal procedures and processes related to Indigenous Community engagement, economic inclusion and cultural heritage conservation, while ensuring we meet applicable legislative requirements. Our Stakeholder Engagement Standard and Guidance guide our relationships with Indigenous Communities by outlining specific requirements around engagement, communication, integration of community input, monitoring and review.

SDG TARGETS: 8.2, 9.3, 9.4, 11.4



# Chapada Rural Development Program

Chapada's Rural Development Program is an innovative initiative created to promote adequate benefit-sharing with the farmers and ranchers who live in the surrounding areas of Chapada. Through this initiative, Chapada is providing an annual in-kind donation per property, sponsoring initiatives to increase water availability or to support farming and ranching. Chapada has identifed farmers through land use information and existing relationships, mapping nearly 50 property owners, with additional farmers anticipated to be identified. Property owners are not eligible for Chapada's other social investment programs, but are highly impacted by Chapada operations. Each farmer has his / her own specific issues and interests that forms the basis for the relationship. The program does not replace the Company's commitment to prevent and mitigate real and perceived mining impacts; it complements the Neighbouring Farmers Action Plan.



#### **Our Performance**

We currently have activities that take place in or near areas where Indigenous Peoples are located, as follows:

- Our Eagle Mine operations are located on ceded territory near the Keweenaw Bay Indian Community (KBIC) and Eagle's regional exploration interests were near the Lac Vieux Desert Band of Chippewa Indians, both of whom are part of the Anishinaabe group of Native American tribes;
- Our exploration project Amauta is in southern Peru, Arequipa Region, District of Acari, The exploration site is located on the border of the traditional land of the Indigenous community Comunidad Campesina de Sancos (Sancos), self-identified as a Quechua group with 1,100 registered members.

The Amauta exploration project (50% of relevant sites) has a formal written benefit agreement with the appointed leaders of the Indigenous community. Lundin Mining Peru S.A.C. (Lundin Peru), through its subsidiary Compañia Minera Mohicano S.A.C. (Mohicano), working under a seven-year community agreement with Sancos, continues engagement with the community through local procurement and hiring for its exploration activities.

Eagle Mine is committed to continuing constructive engagement with local tribes throughout the mine's operation. Through regular dialogue, we work with local tribes to identify common interests concerning land (e.g., closure activities and mineral exploration), water (e.g., water-quality monitoring) and protection of cultural resources; identify employment and economic development partnership opportunities; and identify opportunities for investment. In 2019, Eagle continued to meaningfully engage with local tribes and had ongoing conversations regarding environmental and cultural monitoring of regional exploration areas. Eagle formed a negotiation committee with the KBIC and two community groups to address the expired Community Environmental Monitoring Program (CEMP) agreement. The negotiations were successful and the new agreement is scheduled to initiate in 2020 for the life of the mine.

Our Candelaria operations are in the Atacama Region of Chile where 3,000 people self-identify as Indigenous Colla community members.

In 2019, there were no disputes relating to land use, customary rights of local communities and Indigenous Peoples, or incidents of violations involving rights of Indigenous Peoples. As a result, grievance mechanisms were not used to resolve any issues.

#### MANAGING SOCIAL IMPACTS **Our Approach**

Lundin Mining operations are located immediately adjacen or nearby many communities. This proximity can result in a range of actual and potential impacts on local communities Sites are guided by Lundin Mining Social Management Standards and accompanying Guidance. In 2019, all operations developed assessment processes to identify and assess the actual and / or potential social impacts of the site's activities.

#### **Our Performance**

All Lundin Mining operations have a grievance mechanism ir place to ensure that stakeholders can voice concerns about Company activities and impacts and that these concerns are documented in a transparent, accountable manner and addressed in a timely fashion. The table below lists the total number of grievances filed through grievance mechanisms at each of Lundin Mining's operations in 2019. It includes figures for grievances under ongoing management and those that were resolved.

The higher number of grievances at Candelaria compared to other sites is consistent year to year and reflects the large operational footprint and proximity to local communities. Many registered grievances were related to intermittent instability of the Wi-Fi connection (currently, free Wi-Fi is provided to 85% of Tierra Amarilla residents by the mine; however, the mine does not control the system).

# **Eagle Mine Donates to Children In Need**

Lundin Mining believes that all people, including those vulnerable and infants, should have access to safe, nutritious food all year round. In December 2019, Lundin Mining's Eagle Mine employees participated in a food drive to collect items and donate to the Public-Michigamme School District's "Hot Packs" lunch program. The Eagle team came together to collect hundreds of canned and other food items, in addition to donating over US\$1,000 themselves, to provide food to children in need. All donations raised by employees were matched by Eagle Mine to help the cause.



SDG TARGETS: 2.1

	Operation / Exploration Site	Total Number of Grievances 2019	Grievances With Ongoing Management	Grievances Resolved
	Candelaria	37	6	31 <sup>1</sup>
	Chapada	20	0	20 <sup>2</sup>
	Eagle	12	3	9
	Neves-Corvo	4	1	3³
	Zinkgruvan	9	4	5
	Amauta	0	0	0

<sup>1</sup> Seven outstanding grievances from 2018 were also resolved in 2019.

<sup>2</sup> Post-acquisition period from July to December 2019. There were no outstanding grievances at the time of acquisition.

<sup>3</sup> One outstanding grievance from 2017 was also resolved in 2019.



#### Social Impacts From Our Activities in 2019

The following table identifies the most significant social impacts for each location based on site-level assessment, grievances and stakeholder perspectives from ongoing engagement efforts.

	Conciel Improvedo Exemp	
Site	Social Impacts From Our Activities and Grievances	Mitigation Measures
Candelaria	<ul> <li>Operational activities, such as dust, blasting and traffic impact local communities</li> </ul>	<ul> <li>Created a citizen committee to monitor noise and vibration related to blasting</li> </ul>
	<ul> <li>More than 20 years of operation in an area of low economic development has created</li> </ul>	<ul> <li>Scheduled mine-related buses and traffic to reduce traffic interaction</li> </ul>
	a dependency on the mine	<ul> <li>Copiapó and Caldera now use a bypass road</li> </ul>
	<ul> <li>Dust, noise, vibrations, driving course certification issues, traffic levels and speed, water quality and the maintenance of Candelaria property adjacent</li> </ul>	<ul> <li>Haulage routes modified in Tierra Amarilla to avoid residential areas</li> </ul>
	to residents led to grievances	<ul> <li>Support programs that focus on economic diversification through identifying opportunities for regional development based on activities other than mining</li> </ul>
		Provide support for local entrepreneurs
		<ul> <li>Coordinate with municipalities and other partners to address grievances (e.g., land access; driver certification)</li> </ul>
Chapada	Local economy and government budget	Implemented the Rural Development Program
	depend highly on mining	In-kind support will be provided to Alto Horizonte
	<ul> <li>Operations, including dust, vibration and traffic impact communities</li> </ul>	municipality for construction of a bypass to divert heavy traffic outside the town (2020)
	<ul> <li>Vibration, noise, dust and traffic led to grievances</li> </ul>	
Eagle	<ul> <li>Potential impacts on culture due to expanded exploration program (program ended in 2019)</li> </ul>	<ul> <li>Continue constructive discussion with local tribes regarding the identification of cultural</li> </ul>
	<ul> <li>Local economy will be impacted as the mine approaches closure</li> </ul>	resources in exploration areas and economic development opportunities
	<ul> <li>Haul truck driving incidents led to majority of grievances; employee etiquette on social media provided for one complaint</li> </ul>	<ul> <li>Review of Eagle's community investment programs to measure impact, understand closure options and ensure the programs remain successful</li> </ul>
		<ul> <li>Address haul truck grievances on a case-by-case basis</li> </ul>

Site	Social Impacts From Our Activities and Grievances	Mitigation Measures
Neves-Corvo	<ul> <li>More than 30 years of operation in an area of low economic development has created a dependency on the mine</li> </ul>	<ul> <li>Support programs that focus on economic diversification through identifying opportunities for regional development based on activities</li> </ul>
	<ul> <li>Operations, including noise and vibration impact local communities</li> </ul>	<ul><li>other than mining</li><li>Provide support for local businesses</li></ul>
	<ul> <li>Dust, occupation of agricultural land, road damage and the conflict between exploration activities and hunting practices led to grievances</li> </ul>	Provide support for promotion of entrepreneurship in local schools
		<ul> <li>Installed systems (e.g., seismographer) to addres community concerns about blasting</li> </ul>
		<ul> <li>Monitor other mining related factors (e.g., dust, noise)</li> </ul>
Zinkgruvan	High reliance on the mine for local jobs and economic growth impact economic development	<ul> <li>Support local entrepreneurship programs and economic growth initiatives not related to the mine</li> </ul>
	<ul> <li>Operations, including traffic, noise and vibrations impact communities</li> </ul>	Inspection of perceived impacts of operations
	<ul> <li>Noise, vibrations, odours, dust and traffic led to grievances</li> </ul>	(e.g., structural damage from vibration) and actions taken to address actual impacts (e.g., a sound barrier was built around an exploration rig)

# Chapada Invests in Community Literacy

Promoting inclusive, quality education is a part of our Social Performance agenda and is closely aligned with our Values. Enabling education in our local communities is important to Chapada and Lundin Mining. During 2019, Chapada invested in local children's education near the operation by creating two reading corners in Alto Horizonte and Nova Iguaçu de Goiás at local elementary schools. Each reading corner includes 1,200 books and encourages elementary and pre-school children to interact with literature and knowledge through fun and cooperation. The project was implemented by Rede Educare in partnership with the municipalities and Lundin Mining.

> PRIMARY SDG(S):

SDG TARGETS: 4.2



# Zinkgruvan's Re:think Program

In 2019, Zinkgruvan demonstrated its commitment to sustainable development through the development of its Re:think program, in close collaboration with the Alfred Nobel Science Park and the Örbero Greenhouse. The program, managed by the Lundin Foundation, aims to foster the development of innovations that can benefit the region's long-term economic and social goals. Areas of focus included food, digitization, IT, logistics and manufacturing, with many of the speakers emphasizing the need for consumers to understand the purchasing power they wield in the fight for a sustainable future. Mattias Djurstedt's "Fisken," an idea for a sustainable, climate-smart fish farm for local production of food; and Amanda Matsson's and Lova Svensson's "Period Pack." an innovation that provides safe hygiene and protection for women; won the competition and were awarded US\$3,000 each. This money will be used to continue the development of their projects for Accelerator, the next phase of Re:think.

PRIMARY SDG(S):	8 1001 1000 AM 1000 AM	9		SDG TARGETS: 8.2, 9.3, 9.4, 11.4
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#### COMMUNITY DEVELOPMENT Materiality

Community development, including community investment and capacity-building, is a material topic for Lundin Mining because these initiatives are integral components of Lundin Mining's commitment to delivering on our social performance obligations. Supporting community development in partnership with communities creates meaningful and outcomefocused initiatives and supports the achievement of local priorities.

#### **Our Approach**

Across Lundin Mining, strategic plans focus on the Company being a catalyst and partner in sustainable development for the regions where it operates. We are committed to providing sustainable benefits to local communities nearest our operations, working in partnership with governments, local businesses and non-government organizations to support meaningful and outcome-focused initiatives. We recognize that social investment - including community investment, community development and capacity-building – is an important benefit that mining operations can provide in partnership with other local, regional and national organizations and governments. Given that each of our sites operates in a diverse socio-economic context, our local teams work closely with our host communities to identify community investment opportunities that will be of most benefit.

For certain programs, our community investments are carried out through the Lundin Foundation, a Canadian non-profit organization principally supported through contributions from the Lundin Group of Companies. The Foundation works with Lundin Mining and other Lundin Group corporate partners, host governments and local communities to improve the management of, and benefit streams from, natural resource development projects. Program staff work with our social performance teams at each site to address stakeholder priorities aligned with business needs or capacities. Foundation staff also work with Lundin Mining and other stakeholders to plan, implement and resource long-term community investment initiatives with a focus on market-based approaches.

#### **Our Performance**

We continued our emphasis on promoting economic diversification and advancing local entrepreneurship during 2019 through effective completion of several community investment initiatives at our mine sites and Lundin Foundation projects. Each operation's community investment plan identifies engagement and investment activities that are predicated on the socio-economic context of the regions where we operate, community needs and priorities, capabilities, and emerging risks and opportunities.

#### **Direct Lundin Mining Community Investments**

Total direct community investment expenditures across our operations and corporate headquarters in 2019 were approximately \$4.77 million, compared to \$9.79 million in 2018, and supported education, health, environmental concerns, community development, cultural programs and small business economic stimulation. The decrease in community investment compared to 2018 largely reflects the deferral to 2020 of a large project supported by Candelaria.

#### Contributions to the Lundin Foundation in 2019 to Advance Programs

In addition to direct community investments, Lundin Mining contributed \$2.68 million to the Lundin Foundation to support the development and implementation of social investment programs.

Alto Horizonte - Brazil



## Lundin Mining Community Investments 2019

	Operation / Project	2019 Lundin Mining Community Investment Expenditures <sup>2</sup>
Direct	Candelaria	\$3,630,000
Community Investment	Chapada <sup>1</sup>	\$287,000
	Eagle	\$298,000
	Neves-Corvo	\$219,000
	Zinkgruvan	\$230,000
	Amauta Exploration	\$12,000
	Corporate	\$90,000
Lundin Foundation		\$2,680,000
Total Commur Investments 2		\$7,446,000

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<sup>1</sup> Community investment total since acquisition in July 2019.

<sup>2</sup> Values are rounded to the nearest thousand dollars.

In 2019, through Lundin Mining direct investments and contributions to the Lundin Foundation, our community investments totalled \$7.45 million.

#### Lundin Mining Total Community Investments 2017-2019<sup>1,2</sup>

	2019	2018	2017
\$US 000s	7,446	11,996	9,756

<sup>1</sup> The 2019 community investment total includes the Chapada mine, acquired in July 2019.

<sup>2</sup> Lundin Foundation totals: \$2.7M in 2019, \$2.2M in 2018, and \$1.8M in 2017.

The following tables highlight key community investment initiatives at each of our sites, many of which are implemented over several years.

#### Candelaria

Program	Purpose	Outcome
Agreements with Local Municipalities	To promote sustainable development in Tierra Amarilla, Copiapó and Caldera communities by supporting projects in the areas of the local economy, social innovation, education, health and well-being.	During 2019, several initiatives were co-financed, including a mammograph for improving breast cancer detection, participatory budgets for local organizations and festivals for supporting local businesses among others.
Scholarship Program	To grant scholarships to students across the Copiapó province who are in the lowest 40% of family income. Scholarships support tuition fees, housing, transportation, tutoring, materials and emotional needs. In partnership with the Atacamagica Foundation, Regional Education Ministry and Atacama University	During 2019, 127 students benefited from this program. Candelaria also launched a new call process and a new version of the program available in the Copiapó province.
Punta Frodden Fish Processing Plant	To create jobs and income improvements for fishermen in Caldera through processing and selling seafood products to an international sustainable seafood exporter. Provides certified training to potential employees of the Punta Frodden Plant.	In 2019, the program provided certified training to 27 participants, and the plant hired 13 employees.
Inventa: Inventor & Accelerator Program	To transform ideas of social and environmental innovation into prototypes by promoting community- led, commercially viable solutions to environmental and social issues in the region. A flagship program for Candelaria and Lundin Foundation, in partnership with Universidad de Valparaiso.	Seven finalists were selected by a jury to participate in the Inventa 2019 program. Selected entrepreneurs focused on recycling, composting, water quality, personal security, and education.

## Chapada

Program	Purpose	Outcome
Snack Factory	To support local job creation in partnership with the community.	Launched in October 2019 to commercially distribute five different types of snacks that service a local market.
Economic Diversification Program	To help address the high dependency on mining. In partnership with Agenda Publica, an NGO.	Initiated the program through a workshop with Alto Horizonte stakeholders. One project within this program is the Fish Farming Project, which is set to support five fish farms for food in the local community.

#### Eagle

Program	Purpose	Outcome
Marquette- Alger Technical Middle College	To create opportunities for high-school students to earn college credits and develop local talent in high-demand career areas, such as skilled trades and health sciences.	Supported the completion of a five-year strategic plan (including a fundraising strategy) based on an impact assessment of results to date.

## Eagle

Program	Purpose	Outcome
Big Bay Recreation and Economic Diversification Project	To support economic diversification in Big Bay by leveraging recreational and tourism assets to promote economic opportunities for local businesses.	Supported the completion of marketing and branding strategies and the initiation of a web presence.
Accelerate UP!	To contribute to the long-term economic development of Marquette County by providing free business coaching to new and expanding businesses in the region.	The program has supported the creation / expansion of more than 400 businesses in Marquette County since its inception. In 2019, Eagle supported the development of a three-year strategic plan.

## Neves-Corvo

Program	Purpose	Outcome
Entrepreneurship Development Program	To provide business training, featuring one-on-one support to small businesses and entrepreneurs in the region. A collaboration by the Lundin Foundation and Lisbon University.	Six individuals participated in this program, which included mentoring training sessions and a focus on business planning; entrepreneurship and marketing; finance and accounting; health, safety and environment; contract monitoring and management; mine site registration and requirements; and how to prepare a tender.
Support to local organizations	To support organizations and projects that promote quality of life in the surrounding communities of Neves-Corvo.	The company provided in-kind donations to 79 organizations located in villages and towns across Baixo Alentejo Region, in the areas of sports, education, community safety and wellness.

#### Zinkgruvan

Program	Purpose	Outcome
Knalla Mine and Zinkgruvan Mining Museum	Guided tours showcase the decommissioned Knalla mine and the mining history of the area for community members and tourists; tours include underground visits.	Increased understanding and interest in local mine history, as well as employment opportunities for a small number of previous mine workers and community members.
Young Entrepreneurship Program	To provide high school kids the opportunity to start, operate and close a business during the school year. A partnership with Ung Företagsamhet (Young Enterprise), a politically independent, non-profit educational organization and part of Junior Achievement (JA Worldwide).	Launched in 2019, the program trained 40 teachers as a kick-off to the project and held workshops with local business representatives, school representatives and politicians.
Technology Training	To provide courses in technology and entrepreneurship for children and young people. A partnership with KOMTEK	Zinkgruvan sponsored 10 girls from the community to participate in KOMTEK's technology camp.

# Amauta Exploration

Program	Purpose	Outcome
Installation of Dry Latrines	To provide more-sanitary means for waste disposal to improve the health and safety of local families.	Installation of dry latrines for 15 families located in the town of Amato.
Infrastructure Support	To improve the infrastructure of the Sancos community.	Donation of a metal platform to the Sancos district municipality for cultural events.



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# IN THIS SECTION

Our Approach	64
Our Performance	67

## OUR APPROACH

Our stakeholders – from employees, local communities and governments to our customers, suppliers, transportation providers and shareholders – are interested in understanding how our concentrate products are handled and transported, and the measures that we take to reduce any potential risks associated with these materials. Additionally, consumers are also expressing increased interest in responsibly sourced and managed goods.

Lundin Mining's commercial initiatives focus on being a preferred, responsible supplier by providing sustainably developed, quality products; technical and marketing support; and dependable, on-time delivery. Concentrates are moved using a variety of methods, including truck and rail car, directly to ports in North America and Chile or to ports where they are exported, either in bulk or in containers, to smelters in Europe or Asia. Lundin Mining's concentrates are sold and transported in accordance with local, international and European Union (EU) regulations, and shipments are accompanied by appropriate and current documentation.



# Materials and **Product Stewardship**



We routinely evaluate potential health and safety impacts associated with the production of concentrates and have developed comprehensive Safety Data Sheets (SDSs). For each shipment, SDSs with information on the health, safety and environmental hazards of our concentrates are provided to Lundin Mining personnel, customers and those handling and shipping our products. We continually evaluate potential risks associated with the production and transportation of our concentrates and take steps to address and manage any identified risks before proceeding with the activity. Lundin Mining maintains a strong focus on ensuring that the contractors we engage are appropriately equipped and trained, and that they follow best-practice procedures to enable them to deliver our concentrates safely.

Candelaria – Copper Concentrate

## Candelaria Mine – Punta Padrones

The Punta Padrones port celebrated 24 years of operations, an important milestone in the history of Candelaria mining. From design, the port terminal was constructed as a fully encapsulated complex, operating safely and with strict environmental control. These characteristics have allowed the port to have ISO 14001 certification for its Environmental Management System; OSHAS 18001 certification for Occupational Safety and Health; and the International Ship and Port Facility Security Code (ISPS), which establishes a standard for the security of port facilities. Since the first shipment on the Capetan Tassos motor ship in 1995, Punta Padrones has serviced 758 ships and dispatched more than 14.4 million tonnes of copper concentrate.

PRIMARY SDG(S):

SDG TARGETS: 12.4



The port facility at Punta Padrones in Chile is owned and operated by Lundin Mining. At Setúbal port in Portugal, Lundin Mining owns and operates the rail car unloading area, associated warehouses and laboratory, the conveyor belt and the ship loader. The ports at Otterbäcken, Sweden, Port Trois-Rivières in Québec and Vitoria in Brazil are operated under contract by third parties, with oversight by Lundin Mining. To reduce the potential for off-site migration of dust, Lundin Mining has implemented various controls. For instance, ore concentrate is transported from the mine in covered trucks, containers and covered rail cars to the outbound port areas, where additional concentrate management procedures, including truck washes and sweeper trucks, are utilized.

#### **OUR PERFORMANCE**

In 2019, we completed updates as needed to the current SDS documentation at our operations and integrated the concentrate produced at the Chapada mine into the SDS program. Training was provided at our operations to build knowledge and capacity for future SDS updates and to ensure continued accuracy. These activities are undertaken by Lundin Mining to stay current and compliant with constantly changing international regulatory requirements and as required by the Company's RMMS. During 2019, no concentrate-transport-related non-compliances were reported at the Lundin Mining operations.



Neves-Corvo - Setúbal

#### MATERIALS AND PRODUCT STEWARDSHIP

# Eagle Mine Wins 2018 **CN Safe Handling Award**

In 2019, Eagle Mine was awarded the Canadian National Railway (CN) Safe Handling Award. This is part of the Responsible Care Program, an ongoing performance improvement initiative, to which CN is a partner in both Canada and mid-America. Eagle was awarded for exceptional focus on safety and environmental protection from concentrate production to the point of sale to customers. To ensure the effective and safe transportation of these goods, Eagle must consider proper and secure loading, complete and correct documentation, trustworthy equipment, track structure integrity and on-time pickup and delivery. This is a coordinated effort carried out by numerous site teams and external partners, integral to Eagle's operation and their commitment to SDG 12 and Lundin Mining's Mission and Values.





SDG TARGETS: 12.4





# IN THIS SECTION

Our Approach	68
Tailings and Waste Rock	73
Water	77
Climate Change, Energy and GHG Emissions	85
Reclamation and Closure	95
Air Emissions, Noise and Vibration	96
Biodiversity and Land	98
Non-Mineral Waste	102

## OUR APPROACH

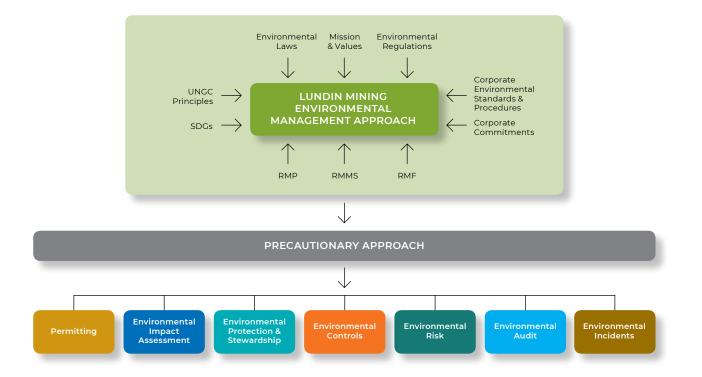
Effective environmental management is integral to the success of Lundin Mining's operations, from day-to-day activities on site to corporate strategic planning.

Our approach is founded on a commitment to compliance with applicable laws and regulations along with a host of voluntary external commitments, including UNGC's Environment Principles Seven, Eight and Nine. Our RMMS standard, aligned with the ISO 14001 Environmental Management System standard, forms the foundation of our global environmental management approach.

Our primary objective is to minimize potential environmental impacts throughout the life of our mines and post-closure, through robust engineering, construction and operations along with the implementation of environmental management controls and procedures designed to meet the individual needs of our operations in their unique environmental and social settings.

Each of our sites operates in accordance with stringent environmental management controls and practices that have been designed to protect the communities and environments in which we operate. A series of *Corporate* Environmental Technical Standards that formalizes these requirements, in compliance with the RMMS, is being developed, along with the update of our existing environmental standards. Candelaria, Ojos del Salado and Chapada operate in compliance with Environmental Management Systems certified under the international standard ISO 14001:2015.





During 2019, we have continued:

- Making water stewardship gains, with measurable reductions in fresh water use and increases in water re-use;
- Monitoring surface water, groundwater, soils and biodiversity to confirm the effectiveness of our environmental protection procedures and to enable timely identification of any issues that may arise;
- Assessing and implementing energy efficiency and GHG-reduction initiatives;
- Monitoring noise, vibration and air emissions to confirm the effectiveness of our mitigating measures for the protection and well-being of local communities and the environment;
- Following strict protocols for storage, handling and disposal of hazardous materials including fuels, chemicals and wastes; and
- Periodically conducting additional studies to improve our ability to manage risks to human health and the environment.

Environmental risk assessments and management are routinely conducted at our operations through the identification and assessment of credible environmental risk scenarios. Environmental risks that are deemed significant are managed and tracked through the Company's risk reporting system, which is used to develop effective mitigating-action plans supporting effective responses, continuous improvement and ongoing planning processes. Operational and enterprise environmental risks are reported to the HSEC Committee of the Board guarterly. In 2019, we completed the implementation of the RMMS process at all sites.

#### **Environmental Permitting and Compliance**

We recognize that our demonstrated commitment to responsible and sustainable mining is a critical factor in maintaining credibility among our stakeholders and in supporting our ongoing license to operate. Permitting, approvals and compliance management are crucial for the effective regulation of mining-related activities to prevent possible negative impacts on the natural environment, as well as the interests and rights of local communities. Our mines operate under valid environmental approvals and licenses and routinely submit applications for new permits, when required, as well as submitting compliance reports for existing permits to demonstrate conformity with current legal and other obligations.

Throughout 2019, Candeleria prepared an environmental permit application, to be submitted in early 2020, that will reflect the continued growth in mineral reserve discoveries and further extension of the operating life to 2040. Zinkgruvan submitted environmental study reports (e.g., noise, vibration, dust emissions and water discharge quality) in compliance

with the conditions of their Environmental Licence. These reports are in various stages of review-and-response with the relevant authorities. In June 2018, Zinkgruvan submitted a Mine Concession application to the Mine Inspectorate for the Dalby property, which was granted in 2019. An application for a mining concession, as part of the Flaxen exploration license, was submitted in 2019.

## **Environmental Incidents**

Lundin Mining has a rigorous reporting system for environmental incidents requiring classification on a severity scale of Level 1 (low) to Level 5 (high). The severity of an environmental incident is judged by one or more of the following:

- Impact on species, communities and habitats that comprise ecosystems of the natural environment;
- The degree of regulatory non-compliance; and
- The level of local community concern.

Incidents that are classified as Level 3 or above are reported to the Board of Directors and are disclosed in our annual sustainability reports. Two Level 3 incidents were recorded in 2019, each being a spill of tailings at our Neves-Corvo mine. The tailings pipeline ruptured at the point where it crosses the Oeiras River, releasing tailings to the riverbed. Quantities of tailings released were estimated at 50 m<sup>3</sup> in September and 35 m<sup>3</sup> in November. In both cases there was no water flow in the river at the time, enabling removal of the tailings and any contaminated soils from the riverbed, and minimizing environmental impact. The ruptured sections of the pipeline have since been replaced.

## **Compliance With Environmental Laws**

We strive to comply with relevant environmental laws in all aspects of our operations. Unfortunately, on occasion, sanctions or fines are issued by regulatory authorities. Further details can be found in our AIF. Fines of \$10,000 or above are disclosed in our annual sustainability reports.

We are continuing to track the outcome of charges notified to our Candelaria mine in 2015 by the Chilean Environmental Superintendent (Superintendencia de Medio Ambiente, or "SMA") associated with alleged infractions of its environmental approvals. The charges originate from two inspections carried out in 2013 and 2014 before Lundin Mining acquired the mine. In 2016, the SMA issued a resolution clearing some of the charges and sanctioning Candelaria with a fine for others. Until 2018, Candelaria pursued various appeals before the Second Environmental Court ("Second EC"), which secured the Company's right to appeal to the Supreme Court and it did so. In May 2019, the Supreme Court ordered a re-hearing of the case before a new panel of judges on the Second EC. which Candelaria expects to take place in 2020.

## **Community Participation** and Environmental Monitoring at Lundin Mining

At our Peru exploration site, the First Participatory Water Quality Monitoring of the Acarí River was developed in collaboration with various institutions that included the Acarí River Water Users Organization, the Acarí District Municipality, Sancos Campesino Community, Otapara Campesino Community, ALA Chaparra – Acarí, Regional Directorate of Agriculture, and residents of the nearby town, Amato.

Eagle formed a negotiation committee with a local Indigenous group, the Keweenawan Bay Indian Community, and two community groups to address the expired Community Environmental Monitoring Program (CEMP) agreement. The negotiations were successful, and the new agreement is scheduled to initiate in 2020 for the life of mine.

At our Candelaria mine, a Participatory Vibration Monitoring program continued, collaboratively monitoring mine-related blasting events in a fully transparent manner with the nearby communities and local authorities.

DDIMADY SDG(S):







## Eagle Mine Fostering Continuous Improvement Through Lean Six Sigma

In 2017, Eagle launched a Lean Six Sigma program, which focuses on increasing engagement in continuous improvement and responsible production through training. The development program has demonstrated increasing engagement and numbers of graduates each year since. In 2019, Eagle graduated and certified 76 employees as Lean Six Sigma Yellow Belts™, the first phase of training. The second phase is to be certified as Green Belts. Green Belt trainees receive more-in-depth education on continuous improvement and the methodologies by which Eagle may continue to responsibly produce base metals in the Upper Peninsula of Michigan.

> PRIMARY SDG(S):





In 2018, claims on behalf of a group of Caldera fishermen were consolidated into a single proceeding filed against Candelaria in the Copiapó Court of Appeals. The claim alleged contamination of marine habitat as a result of vessel loading activities at the Punta Padrones port operations owned by Candelaria and that this contamination has caused harm to fishermen and local communities, including impact on health and livelihood. In 2019, a ruling was issued dismissing all claims made by the plaintiff Caldera fishermen. Candelaria is currently awaiting a hearing date since the plaintiff Caldera fishermen subsequently filed an appeal with the Valparaiso Court of Appeals. The Company intends to defend this claim, which it believes to be without merit.

In July 2019, the State Defense Council (Consejo de Defensa del Estado, or "CDE") filed a lawsuit against Candelaria before the First Environmental Court ("First EC") alleging environmental damage due to extraction of groundwater beyond Candelaria's permitted limits. The CDE is seeking a declaration by the First EC that Candelaria is responsible for environmental damage to the Copiapó aguifer and an order that Candelaria implements certain remedial measures. In December 2019, a public hearing was held during which the First EC proposed to both parties the basis of a settlement agreement. Candelaria is considering the content of this proposal and, if the parties cannot agree on the proposed or different settlement terms, expects a new hearing to be held in mid-2020.

In 2018, the Lisbon and Tagus Valley Regional Coordination and Development Commission issued a notice that our Neves-Corvo operation had undertaken unauthorized construction in a National Ecological Reserve (REN) area at our Setúbal Port Facilities. Having appealed the notice, Neves-Corvo was liaising with the relevant authorities regarding the matter at the close of 2019.

As reported in our 2018 Sustainability Report, the Portuguese Environmental Inspection Authority issued a fine equivalent to approximately \$25,275 to the Neves-Corvo mine relating to formal reporting deviations dating back to 2014, with the fine paid in full in 2019.



Zinkgruvan – Tailings Storage Facility

## TAILINGS AND WASTE ROCK Materiality

Tailings and waste rock management is a material topic for Lundin Mining because mining and mineral processing produce a significant amount of these mineral wastes. When they are not properly managed, they have the potential to impact local people and the natural environment during operations and post-closure.

## **Our Approach**

Lundin Mining's operations generate mineral waste in the form of waste rock and process tailings. Through efficient mining and mineral processing practices, along with underground disposal of these wastes where practicable, we can minimize the overall quantity stored on the surface. Our operations employ comprehensive mineral waste management practices that allow us to minimize associated environmental and social risks and ensure adequate protection of our local resources.

Lundin Mining's RMMS includes a specific Tailings Management Technical Standard that was developed in 2015 and is currently under update to align with new requirements. This standard requires that our operations ensure tailings facilities and major water-retention dams are planned, designed, constructed, operated, decommissioned and closed in such a manner that they are stable. It also ensures that all aspects comply with regulatory requirements, conform to Company standards and accepted international practices and adhere to any commitments made to local stakeholders.

The engineering design of the waste rock depositories at all Lundin Mining's sites is based on geological and geotechnical characterization studies, including seismic stability parameters. Construction supervision, inspection and monitoring are undertaken to minimize any stability risk. Equally important is an assessment of all

environmental and social aspects to understand and resolve any potential impacts.

An important environmental consideration for all our mineral wastes is the potential for generation of acidic water, known as acid rock drainage (ARD), that can be formed when sulphide minerals in waste rock and / or tailings are exposed to moisture and air. The release of ARD can adversely affect the quality of waterways or groundwater by introducing undesirable levels of acidity and dissolved metals. Appropriate geochemical characterization programs allow us to understand and minimize this risk at our operations.



Chapada – Tailings Facility



Neves-Corvo – Tailings Facility

## Tailings Management

Surface tailings facilities represent a significant environmental risk for the mining industry. Lundin Mining takes considerable care to ensure our tailings facilities are well-designed and built in accordance with leading industry practices and standards. To assure that they are wellmaintained, the facilities are routinely inspected, carefully monitored and independently reviewed. We are open and transparent about our overall tailings management approach, and provide more detailed information, including a full list of our tailings facilities, in the Tailings Management Information Sheet located in the Responsible Mining section of our website www.lundinmining.com.

Lundin Mining operates five mines with five active tailings facilities and uses two widely accepted methods of tailings disposal:

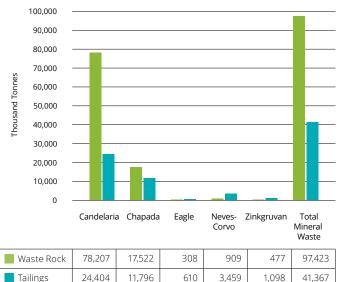
- Underground disposal involves combining tailings with products such as sand or cement, followed by disposal as a paste backfill or hydraulic backfill in previously mined areas of underground mines; and
- Surface disposal involves placement in engineered surface impoundments or, in the case of Eagle, in a previously mined open pit.

The five active tailings facilities use various construction techniques for the main and secondary (or perimeter) dams, but none use the upstream construction method. Lundin Mining also maintains and monitors six inactive / closed tailings facilities, one of which is a rockfill hybrid combination of centreline and downstream design, followed by rockfill upstream raises and buttresses (Enemossen tailings facility at Zinkgruvan). Of the five Lundin Mining operations, Eagle Mine is the only operation that does not have a constructed tailings impoundment with dams.

## Monitoring and Surveillance

A requirement of the Tailings Management Technical Standard is for all sites to conduct regular geotechnical, hydrogeological and environmental monitoring to meet regulatory requirements and prevent the uncontrolled release of tailings and / or water to the environment. All sites employ monitoring and surveillance systems, which may include surface prisms, piezometers, inclinometers, remote sensing and other technologies to monitor tailings dams and water levels. Trigger action response plans (TARPs) provide clear guidance on how to respond to pre-determined trigger levels for surveillance activities.

Total Weight of Waste Rock Mined and Tailings Generated 2019<sup>1</sup>



<sup>1</sup> Chapada data are for the post-acquisition period of July to December 2019.

### **Responsible Person**

Sites are required to identify a Responsible Person to ensure ownership and proper management of the tailings facility. This person must be an appropriately gualified, experienced and site-dedicated individual employed directly by the site. The Responsible Person guarantees the procedures for each facility, including an Operating, Maintenance, and Surveillance (OMS) Manual and an Emergency Preparedness and Response Plan, are regularly documented and made available to site personnel.

## Staff Inspections

Tailings facilities and dams are regularly inspected by trained operators and technical staff, sometimes as frequently as several times daily, with formally documented staff inspections at least quarterly.

Risk Assessment Tailings and water dam safety-focused risk assessments are reviewed and updated at least annually and include input from site personnel, corporate technical specialists, the Engineer of Record and independent reviewers.

97,423	
41,367	

## **Engineer of Record**

Each active and inactive tailings facility has an appropriately qualified, licensed and experienced third-party geotechnical engineer to act as an external Engineer of Record or Design Engineer in the relative jurisdiction.

## Dam Safety Inspections

Formal dam safety inspections are conducted at least annually by the external Engineer of Record, and reports are issued to the Responsible Person for action on recommendations.



Chapada - Black Vulture

## Independent Reviews

**Our Tailings Management Technical** Standard requires two levels of independent review. The first level includes detailed technical peer reviews on all new facility and expansion designs. The second level includes annual independent third-party tailings reviews, which are recognized as a leading practice for effective tailings and water dam stewardship. These annual reviews are focused on impoundment stability and integrity and provide an expert, independent opinion as to whether the tailings facility design and performance meet accepted international practices. In 2019, independent third-party tailings reviews were completed at all our operations except for Candelaria, which is planned for 2020. Results from the third-party reviews are carefully tracked, and progress updates are sent to the HSEC Committee each quarter.



Candelaria – Aerial View

### Waste Rock Management

Approximately 97.4 million tonnes of waste rock were mined across all of Lundin Mining's operations in 2019, including Chapada for the post-acquisition period of July to December, 98% of which was mined at the Candelaria and Chapada open pit operations. In 2019, 64% of the waste rock mined underground was not brought to the surface, being used underground for mine stabilization. Some waste rock that was brought to the surface for operational scheduling reasons was subsequently returned underground as rockfill. Management of waste rock and any identified risks are summarized individually for our operations as follows.

## Candelaria

At Candelaria, the waste rock that is not used for the construction of tailings facility embankments on site is stored in terraced surface waste depositories located immediately to the north of the open pit and south of the open pit and plant area. Seismic stability was a key factor in the design of the waste rock depositories, which extend over approximately 2,130 hectares. The waste rock at Candelaria has been classified as having a low potential for acid generation. Due to the arid climate and lack of groundwater infiltration, no specific ARD controls are required. Waste rock placement is designed to reduce "shadow effect," thereby mitigating the potential for environmental and visual impacts on the neighbouring Tierra Amarilla community.

## Chapada

Prior to Lundin Mining's acquisition of Chapada, waste rock material from the three open pits was placed in a number of storage piles located adjacent to the perimeter of each pit. At the end of the reporting period, waste rock was added to existing stockpiles and covered an area of approximately 740 hectares. Geochemical characterization of waste rock undertaken prior to acquisition identified that a considerable portion of the waste rock has the potential to generate ARD.

Historically, the mine operation attempted to segregate potentially acid generating (PAG) waste from non-acid generating waste in separate waste rock piles or to strategically place PAG waste in a manner that would reduce the potential environmental impacts such waste might cause. Currently, the operation utilizes compacted low-permeability soils as a storage pile base layer to minimize impacts to groundwater and employs a paddock dumping technique to reduce ARD generation. Static testing results are utilized in its geological block modeling to assist in waste management planning, as well as regularly sampling seepage from the tailings dam and waste rock dumps.

A priority for Lundin Mining since acquisition has been to review available geochemical characterization and environmental monitoring data to evaluate risks or impacts arising from Chapada's existing waste rock piles. Our aim is to improve Chapada's overall waste rock management practices which, when combined with enhanced water management practices, will underpin a comprehensive ARD Management Plan aligned with Lundin Mining's environmental standards and policies. This review and evaluation process will continue in 2020.

### Eagle

At the time of mine closure, all waste rock from Eagle mine is required by permit to be deposited underground. Following closure, the mine will be flooded resulting in an oxygen-deficient environment that is ideal for preventing the potential generation of ARD. During operations, the waste rock is, therefore, generally managed underground to reduce the potential for ARD generation, in addition to reducing the environmental and financial impact of hauling aggregate to the site for use as backfill to stabilize previously mined areas. Due to mining schedule constraints, some waste rock must be temporarily stored on the surface at the mine site and progressively returned underground. The surface storage facility is fully lined and all water from that facility is collected for treatment at the mine water treatment plant. At the close of 2019, the temporary waste rock storage area extended over approximately 3.2 hectares.

### Neves-Corvo

Neves-Corvo's comprehensive Waste Management Plan is designed to minimize or eliminate the potential for ARD generation in its waste rock. Waste rock with acid potential is retained in the underground mine and used as backfill to stabilize previously mined areas as often as possible. The remainder of the waste rock is stored in a temporary waste rock storage facility until it is ultimately used in the tailings facility for the construction of internal berms and cell cover. The temporary storage facility on the surface extended over approximately 9.1 hectares at the close of the reporting period and incorporates a peripheral drainage system to allow the collection and management of contact water.

### Zinkgruvan

Zinkgruvan does not maintain waste rock stockpiles. All waste rock is used underground to stabilize previously mined areas or is used in the construction of on-site access roads or tailings facility embankments. Characterization studies for ARD potential have shown that the waste rock poses no immediate or long-term risk of generating ARD, due to the low sulphide content and the presence of calcareous minerals with buffering capacity. As a precaution against the potential for elevated metals concentrations in water, the use of waste rock at the surface is restricted to tailings facility embankments and road sections where contact water is directed into the tailings facility.

## WATER Materiality

Water is a material topic for Lundin Mining because a significant quantity of water is required for mining and mineral processing operations, and treated water is discharged back to the natural environment, necessitating responsible use and stewardship of this shared resource. Potential impacts can occur at both the point of supply and / or downstream of our operational sites related to water availability, recreational use, ecosystem value, aquatic and terrestrial habitats or community needs.

## Our Approach

We are fully committed to responsible water stewardship, implementing a comprehensive water management planning process to minimize any negative impact on water sources, other water users and receiving environments. Throughout 2019, our operations continued to commit to improvements in water assessment and management practices, evaluating water-use efficiency, initiatives to prevent unnecessary pressure on shared resources and measures to minimize environmental and social impacts aligned with UNGC Principle Nine: Environment.

Lundin Mining's operations all continuously seek to improve their site water balances and water management plans, with inputs, internal flows and outputs being routinely measured to inform management planning and reporting. Precipitation that is collected and enters our site water management systems is included in our water accounting.

We actively monitor the impacts of all our water withdrawals and discharges, focusing on aspects such as water availability for other users, recreational value of water resources and receiving environments, water guality and aquatic biodiversity. Some of our operations do not have regulated discharges. For those that do, an integrated system of water treatment facilities and procedures is in place, with the objective that water is discharged in accordance with regulatory requirements and corporate standards.



## Eagle - Electrofishing survey

Effective water quality monitoring systems are implemented for timely detection of any changes to water quality or aquatic biodiversity that might be attributable to our activities. Lundin Mining reports both planned and unplanned water discharges from the regulated discharge points at our operations. None of our water discharges are re-used by another organization.

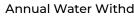
During 2019, probabilistic water balances were developed at Neves-Corvo, Zinkgruvan and Chapada to provide an additional water management tool for each site. This predictive tool will allow us to be more proactive and helps us to continue developing a better understanding of these operations in the context of their catchment water-positive and water-stress levels. Eagle also continued to develop its water balance model for managing the water at the former open pit where it places its tailings. Our future efforts in water management will include an increased focus on the resilience of site water management infrastructure, and processes and procedures concerning the potential for more frequent and extreme weather events in changing climatic environments.

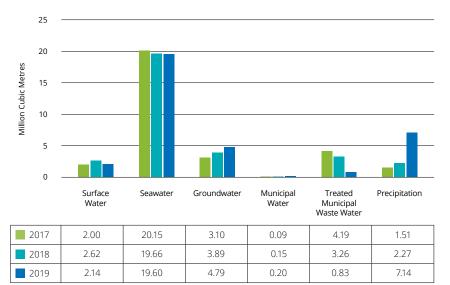
## **Our Performance**

Reflecting on the diversity of natural environments in which Lundin Mining's operations are located, our mines rely on different sources of water for operational and potable water needs. In view of our commitment to transparency, including at a local level, we disclose our primary water sources and discharge-receiving environments. In recognition of the importance of responsible water use at our mines, our water sources are significantly supplemented by process water reclaimed from our tailings facilities and water treatment plants for re-use by our operations.

Primary Water Sources for Use, by Operation	Operation	Regulated Discharge- Receiving Body
Desalinated seawater; municipal treated wastewater	Candelaria	Desalination Plant: Pacific Ocean Mining & Processing Complex: Zero-discharge
Rainfall / runoff; groundwater infiltration to pits; groundwater wells	Chapada	No regulated discharge
Utility and potable wells; mine dewatering	Eagle Mine	Groundwater discharge
Groundwater and rainfall / runoff entering the former pit; industrial and potable wells	Eagle Mill	Middle Branch Escanaba River
Santa Clara Reservoir; mine dewatering; rainfall / run-off	Neves-Corvo	Oeiras River
Lake Trysjön; Lake Åmmelången; mine dewatering; rainfall / runoff; municipal water	Zinkgruvan	Ekershyttebäcken Creek

Neves-Corvo – Treatment Pond





<sup>1</sup> Chapada data included for the post-acquisition period of July to December 2019.

Since Lundin Mining's acquisition of Chapada in July 2019, we have been developing a new Company-wide water balance. Preliminary models have enabled us to include Chapada within our water withdrawal accounting for the post-acquisition period of July to December 2019. We have opted to not report a Company-wide water recycling rate for 2019, while the methodologies used by our operations are under review to ensure consistency in approach across all mines now in our portfolio. It remains the case that all our sites have continued to seek to reduce abstraction from natural water systems through improved operational efficiency, water re-use and water recycling.

Lundin Mining withdrew a total of 34,702,540 m<sup>3</sup> of water in 2019, representing an increase of approximately 2.8 million m<sup>3</sup> compared to 2018 as a direct result of the addition of Chapada into our withdrawal balance. When considering only our original four operations pre-acquisition, water withdrawal in 2019 was reduced by 2.7 million m<sup>3</sup>. Our operations at Zinkgruvan and Neves-Corvo withdrew additional municipal water (approximately 1,700 m<sup>3</sup>) and surface water (approximately 301,000 m<sup>3</sup>), respectively, for supply to local residents. These volumes were provided as a service to the local community and, therefore, are not included in our operational water withdrawal accounting. Also excluded from our water accounting are natural flows that our Zinkgruvan (644,417 m<sup>3</sup>) and Eagle (664,320 m<sup>3</sup>) operations do not use but re-route via closed systems to maintain a number of local surface water environmental flows

## Annual Water Withdrawal, by Source 2017-2019<sup>1</sup>

Lundin Mining discharged a total of 14,253,121 m<sup>3</sup> of water in 2019. Our operations strive to be always-compliant with their water discharge licence conditions, and although there was only a small number of non-compliances in 2019 in comparison to the hundreds of water-quality parameters measured in our discharges each year, we recognize the importance of compliance, not only for regulatory purposes but also for protection of the environment and downstream users. As a result, our sites always implement action plans to address the underlying conditions for non-compliances, with the aim of improvement in the future. There were no unplanned discharges from our operations in 2019.



Neves Corvo – Echium plantagineum

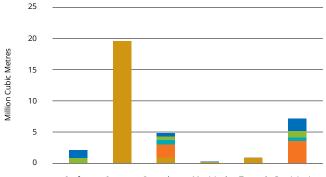
#### Lundin Mining's Water Withdrawal 2019

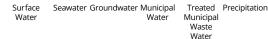
- Total of 34.7 million m<sup>3</sup> withdrawn across all five operations
- 56% of total (19.6 million m<sup>3</sup>) was seawater withdrawn for treatment
- 7.7 million m<sup>3</sup> of treated seawater pumped for use at Candelaria, the remainder being returned to the sea

### Lundin Mining's Regulated Water Discharge 2019

- 14.3 million m<sup>3</sup> discharged across all five operations
- 75% of total discharge was seawater returned to the ocean
- 25% of total discharge was to a freshwater environment

Water Withdrawal by Source, by Operation 2019<sup>1</sup>

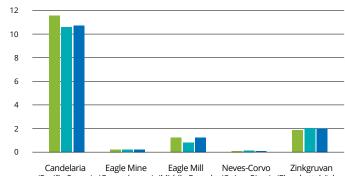




Candelaria	0.00	19.60	0.88	0.18	0.83	0.00
E Chapada	0.00	0.00	2.07	0.00	0.00	3.54
Eagle	0.00	0.00	0.79	0.00	0.00	0.55
Neves-Corvo	0.80	0.00	0.53	0.00	0.00	1.07
Zinkgruvan	1.34	0.00	0.53	0.02	0.00	1.98

<sup>1</sup> Chapada data included for the post-acquisition period of July to December 2019.

### Regulated Water Discharge to the Environment, by Operation 2017-2019<sup>1</sup>



(Pacific Ocean) (Groundwater) (Middle Branch (Oeiras River) (Ekershyttebäcken Escanaba River) Creek)

2017	11.58	0.23	1.25	0.09	1.88
2018	10.59	0.20	0.81	0.14	2.02
2019	10.72	0.22	1.25	0.07	2.00

<sup>1</sup> Chapada does not have a regulated water discharge.

Provided below are details of the metal load in our regulated discharges for 2019. Since the chemical parameters measured by our operations are site-specific, discharge load data do not exist for all parameters at all sites.

## Annual Metal Load in Regulated Discharge (kg)

	Arsenic	Cadmium	Copper	Nickel	Lead	Zinc
Candelaria <sup>1</sup> (to sea)	Not measured	Not measured	294	Not measured	Not measured	458
Eagle Mine (to groundwater)	0.11	0.02	0.11	0.22	0.11	1.10
Eagle Mill (to river)	0.63	0.12	1.98	20	0.61	6.20
Neves-Corvo (to river)	0.22	0.02	2.47	1.12	0.10	3.12
Zinkgruvan (to river)	16.76	1.50	3.90	Not measured	110	1,167

Chapada does not have a regulated water discharge.

<sup>1</sup> Candelaria metal loads originate from the seawater that was abstracted for the desalination process.

Key water trends and progress are summarized individually for our operations as follows.

#### Candelaria

Our Candelaria Complex has continued to demonstrate a proactive approach to responsible water stewardship, thereby reducing pressure on precious water resources in the Atacama Region. Candelaria's operational water requirements are met entirely through supply from the Company's water desalination facility at Punta Padrones, and the operation continues planning for its objective of meeting its total water demand, including potable supplies, from the desalination plant by July 2025. Candelaria has continued to maintain a strong focus on water use efficiency, and in 2019 reduced its overall water withdrawal by 2.2 million m<sup>3</sup>. Notably, the operation ceased its use of

treated municipal wastewater in April, significantly earlier than the 2027 regulatory requirement, enabling these resources to be redirected to other uses in this water-scarce region. Furthermore, in recognition of the importance of the Sector 4 Copiapó River groundwater resource to local communities, Candelaria no longer routinely uses groundwater from its permitted well for potable supplies, following a commitment to mitigate any effects on the local aquifer related to use of groundwater that seeps into the Alcaparrosa underground mine. Candelaria's well is currently assigned for use by the local water company.

Candelaria does not discharge to a freshwater environment. The mining complex operates on a zero-discharge basis, meaning that all water that is not lost to evaporation or entrained in the concentrate product or tailings

is recirculated for re-use. Candelaria does manage a regulated discharge at Punta Padrones, because while the desalinated water is pumped to the mining complex, the seawater that remains after the process is neutralized and discharged back to the sea. The 2019 discharge volume was similar to that in 2018 and was in full compliance with regulatory requirements. The metal loads discharged originate from the seawater that was abstracted for the desalination process. Coastal marine monitoring has continued to demonstrate that no negative impacts upon biodiversity have been recorded since the mine's port and desalination plant operations commenced.

## Chapada

Chapada's three open pits capture rainwater, surface runoff, and infiltrating groundwater and were the primary source of water for operational requirements from July to December 2019. Additional rainwater was collected within the catchment of Chapada's tailings facility and storage ponds. This contribution by Chapada accounts for Lundin Mining's increases in both precipitation and groundwater withdrawal in 2019 compared to previous years. Chapada is also permitted to source freshwater from the nearby Rio dos Bois, subject to a daily rate restriction during the wet season and with prohibition at times when the river flow rates fall below a specified threshold, which are typical during the dry season. Withdrawal from the river has not occurred since 2017. Potable water is obtained through the pumping and treatment of groundwater from two Company-owned groundwater wells under permit.

Contact water collected from the mineral processing plant area is recirculated for operational use. Surface water from the waste rock piles evaporates, infiltrates and is released to the environment. There is no legislation regulating discharge from the Chapada site.

Prior to Lundin Mining's acquisition, geochemical characterization test work at Chapada identified ARD potential in certain materials from the open pits and potentially from the tailings facility. Based on this testing and ongoing monitoring, the Company is obtaining a better understanding of the extent and impacts of ARD from these areas. ARD issues are the subject of further studies that will form the basis of Chapada's waste management practices and support enhancements to water management with the goal of developing a comprehensive ARD Management Plan aligned with Lundin Mining's environmental standards and policies.

Chapada – Aerial View

## **Eagle Mine**

Our Eagle operation is unusual among our mines in that its water withdrawal volumes are largely beyond its direct control, being influenced by annual precipitation levels and groundwater infiltration into both the underground mine and the former Humboldt Mill open pit (where Eagle now stores its mill tailings). In this context, the operation needs to manage water that exceeds its requirements, reducing the necessity for, and the operation's ability to, recycle water. In 2019, Eagle proactively reduced groundwater use at the mill site by replacing intake from its industrial well with additional reclaimed water from the tailings facility for processing operations. Eagle's total water withdrawal guantities in 2019 were comparable to the previous year, albeit with a greater amount of precipitation to manage.

Precipitation, snowmelt and operational requirements to manage the water levels within the storage basins and tailings facility also influence Eagle's discharge volumes, which were higher in 2019 compared to 2018 but comparable to earlier years at both the mine and mill sites. Eagle uses a comprehensive treatment process for its mine site water, culminating in reverse osmosis and final pH adjustment, followed by discharge to groundwater within the mine's boundary. Treatment of the mill site discharge comprises metals precipitation, sedimentation and ultrafiltration followed with reverse osmosis on a portion of the water prior to discharge to the Middle Branch Escanaba River, from where the flow eventually enters Lake Michigan.

Low-volume, off-specification discharges were reported in the mine site discharge on isolated occasions, due to discharge being outside of the permitted range for pH. In these instances, the plant automatically shut down the discharge as designed. The mill site also received non-compliance notifications for its discharge, to which Eagle responded by conducting thorough studies and making operational adjustments to prevent similar occurrences in the future.

In 2019, no water bodies or related habitats were significantly affected by water or runoff discharges at our Eagle operations. Monitoring is routinely undertaken and will be continued throughout operations, closure and the post-closure period.

Eagle's withdrawal from the Middle Branch Escanaba River is not included in our water accounting as it is not used, but rather is pumped directly to an adjacent wetland to maintain environmental flows.

#### Neves-Corvo

Neves-Corvo continued to promote sustainable practices, consistent with its key water management objectives, to reduce the consumption of fresh water, maximize water-storage capacity inside project boundaries and reduce discharges. The operation continues to benefit from water management infrastructure upgrades implemented in recent years. Increased recycling capability allows the operation to reduce freshwater intake and reduce, or even cease, discharge according to natural water-flow rates in the Oeiras River. Neves-Corvo successfully met its objective to withdraw a smaller quantity of surface water in 2019 compared to

Neves-Corvo's water treatment system is based on an oxidation process, followed by pH adjustment for metals and sulphates precipitation. A clarifying step is used to remove solids, and then a reverse osmosis process is completed for some of the water prior to discharge. In 2019, the operation discharged half the volume of water discharged in 2018, over just four months of the year; the discharge was in full compliance with permitted limits. As a result of the smaller discharge volume, the discharge chemical load was reduced for almost all parameters measured.

Neves-Corvo mine continued its focus on water management and aquatic biodiversity initiatives, with ongoing monitoring of the previously

## Candelaria Supports Regional Environmental Education

Education on the surrounding environment, biodiversity and its inhabitants is an important aspect of sustainable development in any region. Understanding this, Candelaria contributed financial support to scientific research and publication which led to the launch of the book Reptiles of the Atacama Region. It is dedicated to understanding the different species and ecology of reptiles in the Atacama Desert in Chile, to preserve knowledge of local ecosystems and promote local youth interest in science and reading. The book represents the culmination of years of scientific research into the diverse reptilian ecology of Chile. Copies of the book were delivered to the Municipality of Caldera, and to schools in the community for educators to include in their lessons.





the previous year. Neves-Corvo has revised its calculation methodology for mine water withdrawal; the quantity of groundwater withdrawn from the mine in 2019 was approximately a third of previously reported values. Neves-Corvo is also newly reporting withdrawal from a Company-owned groundwater well location at the Setúbal port facility that has not previously been included in our water accounting (11,289 m<sup>3</sup> in 2019).



Neves-Corvo – Fox (Raposa)

reported, localized biodiversity impact resulting from water discharge into the Oeiras River. In 2019, local engagement initiatives resulted in the Company's development of potential mitigation projects for the effects of drought-related, prolonged riverbed dryness on species diversity in the river. The operation has also continued a site-wide investigation to enhance its understanding of the local hydrogeology.





SDG TARGETS: 4.7, 15.5



Neves Corvo - Aerial View

### Zinkgruvan

Zinkgruvan is our only operation where we have assessed that operational water withdrawal has the potential to have a significant effect on water sources. This assessment is based on the criterion that the lake sources are considered to have high value or importance to local communities. Part of the operation's supply is sourced from local lake systems that cover an area of approximately 3.6 km<sup>2</sup>. These lakes are not of protected status and are not known to be of significant biodiversity value. The operations team continues to responsibly manage conditions at Lakes Trysjön, Åmmelången and Viksjön, including routing water to maintain designated minimum flow rates at the Björnbäcken and Dalbyån Creeks. Zinkgruvan monitors water levels weekly at the lakes and adjusts its practices to minimize impacts on the community and environment. It achieved full compliance with the permitted water-level ranges at the lakes in 2019.

Zinkgruvan continued its focus on the responsible use of surface water, given the environmental and recreational value of the local lakes from which water is supplied, reducing the volume of water withdrawn for operational purposes in 2019. Zinkgruvan's precipitation withdrawal increased in 2019, partially due to higher precipitation levels compared to 2018, but also due to improved data capture.

Zinkgruvan's discharge water treatment process is based upon residence time in a clarification pond. The chemical load in Zinkgruvan's permitted water discharge increased for some parameters in 2019, as changes to operations at the tailings facility and the clarification pond that had commenced in 2018 were ongoing. Guideline values were exceeded in Zinkgruvan's discharge for some parameters during that period, although the operation addressed this issue and achieved full compliance with the guideline values by the end of April 2019.

Two unplanned releases to a creek that lies adjacent to the Zinkgruvan property occurred in 2019, both resulting from overtopping of ponds that collect seepage water from the tailings facility. The releases were reported to the relevant authorities and potential impacts investigated. Data availability limits a definitive assessment of the impact on the creek; however, since the concentrations of most parameters were within the acceptable range for surface waters and the releases were diluted by the water flowing in the creek, no lasting environmental impact is anticipated. Water management and monitoring procedures have been enhanced to ensure that water levels in the collection ponds are maintained at a safe operating level, minimizing the potential for a recurrence.

The Zinkgruvan mineral deposit has been continuously mined for over 160 years and, typical of many historical mining areas, water quality and aquatic biodiversity impacts have been observed locally. Our focus is to manage current operations such that the potential for environmental or social impacts is minimized. During 2019, Zinkgruvan progressed hydrogeological studies to further its understanding of influences on the local water supply aquifer. The Company has been working with the relevant authorities to develop strategies for the protection of the aquifer, and in December, works were conducted to reduce the risk of impact upon local water supplies. The Company will continue to assess the need for any further mitigation measures, as required.

## **CLIMATE CHANGE, ENERGY** AND GHG EMISSIONS

Materiality

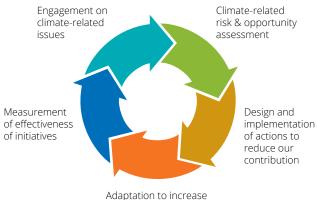
Climate change and greenhouse gas (GHG)  $\mathbf{\hat{\mathbf{A}}}$ emissions are material topics for Lundin Mining due to the energy-intensive nature of mining and mineral processing operations and resultant carbon footprint. The Company acknowledges climate change as an international and community concern. It is important for Lundin Mining to demonstrate a responsible approach to energy consumption and resulting GHG emissions, along with preparedness for regulatory and physical changes associated with climate change.

### Our Approach

Lundin Mining recognizes the need for effective approaches to managing climate-related responsibilities, especially in consideration of the remote locations in which we operate, the energy-intensive nature of our extractive industry sector, and the sometimes limited availability of renewable energy in national energy supply. While acknowledging our responsibility to manage our GHG emissions, we also recognize the importance of our role in Chapada – Panoramic view sustainably providing raw materials to support the global transition to a low-carbon future. The commodities we mine, including copper, zinc, nickel and lead, are critically important in technologies and innovations such as solar panels, wind turbines and batteries for associated energy storage. Furthermore, our commodities are among the most-recycled materials on the planet, significantly contributing to the circular economy.

From Lundin Mining's perspective, factors that are particularly relevant in our response to climate change include:

### Factors that are relevant in our response to climate change



our resilience against identified risks



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Lundin Mining recognizes the growing expectations of our investors with respect to our response to climate change and we engage actively with them to meet those expectations. We report annually to the CDP (formerly Carbon Disclosure Project) Climate Change and Forestry programs, aligned with the Task Force on Climate-related Financial Disclosures (TCFD). Each year, CDP awards a score to submissions by companies, based on their comprehensiveness of disclosure, awareness and management of environmental risks, and best practices associated with environmental leadership. Lundin Mining retained a B score for our 2018 Climate Change report, a significant achievement within the context of a North America regional average score of C and a metallic mineral mining sector average score of C. Further disclosure on our climate-related practices is provided in our annual climate change submission to CDP.

## **Risks and Opportunities**

Our operational sites are located across a wide geographical area and in a range of climatic zones, including arid (Candelaria), semi-arid (Neves-Corvo), tropical (Chapada) and temperate (Eagle and Zinkgruvan). Our operations assess risks and opportunities associated with climate change and approaches for reducing and / or mitigating its influences within the context of broadly anticipated scenarios of changing temperatures, changing precipitation, more frequent and severely extreme weather events and changing regulation. The identified risks and opportunities are reported in greater detail in our CDP report.

Several governments or governmental bodies have introduced, or are contemplating regulatory changes in response to the potential impacts of climate change. Selected potential climate-related regulatory risks identified by our operations include:

 Regulation relating to emission levels and energy efficiency becoming more stringent, resulting in increased costs;

- Cumulative-effects concerns impacting permitting for future expansions;
- Financial impacts associated with increased tax and regulation focused on lowering emissions, such as carbon tax or cap-and-trade; and
- Regulatory changes placing restrictions on access to certain water sources.

To mitigate impacts to our business associated with potential regulatory risks, our operations continue to closely track regulatory developments in their respective jurisdictions with the support of corporate sustainability professionals.

Climate-related physical risks can also have an adverse effect on some of the Company's operations. Selected potential physical risks identified include:

 Severe flooding events affecting the safety of people on site and / or in local communities; • Extreme rainfall events leading to the need for the emergency discharge of untreated water or uncontrolled discharge of stormwater, compromising site infrastructure or damaging road, railway or port infrastructure; and

 Prolonged droughts impacting the availability of water resources, resulting in the need for increased management of particulate emissions; and / or increased risk of wildfire on neighbouring land with associated smoke and / or site access issues.

Our operations have also identified climate-related opportunities for the support of local communities. In recent years, some of our operations have assisted local government departments, emergency services and communities during flood and wildfire events. Some operations may be in a position in the future to assist with the temporary provision of water in the event of shortages. Similarly, potential opportunities could be identified for maintaining environmental flows in water courses and lakes with associated ecosystem benefits.

## Powering Peruvian Exploration with Solar Energy

At Lundin Mining, it is recognized that climate action and innovation are integral to responsible mining at all stages of the mine life cycle. Our Amauta exploration team, located in a remote mountainous region of Peru, assessed their energy needs and alternative methods of generation. The team sought to implement innovative ways to reduce reliance on diesel fuels, reduce costs and improve the quality of life for project workers and local communities. In 2019, the installation of a new solar power system helped the team minimize risks and strengthen their emergency response as a result of the system's independence and reduced need for transmission cables providing electricity for the camp's offices, exterior lights and various other camp facilities.



SDG TARGETS: 7.1, 7.2, 7.B





Opportunities associated with emerging low-carbon and more energy-efficient technologies are also being tracked by our operations and integrated into our business strategies. Opportunities currently being tracked or implemented include fuel-switching, negotiation of contracts to increase the use of renewable and lower-carbon energy sources and improving energy efficiency.

## **Climate Change Adaptation**

Some of our operations have observed changes to weather patterns and an increased frequency of extreme meteorological events. In response, climate change adaptation requirements are regularly assessed, and site responses and infrastructure upgraded as required. A strong focus prevails for monitoring the ongoing integrity of mineral waste and water storage infrastructure, increasing runoff collection and storage capacities, and increasing water recirculation capacity. In 2019, we scoped and developed a corporate climate change adaptation and mitigation planning toolkit that will enhance the resilience of our operations by formalizing site-level, climate-related risk assessments for the development and prioritization of climate adaptation strategies.

## Energy and GHG Emissions Our Approach

Managing energy consumption and greenhouse gas (GHG) emissions is a high priority for Lundin Mining as we continue to focus on our climaterelated risks and opportunities. All our operations track upcoming changes to energy and GHG regulations and



policies, allowing them to plan for any adjustments required for future energy management. Corporate systems for efficient tracking of energy consumption were introduced for our operations in 2019, streamlining ongoing assessment processes for energy-use efficiency and GHG emissions reduction opportunities.

### **Our Performance**

In Europe, both our Neves-Corvo and Zinkgruvan operations comply with regulatory requirements through the completion of periodic energy audits and the submission of formal plans for energy efficiency to the authorities. During 2019, Neves-Corvo continued the development of its Plano Verde (Green Plan) intending to provide a framework for the development of initiatives that align with national commitments to emissions reduction. Zinkgruvan is in preparations for its three-year energy audit cycle, due 2020. Our Candelaria operation also conducts routine energy audits following regulatory requirements and made the significant business decision in 2019 to introduce an Energy Management System that will include all facilities in the Candelaria Complex, to gain certification under the ISO 50001 Energy Management System standard in the future.

Eagle Mine's operations team has continued to identify opportunities for more efficient energy usage, where possible, across its sites. Typical of the global mining sector, our operations are energy-intensive, consuming significant quantities of fuel and electricity for mining and mineral processing. At Lundin Mining, we are committed to a structured and transparent approach to our energy consumption and GHG emissions reporting. Details are provided in Appendix B.

When analyzing our energy consumption and GHG emissions data, we consider several important factors that contribute to variations between sites and within sites from year to year:

- Fuel and electricity consumption are highly influenced by the relative scale of each operation;
- Electricity consumption is closely related to the quantity of ore milled since most of our electrical energy is used during the processing of ore to produce our concentrate products;
- Underground mines consume additional electrical power for ventilation, lighting, hoisting, conveyors, pumps and other equipment;
- Open pit mines typically consume higher quantities of fuel due to additional haulage distances for waste rock and ore; and
- Operating conditions change over time with the ore characteristics (ore grade, hardness, depth and accessibility), expansion projects (mining and hauling non-mineralized rock and extending into new mine areas and construction activities), haulage distances for ore and waste rock, and on-site construction projects (new tailings facilities, tailings facility embankment raises, drainage and water-storage projects).

Eagle – Humboldt Mill



Zinkgruvan – Underground Operations

## **Energy Within Lundin Mining**

Total fuel and electrical energy consumption within Lundin Mining in 2019 was 10,738,795 GJ (Gigajoules) representing an increase of almost 1.7 million GJ (or 19%) compared to 2018, of which 1.4 million GJ was attributable to the inclusion in our inventory of Chapada's energy consumption for the period of July to December. For comparative purposes, excluding the contribution from Chapada, our energy consumption increased by 3%.

We consumed slightly more fuel energy than electrical energy in 2019 (52% compared to 48%). Almost 98% of our fuel energy consumption was from diesel and almost 2% was from propane, with gas oil, bio-pellets, biodiesel, gasoline, natural gas and LPG making up the balance. According to available data from our suppliers, 2% of our fuel supplies were from renewable sources.

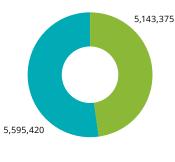
The Candelaria Complex is our largest energy consumer across its mines, processing plants, desalination plant and port site. Lundin Mining's total electricity consumption is heavily influenced by the relatively massive scale of Candelaria such that reductions in consumption at the complex in recent years, including in 2019, have had a positive impact on our overall electricity-consumption

levels. However, Lundin Mining's total electricity consumption increased in 2019, largely due to the addition of Chapada to our portfolio, but also due to the continuing expansion of our underground mines to access ore at greater depths.

The total consumption of energy from fuel is strongly influenced by our Candelaria and Chapada open pit operations, where ore and waste haulage result in energy consumption from fuel exceeding that from electricity. Eagle Mine's fuel consumption is influenced by the approximately 105 km ore haulage distance from the mine to the mill. At our remaining underground mines, energy consumption from electricity exceeds that of fuel.

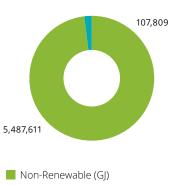
Candelaria's fuel consumption increased in 2019 as it continued to implement numerous projects, expansion-oriented and permit-driven, that required the mobilization of more equipment. Ore grade, ore accessibility and waste rock haulage distances were also relevant factors. Candelaria, with ongoing new projects and deepening of the pit resulting in an increased fuel consumption trend, focused on achieving measurable improvements in efficiency to minimize resulting impacts.

## Energy Consumption Within Lundin Mining 2019



Energy From Electricity (GJ) Energy From Fuel (G)

### Renewable Content of Fuels Consumed by Lundin Mining 2019



Renewable (GJ)

## Due to the acquisition of Chapada, Neves-Corvo has become our third-largest energy consumer with its consumption reflecting its production levels, followed by our two smaller operations, Eagle and Zinkgruvan. As expected, corporate headquarters' energy use was very low in comparison to our operational sites.

## Scope 1 and Scope 2 GHG Emissions

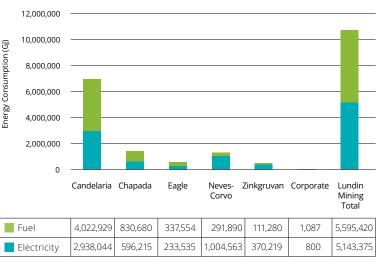
To account for the acquisition of Chapada in July 2019, we recalculated our 2015 base year.

## Lundin Mining 2015 Base Year Emissions

- Scope 1: 309,339 tonnes CO.e
- Scope 2 (Location-based): 477,869 tonnes CO<sub>2</sub>e
- Scope 2 (Market-based): 465,253 tonnes CO<sub>2</sub>e

Our Scope 1 emissions, which result predominately from fuel used on site by Lundin Mining and contractors, have increased significantly since 2015, primarily associated with the expansion of our Candelaria, Neves-Corvo and Eagle operations; and, in the case of Candelaria, hauling waste rock and ore greater distances. Our Scope 2 emissions, which result from electricity consumption, have increased to a much lesser extent, primarily accounted for by the expansion of our Eagle and Neves-Corvo mines underground.

As expected, Lundin Mining's GHG emissions broadly correlate with our energy consumption trends – increased Scope 1 emissions (from increased fuel consumption) and increased Scope 2 emissions (from increased electricity consumption). Our market-based Scope 2 emissions continue to benefit from Zinkgruvan's investment in a 100% renewable electricity supply supported by a Guarantee of Origin. In the future, we will also realize the positive effect of Candelaria's contractual agreement with its supplier for an increase in renewables to a minimum of 80% in the energy mix, prioritizing wind and solar energy, commencing in 2023. In our comparisons across operations, we use location-based Scope 2 data.



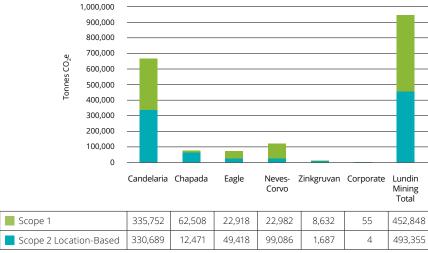
## Energy Consumption Within Lundin Mining, by Operation 2019<sup>1</sup>

<sup>1</sup> Chapada energy-consumption data included from July to December 2019.



## Lundin Mining GHG Emissions 2017-2019<sup>1</sup>

<sup>1</sup> Chapada emissions data included from July to December 2019.



by Operation 2019<sup>1</sup>

Scope 1 and Scope 2 GHG Emissions,

Chapada emissions data included for the post-acquisition period of July to December 2019.



Chapada Environmental Education Centre – Fazenda Fauna

In 2019, our total Scope 1 GHG emissions increased by 24% compared to 2018, partly due to the inclusion of Chapada's emissions in our inventory for the period of July to December, but also due to the increased fuel consumption at Candelaria. Our Scope 2 location-based GHG emissions increased by 4%, due to the combined effect of Chapada's contribution and slight increases in electricity consumption at our Eagle, Neves-Corvo and Zinkgruvan mines. Biogenic CO<sub>2</sub> emissions in 2019 are not included in our Scope 1 accounting, following GHG Protocol requirements, and are reported separately at 8,485 tonnes CO<sub>2</sub>, reflecting an increasing trend in renewable content in fuels in Europe and Brazil. Fugitive GHG emissions from refrigeration and air-conditioning equipment at our operations form a very small portion (approximately 0.2%)

of our total Scope 1 emissions.

Candelaria is the largest source of our GHG emissions due to the scale of the operations and associated energy consumption, with the contribution from our other mines reflecting their relative scale. Chapada will likely become our second-largest source of GHG emissions in 2020 following its first full year of operation in our portfolio, mostly due to fuel consumption (the source of Scope 1 emissions).

Chapada and Zinkgruvan's Scope 2 emissions benefit from a low national electricity emission factor; electricity consumption is the greatest source of GHG emissions at our remaining underground operations. Candelaria's Scope 1 and Scope 2 emissions were similar in 2019, reflecting increased Scope 1 emissions due to vehicle movements over longer distances for haulage of ore and waste rock and reduced Scope 2 emissions.

### Energy and GHG **Emissions Intensity**

Energy and GHG emissions intensity ratios allow an analysis of efficiency in the context of an organizationspecific metric and are reported "per tonne mined."

A decreasing trend in Lundin Mining's total energy intensity, observed in 2018, has continued for our original portfolio of four mines and become more marked with the addition of Chapada. This demonstrates that, although total energy consumption increased this year, efficiency improvements have been achieved in relation to our mining activities.

Chapada has the lowest intensity levels arising from the movement of significant quantities of material over relatively short distances. Candelaria's low energy intensity levels also reflect the large tonnage of ore and waste rock excavated, although the haulage distances are greater. Our remaining three underground operations do not benefit from such efficiencies of scale, especially those located in colder climates that require additional energy for heating.

Since this metric describes energy consumption in relation to the quantity of ore and waste rock mined, any mine that consumes a significant portion of its energy for indirect operational purposes (e.g., heating) will have a higher intensity. Eagle has the highest energy intensity using this metric, since almost one-third of its energy consumption is for heating and significant amounts of fuel energy are consumed hauling ore approximately 105 km to the mill site, neither of which is reflected in the ratio between the amount of energy consumed and the amount of ore-plus-waste mined.

The decreasing energy intensity trend for Lundin Mining overall is also observed for GHG emissions intensity, again with a relatively

low GHG emissions intensity at Chapada and Candelaria reflecting large-scale movement of rock and the relatively high intensity at Eagle reflecting emissions associated with heating and ore haulage. Renewable energy content of regional and national electricity grids also influence these data; our Chapada and Zinkgruvan operations benefit from higher renewable content, while Eagle does not benefit in this way.

The increase in emissions intensity at our Neves-Corvo and Eagle operations in 2019 can be attributed to continued development and expansion works at these operations. Although total GHG emissions increased this vear, associated with significant development and construction projects and factors associated with increasing mine age, efficiency improvements have been achieved overall in relation to mining activity.

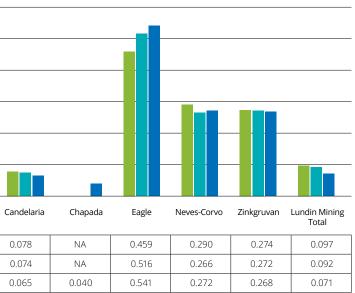
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2017 2018 2019

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Candelaria – Open Pit



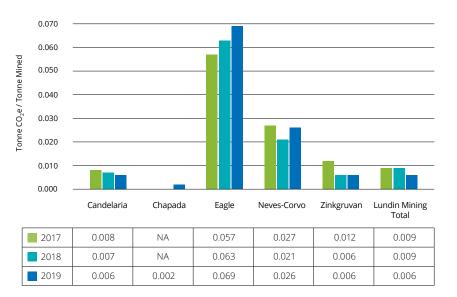
## Energy Intensity 2017-2019

Energy intensity: Energy consumed within Lundin Mining (fuel + electricity) per tonne mined. <sup>1</sup> Chapada data included for July to December 2019.



Neves-Covo – National Tree Day Art Competition Winner – Alice Martins Age 9

GHG Emissions Intensity 2017-2019<sup>1</sup>



GHG emissions intensity: Scope 1 + Scope 2 (location-based) GHG emissions per tonne mined. <sup>1</sup> Chapada data included from July to December 2019.

In addition to reporting our energy and GHG emissions intensity using the "per tonne mined" metric, we have continued our analysis of a range of metrics during 2019 to track our energy and GHG management efficiency. This is important for us as certain metrics are more meaningful for some of our operations than others, depending on internal factors, such as the type of mine, mine development activities and type of ore; and external factors such as the renewable content of the grid electricity supply. While we continue this analysis and while our operations are subject to significant changes in their energy-input requirements associated with expansion projects and advancing mine age, we maintain a strong focus on operational efficiencies and have not set a corporate GHG emissions target at this time.

## **Energy and GHG Outside Lundin Mining**

As a step toward tracking selected Scope 3 GHG emissions associated with our value chain, we calculate energy consumption and GHG emissions associated with some transport activities that take place beyond our project boundaries to support our operations.

## Energy Consumption and GHG Emissions Outside Lundin Mining 2019

Scope 3 Category <sup>1</sup>	Description	Energy Consumed	Scope 3 GHG Emissions (tonnes)
Category 4: Upstream Transportation and Distribution	Transport of concentrate and some of our most significant imported raw materials	398,166 GJ	27,434 t CO <sub>2</sub> e
Category 7: Employee Commuting	Transport by bus of some personnel	26,970 GJ	1,985 t CO <sub>2</sub> e

<sup>1</sup> Categories defined in the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

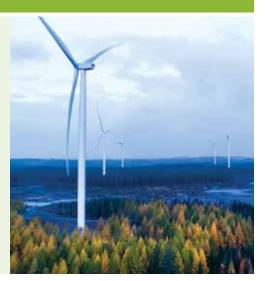
## GHG Emission Reduction and Energy Conservation Measures

During 2019, approximately 30 energy- and GHG emission-reduction initiatives were assessed and / or implemented across our operations. Systems to enhance data collection on these initiatives require further development, as currently, the benefits of several implemented initiatives are not quantified. Also, we have not included Chapada's reductions in our 2019 estimates due to implementation being started before acquisition. It is estimated that annual savings of approximately 20,000 GJ and 2,000 tonnes carbon dioxide equivalent (CO<sub>2</sub>e) may be achieved by energy-reduction initiatives that were fully implemented by the end of 2019 and for which energy-saving estimates were available.

## Energy From Renewable Resources at Zinkgruvan

Zinkgruvan's commitment to clean energy and climate action is demonstrated through its responsible sourcing and procurement practices. Since 2017, Zinkgruvan purchased electrical energy from 100% renewable resources directly from the Swedish national grid. Zinkgruvan utilized these renewable resources in 2019 to power its entire operation, from mining to processing, with the energy consumed equal to over 100,000 MWh of electricity over the year, representative of a transition toward clean energy consumption across all Lundin Mining operations.





Key aspects of our energy and GHG reduction programs and initiatives under investigation or implementation in 2019 are described below for each operation.

Candelaria	<ul> <li>Specialist committee, supported by specialist consultants, to progress the identification and implementation of energy-efficiency opportunities;</li> </ul>
	<ul> <li>Early-stage initiatives assessing the potential for re-use of wood to heat shower water and for on-site solar power plant related to the renegotiation of PPA with energy supplier from 2023;</li> </ul>
	<ul> <li>Continued implementation of a project comprising gradual replacement of lighting above and below ground; and</li> </ul>
	Joint initiative with personnel transport contractor for replacement of 18 diesel buses with electric buses.
Chapada	<ul> <li>Continuous Improvement Project for the reduction of diesel consumption resulting from truckload control;</li> </ul>
	<ul> <li>Implementation of electricity-saving initiative, involving reconfiguration of reclaimed water pipework from the tailings facility to the processing plant, reducing the need for boosters; and</li> </ul>
	<ul> <li>Implementation of energy-efficiency initiative within the processing plant, resulting in greater comminution power without increasing electricity consumption.</li> </ul>
Eagle Mine	<ul> <li>Retention of a Continuous Improvement Lead and Steering Committee to evaluate and implement selected staff-provided recommendations, including energy-reduction initiatives;</li> </ul>
	<ul> <li>Ongoing assessment of the use of a fuel additive to reduce emissions and save on fuel consumption underground, and an ambient heating and cooling optimization project at the mine site; and</li> </ul>
	Implementation of initiatives for lighting management in three areas at the mine site.
Neves-Corvo	<ul> <li>Development of a Plano Verde (Green Plan) as a framework for progressive investigation and implementation of GHG emission reduction initiatives;</li> </ul>
	<ul> <li>Continued implementation of changes to lighting above and below ground;</li> </ul>
	<ul> <li>Implementation of energy- and GHG emission-reduction projects continued, including several retrofit projects in the processing plant to improve efficiency; and</li> </ul>
	Replacement of a diesel forklift with an electrical forklift at the site's industrial waste park.
Zinkgruvan	<ul> <li>Early-stage assessment of ventilation shaft heating initiatives, one assessing the use of biopellets and one assessing the use of heat recovery from mine water;</li> </ul>
	Continued implementation of initiatives including lighting management in new areas;
	Implementation of a switch to a new electric wheel loader; and
	<ul> <li>Maintenance of 100% renewable-energy source for electricity supply, supported contractually by Guarantee of Origin, since switching on 1 January 2017.</li> </ul>
Corporate Office,	<ul> <li>Participation in "ForeverGreen," a tenant-engagement program where one of the core components is energy efficiency and carbon-emission reduction; and</li> </ul>
Toronto	<ul> <li>Signed corporate sponsorship agreement with Coalition for Energy Efficient Comminution (CEEC) for the promotion of industry uptake up of energy-efficient, lower footprint mining.</li> </ul>

## RECLAMATION AND CLOSURE

## Materiality

Reclamation and closure are material topics for Lundin Mining due to the nature and scale of potential environmental and social impacts that can occur if the decommissioning and closure of mine sites are not carried out responsibly. We aim to reassure our stakeholders that closure planning is progressed to an appropriate level at all our sites with associated adequate financial provision. We fully acknowledge the rightful expectation that Lundin Mining, like other companies in the mining sector, should demonstrate that we design and plan for closure from the earliest stages of the life of our mines, ensuring allocation of adequate resources for closure activities to be properly implemented, managed and monitored throughout the active-closure and post-closure phases of the mine.

## Our Approach

Lundin Mining takes a responsible and integrated approach to mine closure planning with the principal aim being to design, develop and operate our facilities to minimize the overall social and environmental impact upon their eventual closure. All of Lundin Mining's operational and closed sites have approved mine closure plans (MCPs) as required by our Mine Closure Planning Standard, which was updated in 2019 as part of the RMMS implementation process. The document requires the use of a risk-based approach to closure planning and the definition of site-specific closure objectives and completion criteria for each operation. All MCPs are developed to a level of detail that reflects the stage of each mine's life cycle, and they are updated at least every three years or when required due to operational changes.

Our closure plans are required to address legal obligations and corporate commitments, financial provisions, community interests, the environment and employees' expectations once

Zinkgruvan – Lake Åmmelången the mine is closed. Lundin Mining has implemented financial provisions for mine closure following legal requirements and the respective Company policies. The closure-related financial provisioning and accrual details are provided in Lundin Mining's most recent AIF.

The Mine Closure Planning Standard includes objectives relating to longterm water and land stewardship, requiring the definition of post-closure land uses, employee and public safety, chemical and geotechnical stability, post-closure monitoring and aftercare, post-closure land ownership and tenure, temporary closure and unplanned premature closure. Stakeholder participation is integral to our closure planning process. Progressive restoration forms a key part of our closure planning process and is integrated into the operational mining plan where feasible.

Lundin Mining actively manages the former Storliden mine in northern Sweden, which was closed in 2008. During 2018, in response to a



communication from the local county board, we conducted site assessment at the former mine. In 2019, work continued with environmental quality data being analyzed to assess risks and to determine what, if any, additional action may be required to support site relinquishment.

Åmmeberg is a historical industrial site located in the vicinity of our Zinkgruvan operation, where a company called Vieille Montagne processed Zinkgruvan ore from the 1850s until the late 1970s. Vieille Montagne reclaimed the site during the 1980s and it currently has various uses, including a golf course, a marina and residential dwellings. Although Zinkgruvan was not involved historically and does not own the site, in 2018 the Company agreed to contribute its expertise and assist the local county board (ÖCAB) in the development of a site-wide, site-specific risk assessment (SSRA) to identify potential risks to human health and / or the environment. ÖCAB and Zinkgruvan continued to work on the SSRA in 2019.

## Neves-Corvo Celebrates Tree Week 2019 With 400 Holm Oaks

Neves-Corvo celebrated the United Nations International Day of Forests, March 21, 2019, which promotes the importance of forests and trees in our lives, addressing issues such as deforestation. The preceding week celebrated World Tree Week. To contribute to the cause, Neves-Corvo planted 400 holm oak trees, also known as Quercus ilex, in the areas surrounding the mine. Holm oaks are a protected species of evergreen oak native to the Mediterranean region; they occur naturally near the operation. The planting included 23 local participants, including young children ready to learn about protecting and promoting their environmental future. The team at Neves-Corvo spent the day spreading awareness and highlighting the importance of sustainability and environment protection to community members and neighbours of the operation.



Neves-Corvo – International Day of Forests

## Social Aspects of Mine Closure Planning

Mine closure plans that incorporate both physical rehabilitation and socio-economic considerations are an integral part of the mine life cycle. Mines should be designed so that future public health and safety are not compromised, after-use of the site is beneficial to affected communities, and adverse socio-economic impacts are minimized while socio-economic benefits are maximized.

At Eagle Mine, which is currently forecast to close circa 2025, social programs have been developed with closure in mind. In preparation for closure, mine representatives provide annual updates to local government to explain tax structure changes and provide budget recommendations related to closure. In 2019, Lundin Mining held mine closure workshops to review the current mine closure programs and mine closure costs ensuring plans are aligned with the Company's Procedure for Mine Closure Planning.

## AIR EMISSIONS, NOISE AND VIBRATION

Air emissions, noise and vibration were not identified as material topics during our materiality assessment process. However, we recognize that these can be of relevance for the mining sector, frequently being of particular interest or concern to local communities, as borne out by grievances registered at our sites in 2019. For this reason, we include some information concerning the subject areas in our report.

## Our Approach

Lundin Mining's objective is to minimize disturbance to our neighbouring communities and the surrounding environment from air pollutants, noise and vibration emissions arising from our operations. Management of oxides of nitrogen and sulphur (NO, and SO,) and particulate emissions (dust) by mining operations is important for employees and contractors, the surrounding communities and the environment. Dust control is particularly significant at Candelaria, located in an arid area with limited natural vegetation and which hosts several other industrial and agricultural operations, resulting in considerable latent particulate matter in the air. Candelaria employs processes and technology to monitor and manage air quality impacts and regularly reviews and updates them. In January 2019, Candelaria became aware that the Ministry of the Environment had commenced a technical review of the air quality of the Copiapó and Tierra Amarilla areas to determine if they might be declared a saturated zone for purposes of Chilean law. Later in 2019, the local industry and government agreed to work together to voluntarily develop and propose mitigation measures that would remove the need to formally declare the area as a saturated zone.

All our operations have controls and procedures in place to manage emission of particulates within and beyond our site boundaries, as well as associated monitoring to allow the effectiveness of controls to be routinely assessed and adjusted if required. Controls include the application of water and binding agents, sprinkler systems, wheel washes and sweeping of paved areas, covering of concentrate and other materials for transport, and dust capture systems and air filters in indoor areas. Documented procedures and associated training of personnel as to the circumstances under which action is required are critical to the effectiveness of these measures. Emissions of NO, and SO, are regulated under national laws or regulations, including those listed on environmental permits, at our Chapada, Eagle and Neves-Corvo operations. Emissions are controlled through the use of appropriate technologies, mitigation measures and associated monitoring.

## Candelaria Partners With Tierra Amarilla for Cleaner Streets

Trusted and meaningful partnerships between Lundin Mining and local municipalities play a critical role in promoting sustainability and safety in our communities. An example of this in action is Candelaria's partnership with Tierra Amarilla, where they provided the community with three new industrial street sweepers. The aim of the initiative was for Candelaria to showcase pride in vibrant Tierra Amarilla and maintain clean streets for the safety of all residents and the work continues in 2019. The site team handled the delivery of the equipment and quickly put the sweepers to work in the presence of community members, local authorities and Lundin Mining executives.

SDG

TARGETS:



Lundin Mining continues to manage noise and vibration emissions from our sites with the primary aim of minimizing disturbance to local communities. Measures employed include noise mitigation works where required, restricting activities with greater noise emissions to daytime hours wherever possible and informing local communities of blasting times in advance.

## **Our Performance**

Although Chapada, Eagle and Neves-Corvo have regulated NO<sub>x</sub> and SO<sub>x</sub> air emissions, Chapada was the only operation required to undertake compliance monitoring in 2019, and full compliance was achieved. In addition to compliance monitoring required at some of our sites, particulate matter is routinely measured to assess impacts from our Neves-Corvo operation in the neighbouring villages of Graça, Corvo and Neves. Candelaria monitors particulates for the authorities at official Community Status monitoring stations in the communities of Tierra Amarilla, Caldera and Nantoco. The data collected represents the cumulative effect of a range of sources of particulates in the region, including from other mines and a smelter.

In 2019, all our operations were in full compliance with regulated limits for particulate emissions. Occasional exceedances of limits recorded at the off-site Community Status monitoring stations are not considered by the authorities to be non-compliances for Candelaria, due to the range of particulate sources that are not related to Candelaria's activities.

Noise-mitigation initiatives undertaken in recent years at Neves-Corvo and Zinkgruvan have reduced emissions and improved compliance. At the Neves-Corvo ZEP, construction activities with the potential to cause noise disturbance were undertaken during daytime hours only. Furthermore, noise mitigation measures were incorporated into the expansion design to minimize noise emissions.



## Neves-Corvo's Partnership With the League for the Protection of Nature

Neves-Corvo is located in an area of High Biodiversity Value. Since it's inception, the operation has integrated preservation of biodiversity and local species into its business objectives. Through meaningful partnerships and careful project planning, Neves-Corvo has contributed to the ecological health and well-being of local species and habitats for many years. To continue the work, a partnership was established in 2019 with the League for the Protection of Nature (LPN) on their Centro de Educação Ambiental do Vale Gonçalinho (CEAVG) project to create an environmental education centre for their neighbouring communities. The goal of the project is to present environmental information in an accessible, entertaining way with an emphasis on local cultural values and the history of the region. It will also provide information and tips on enjoying the local trails and exploring the Special Protection Zone. The CEAVG project covers the counties of Castro Verde, Almodôvar, Mértola, Ourique and Aljustrel.



SDG TARGETS: 12.4



## **BIODIVERSITY AND LAND**

Although not identified as a material topic during our materiality assessment process, Lundin Mining considers its role in biodiversity stewardship to be a fundamental sustainability responsibility and therefore chooses to include some details in our report.

## Our Approach

Lundin Mining contributes to biodiversity management through the proper assessment of biodiversity conditions, minimization of habitat degradation and contributions to habitat restoration during the life of mine cycle.

Our objectives for biodiversity management include considering biodiversity-related information and management systems during due diligence assessment programs, undertaking comprehensive biodiversity baseline studies to document conditions before the development of new mines or significant expansion beyond a current mine's footprint, monitoring biodiversity management programs and promotion of sustainable management of living natural resources through the fostering of partnerships that seek to integrate conservation needs and development priorities, and aiming to include community-based knowledge in the development of the plans, where available.

## Our Performance

Our operational sites have continued to progress the alignment of their existing biodiversity management plans to the corporate requirements set by the Company, including compliance with the requirement to prepare and update their biodiversity action plans on an annual basis, identifying biodiversity risks and opportunities, and to inform the development of operational plans at each site.

Neves-Corvo's lands lie adjacent to the Oeiras River, a High Biodiversity Value Area integrated into the Guadiana Valley Natural Park as part of the European Natura 2000 network. Conservation of the Oeiras River habitat is one of the highest environmental priorities for Neves-Corvo.



Neves-Corvo – Saco-rabo (Mongoose)

In Sweden, part of our Zinkgruvan operational area lies within the Knalla Nature Reserve, which is a popular spot for hiking. A minor part of Lake Viksjön lies within this reserve and our Zinkgruvan operation plays an important role in managing the water level of the lake while maintaining the flow rate of a nearby creek within a valley of high natural value. There are no protected or High Biodiversity Value Areas within or adjacent to our Candelaria or Eagle sites.

Chapada is located within a cerrado aberto baixo, or low, open savannah region of Brazil. There are no protected areas within the property boundaries or in the region surrounding the operation. Prior to the development of the mine, the land was zoned as a legal reserve. When the zoning was changed to permit mining, the legal reserve was relocated approximately 23 km north of the site; the reserve is managed by Chapada, along with an environmental education centre.

## Species of Interest

Habitats hosting three critically endangered and 13 endangered species, as defined by the International Union for Conservation of Nature (IUCN) Red List and national conservation lists, can be found in regions where we have operations. The monitoring and protection of all Red List species are addressed in the relevant biodiversity management plans developed and implemented by each site. This year, Zinkgruvan reported the findings of biodiversity studies conducted around the receiving environment for its treated discharge water, and wych elm (*Ulmus glabra*) was identified, a critically endangered species due to the impact of Dutch elm disease in Europe.









Habitats in Areas Where Lundin Mining Has Operations



Some of the significant biodiversity management actions implemented or continued, and our engagement activities for biodiversity conservation, are summarized below by site and detailed in case studies throughout the report.

Candelaria	Extensive biodiversity monitoring programs to periodically assess desert flora and fauna in the mine complex region;
	Coastal marine monitoring program to assess potential impacts upon aquatic life and fish resources from the desalination plant's seawater abstraction and discharge process in addition to the port facilities;
	During 2019, 4 hectares of trees were planted, completing a project to plant 10 hectares of native trees in the area of Candelaria's Alcaparrosa mine;
	Continued relocation of species of cactus and reptiles from the footprint of the Los Diques tailings facility and waste rock expansion projects; and
	Voluntary funding of the publication of a book about <i>Reptiles in the Atacama region</i> , in association with local experts and the University of Antofagasta.
Chapada	Monitoring of species of fauna, flora, ichthyofauna, and benthic invertebrates to support new permit applications;
	Ownership and management of 1,651 hectares of forest reserve as compensation for land used for the mine; includes a nursery for the growth of native cerrado plants for planting in deforested areas;
	A plant survey and carbon-capture program commenced at the site's reserve in 2019 and will continue in 2020; and
	Relocation programs for selected flora and fauna species in the event of permitted extensions to the site footprint.
Eagle Mine	Annual flora, fauna and aquatic surveys and threatened or endangered species assessments at the mine and mill sites and surrounding areas; comparison of results to baseline data to assess any changes that could be potentially attributable to mining operations; and
	Rigorous management of discharges to ensure the downstream water environment and the ultimate receiving water bodies for the discharges from the mill and mine sites are not adversely impacted.
Neves-Corvo	Routine monitoring of flora and fauna (birds, mammals, reptiles, amphibians) and air and water quality;
	Soil remediation and biomonitoring initiatives (including aquatic macroinvertebrates, fish and shellfish) in partnership with the University of Lisbon and Coimbra University;
	Working with the Institute for the Conservation of Nature and Biodiversity (ICNF) / Parque Natural do Vale do Guadiana (PNVG) to support several projects and management planning for the Guadiana Valley;
	Management of riparian habitats in the Vascão River (Site of Community Interest, Natura 2000, Ramsar Convention listed wetland and tributary of the Guadiana River) as compensation for impacts on Oeiras River, assisting in the protection of the threatened fish species Saramugo ( <i>Anaecypris hispanica</i> );
	Implementation of an emergency response plan developed in collaboration with Évora University

## Zinkgruvan

Protection of wych elm (Ulmus glabra) and common ash (Fraxinus excelsior) during water management improvement works at and around Ekershyttebäcken Creek;

to the new tailings facility;

Commitment to transferring water from Lake Viksjön, maintaining environmental flows in a local creek, as agreed with the previous approval of the tailings facility;

Commitment to transferring the higher quality water from Lake Viksjön to Lake Sävsjän / Dalbysjön and Dalbyån Creek to maintain their water quality; and

Responsible water stewardship to ensure the cultural value of nearby lakes is not adversely impacted.

### Land Management

At the beginning of 2019, Lundin Mining was managing 5,802 hectares of land that we own or lease and occupy with our mining and processing activities and associated infrastructure. At the close of 2019, Lundin Mining was managing 8,762 hectares, with 2,836 hectares being added through our acquisition of the Chapada mine. Most of the land managed by Lundin Mining is located at our Candelaria Complex.

### Land Management (Hectares)

	Candelaria	Chapada	Eagle Mine	Neves-Corvo	Zinkgruvan	Total
Total land disturbed and not yet rehabilitated (Opening Balance)	4,961	NA	56	678 <sup>1</sup>	181	5,802
Total amount of land newly disturbed within the reporting period	73	NA	0	0	0	73
Total amount of land newly rehabilitated within the reporting period to the agreed-upon end-use	23	NA	0	0	0	23
Total land disturbed and not yet rehabilitated (Closing Balance)	5,011	2,836 <sup>2</sup>	56	678	181	8,762

<sup>1</sup> Neves-Corvo's borrow area, which had not been included previously, has been added for 2019.

<sup>2</sup> Chapada footprint included in Lundin Mining closing balance only, following the acquisition in July 2019.

New land disturbance that took place in 2019 at our Candelaria operation was associated with permitted increases in the footprint of the waste rock dump and tailings facilities. Candelaria also completed the final rehabilitation of two smaller tailings deposits that resulted from operations at the site before Lundin Mining's acquisition.

Development of species inventories for areas closest to operations for natural values and biodiversity classification, including an inventory of the nature conservation value of Ekershyttebäcken Creek;

Monitoring of the success of the relocation of a Swedish protected orchid (Dactylorhiza incarnata) to a nearby sheltered area and to protect flora species in an area of high natural value adjacent



Chapada – Operations

## NON-MINERAL WASTE

Non-mineral waste was not identified as a material topic during our materiality assessment process. However, we recognize that responsible waste management is important for the mining sector. For this reason, we include some information about the subject. Responsible management of non-mineral waste at our operations is formalized at Lundin Mining through the implementation of comprehensive waste management plans. These plans specify how the different types of waste produced by our activities are to be managed, including identification of opportunities for waste minimization, recycling and re-use.

All waste generated by the Company's operations in 2019 was stored and disposed of following applicable waste regulations and the site waste management plans; the majority of both hazardous and non-hazardous materials were recycled. During 2019, approximately 34,500 tonnes of non-mineral waste were generated by Lundin Mining, of which or 88 % were classified as non-hazardous waste. Our waste-generation levels have remained broadly consistent over recent years.

## Sustainable Waste Management at Neves-Corvo

Continuous improvement at our operations and the integration of innovative, sustainable technologies are critical to Lundin Mining's efforts to contribute to the achievement of SDG 9: Industry, Innovation and Infrastructure. Neves-Corvo, Lundin Mining's operation located in Portugal, has begun implementing a modernization program and made significant steps in 2019. The plan seeks to replace vehicles and equipment with more efficient, sustainable technologies to improve environmental and operational performance and improve working conditions. As part of this effort, a new, fully electric forklift was added to the fleet to replace the previous diesel-run model. The shift to an electric waste management fleet is expected to result in a reduction of 12 tonnes of CO<sub>2</sub> emissions per year. Neves-Corvo also purchased six new Epiroc MT65 mining trucks that are more eco-efficient vehicles than those in recent operation and that can transport loads of up to 65 tonnes with reduced diesel consumption. The upgrades increase the resource use and efficiency of Neves-Corvo through the adoption of clean and environmentally sound technologies in existing processes.





## Appendix A: Key Performance Data

## **HEALTH & SAFETY STATISTICS 2019**

	Employees		Cont				
	Male	Female	Male	Female	Total		
Candelaria	12,991,973 Hours Worked						
Total Recordable Injuries	4	0	13	0	17		
Injury Rate (TRIF)	0.06	0	0.2	0	0.26		
Occupational Diseases	18	0	NR	NR	18		
Occupational Disease Rate	0.28	0	NR	NR	0.28		
Lost Workdays	171	0	264	0	435		
Lost Day Severity Rate (SR)	3	0	4	0	7		
Work Related Fatalities	0	0	0	0	0		
Chapada (from 5 July 2019)	2,155,555 H	ours Worked					
Total Recordable Injuries	2	0	4	0	6		
Injury Rate (TRIF)	0.19	0	0.37	0	0.56		
Occupational Diseases	0	0	NR	NR	0		
Occupational Disease Rate	0	0	NR	NR	0		
Lost Workdays	26	0	0	0	26		
Lost Day Rate (SR)	2	0	0	0	2		
Work-Related Fatalities	0	0	0	0	0		
Eagle	987,912 Ho	ours Worked					
Total Recordable Injuries	3	0	5	0	8		
Injury Rate (TRIF)	0.61	0	1.01	0	1.62		
Occupational Diseases	0	0	0	0	0		
Occupational Disease Rate	0	0	0	0	0		
Lost Workdays	0	0	30	0	30		
Lost Day Severity Rate (SR)	0	0	6	0	6		
Work Related Fatalities	0	0	0	0	0		
Neves-Corvo	5,277,421 H	ours Worked					
Total Recordable Injuries	9	1	15	1	26		
Injury Rate (TRIF)	0.34	0.04	0.57	0.04	0.99		
Occupational Diseases	16	1	NR	NR	17		
Occupational Disease Rate	0.61	0.04	NR	NR	0.64		
Lost Workdays	234	7	883	24	1,148		
Lost Day Severity Rate (SR)	9	0	33	1	44		
Work Related Fatalities	0	0	0	0	0		

# Appendix A:

Key Performance Data

## **HEALTH & SAFETY STATISTICS 2019**

	Emp	Employees		ractors	
	Male	Female	Male	Female	Total
Zinkgruvan	978,254 Ho	ours Worked			
Total Recordable Injuries	10	2	4	0	16
Injury Rate (TRIF)	2.04	0.41	0.82	0	3.27
Occupational Diseases	5	2	NR	NR	7
Occupational Disease Rate	1.02	0.41	NR	NR	1.43
Lost Workdays	106	2	13	0	121
Lost Day Severity Rate (SR)	22	0	3	0	25
Work Related Fatalities	0	0	0	0	0
Exploration	170,285 Ho	ours Worked			
Total Recordable Injuries	0	0	2	0	2
Injury Rate (TRIF)	0	0	2.35	0	2.35
Occupational Diseases	0	0	0	0	0
Occupational Disease Rate	0	0	0	0	0
Lost Workdays	0	0	0	0	0
Lost Day Severity Rate (SR)	0	0	0	0	0
Work Related Fatalities	0	0	0	0	0
Lundin Mining Total	22,723,989 H	lours Worked			
Total Recordable Injuries	28	3	43	1	75
Injury Rate (TRIF)	0.25	0.03	0.38	0.01	0.66
Occupational Diseases	39	3	0	0	42
Occupational Disease Rate	0.34	0.03	0	0	0.37
Lost Workdays	537	9	1,190	24	1,760
Lost Day Severity Rate (SR)	5	0	10	0	15
Work Related Fatalities	0	0	0	0	0

There were zero Total Recordable Injuries, Occupational Diseases, Lost Workdays or Work-Related Fatalities reported / recorded at Corporate (162,589 Hours worked) Explanation of how data is compiled:

For the purpose of this report, the 'Injury Rate' is based on total recordable injuries.
 Total Recordable Injuries = Medical Treatment Cases + Restricted Duty Cases + Lost Time Cases. First aid injuries are not included.
 Lost Day Severity Rate (SR) = Based on workdays lost after the first day. SR calculation: '(lost workdays x 200,000) / hours worked'.
 Rate Calculations are based on the total hours worked (employee + contractor).

• NR = Not reported or incomplete data.

• Note: Data for Absentee Rate is not collected as it is not a material issue for Lundin Mining.

**STAFFING SUMMARY 2019** 

			Permanent Employees		Full-Time Employees	Part-Time Employees	Other Workers*	Non- National / Expatriates	Employee Turnover (%)	Non-Manageria Workforce Covered by Collective Bargaining Agreements (%)
Candelaria	Male	1,326	1,280	46	1,326	0	77	3		
	Female	141	138	3	141	0	12	0		
	Total	1,467	1,418	49	1,467	0	89	3	4.6	82
Chapada	Male	682	682	0	682	0	0	0		
	Female	73	73	0	73	0	0	0		
	Total	755	755	0	755	0	0	0	1.96	100
Eagle	Male	155	155	0	155	0	206	3		
	Female	41	41	0	41	0	17	0		
	Total	196	196	0	196	0	223	3	17.1	0
Neves-Corvo	Male	1,060	798	262	1,060	0	16	23		
	Female	164	106	58	164	0	4	5		
	Total	1,224	904	320	1,224	0	20	28	10.95	100
Zinkgruvan	Male	349	345	4	349	0	0	1		
	Female	80	76	4	79	1	0	0		
	Total	429	421	8	428	1	0	1	19	100
Exploration	Male	18	18	0	18	0	0	0		
	Female	7	7	0	7	0	0	0		
	Total	25	25	0	25	0	79	0	0	0
Corporate	Male	50	50	2	50	0	6	1		
	Female	29	29	0	29	0	2	0		
	Total	79	79	2	79	0	8	1	15.2	0

# Appendix B:

Basis for Energy and Greenhouse Gas Reporting

## Basis for Lundin Mining Energy Reporting 2019

- Energy Within Lundin Mining includes fuel and electricity consumed in our corporate office and onsite by Lundin Mining and contractors for core business activities.
- Energy Outside Lundin Mining includes fuel consumed by contractors for the transport of concentrate, some imported raw materials and personnel in buses.
- Data sources include Lundin Mining's internal purchase records and fuel-consumption records reported to Lundin Mining by contractors.
- Factors to convert quantities of fuel consumed to energy units sourced in-country from product data sheets and national publications.
- Electricity-consumption data obtained from suppliers and onsite meters.

### Basis for Lundin Mining GHG Reporting 2019

- GHG emissions calculation approach aligned with the GHG Protocol methodologies.
- > Consolidation approach based on operational control.
- > Latest Global Warming Potentials, given in the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report were used, as recommended by the GHG Protocol and CDP.
- > Calculations include carbon dioxide, methane and nitrous oxide, reported as carbon dioxide equivalents (CO,e).
- > 2015 defined as the base year for GHG emissions reporting, primarily because data were externally assured in that year and both location-based and market-based Scope 2 data were reported.
- > 2015 base year Scope 1 and Scope 2 emissions recalculated in 2019 to account for the acquisition of Chapada mine in July 2019 using pro-rata option, such that Chapada is excluded in the January to June period for both the base and current year inventories. Full recalculation will be made for the 2020 reporting year.
- Scope 1 emissions accounting based on fuel, blasting agents, and fugitive emissions from refrigeration and air-conditioning equipment at our operations.
- > Where available, fuel emission factors obtained in-country, from national publications; otherwise, default fuel emission factors from 2006 IPCC Guidelines for National Greenhouse Gas Inventories used.
- > Fugitive emissions calculated in alignment with the GHG Protocol's Screening Method (WS3 Emission Factor-Based Approach to Estimate HFC and PFC Emissions from Refrigeration / AC, 2015).
- Scope 2 emissions accounting based on electricity consumption onsite and in corporate offices.
- > "Location-based" and "Market-based" Scope 2 emissions calculated in accordance with GHG Protocol Scope 2 Guidance, published in 2015.
- > Emission factors for location-based emissions calculations were regional or national data obtained in-country, where available, and otherwise were sourced from the International Energy Agency (Emissions Factors 2019).
- > Emission factors for market-based calculations were sourced from a contractual arrangement between our Swedish operation and its electricity supplier; European Residual Mix (AIB, 2019) for Portugal; and, since residual mix data are not currently available for Brazil, Chile and the U.S., regional grid average data were applied.
- Scope 3 emissions from some fuel combustion (transportation only) based upon fuel-consumption data supplied by contractors (note that the July to December quantity for concentrate transport by Chapada was assumed to be 50% of the annual quantity consumed for 2019).
- Energy and GHG data are reported for Chapada for the post-acquisition period of July to December 2019. The operation has worked to align its data collection and reporting formats with those of Lundin Mining since acquisition. During this transition period, we acknowledge reduced certainty about Chapada's energy and GHG reporting.

## Independent Assurance Statement

### INTRODUCTION AND OBJECTIVES OF WORK

Apex Companies, LLC (Apex) was engaged by Lundin Mining Corporation (LMC) to conduct an independent third-party assurance of select sustainability information presented in its 2019 Sustainability Report (the Report) for the calendar year ending in December 2019. This Assurance Statement applies to the related information included within the scope of work described below. The intended users of the assurance statement are LMC's management and stakeholders of LMC. The overall objective of the assurance process was to provide assurance on the accuracy, reliability and objectivity of LMC's Report for the specific key performance indicators (KPIs) covered by the scope of work (below).

The information that was assured and its presentation in the Report are the sole responsibility of the management of LMC. Apex was not involved in the calculation of the data or drafting of the Report. Our sole responsibility was to provide independent assurance on the selected Key Performance Indicators (KPIs).

## **ASSURANCE STANDARDS APPLIED**

The assurance engagement was performed in accordance with AccountAbility's AA1000AS-2008 standard and was conducted to meet the AA1000AS Type II moderate level of assurance requirements for most metrics.

Greenhouse gas emissions were verified to a *reasonable* level in accordance with ISO 14064-3: Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions.

#### SCOPE OF WORK

LMC requested Apex to include independent assurance of the following KPIs for the calendar year 2019 reporting period:

- Safety total recordable injury frequency rate (TRIF) and lost time injury frequency rate (LTIF);
- Total amount of water withdrawn from all sources;
- Total amount of water discharged;
- Energy consumption within LMC's operations including electricity, liquid fuels and gaseous fuels;
- Greenhouse gas emissions Scope 1, Scope 2 (location and market based);
- Stakeholder grievances filed during the year;
- Stakeholder engagement as it relates to AccountAbility's AA1000AS (2008)<sup>1</sup> principles of inclusivity, materiality and responsiveness.

A table listing the reported and assured data is attached to this statement.



Excluded from the scope of our work is any assurance of information relating to:

- Performance indicators and text in the report not indicated above; and
- · Activities outside the defined assurance period of calendar year 2019.

## METHODOLOGY

Apex undertook the following activities:

- 1. Interviews with relevant personnel of LMC and LMC's consultant;
- 2. Review of internal and external documentary evidence produced by LMC;
- 3. Audit of select KPI data presented in the Report including a detailed review of samples of data;
- 4. Review of LMC data and information systems for collection, aggregation, analysis and internal verification and review; and,
- 5. Review of the Report as it relates to the assured KPIs.
- A site visit to the Neves-Corvo Mine located in Portugal was planned, as was a visit to LMC's headquarters in Toronto, but both visits were cancelled due to Coronavirus travel restrictions. All data review and interviews with Lundin personnel were performed remotely.
- The work was planned and carried out to provide a moderate level of assurance for most KPIs and a reasonable level of assurance for GHG emissions and we believe it provides a sound basis for our conclusions.

## FINDINGS AND CONCLUSIONS

On the basis of our methodology and the activities described above, it is our opinion that:

- The information and data related to the KPIs identified in the scope of work that are included in the Report are accurate, reliable and free from significant error, material mistakes or misstatements.
- The Report provides a fair representation of LMC's activities as it relates to our scope of work over the reporting period.
- LMC has established appropriate systems for the collection. aggregation and analysis of relevant information, and has implemented underlying internal assurance practices that provide a reasonable degree of confidence that such information is complete and accurate.
- The Report adequately reflects the organization's alignment to, and implementation of the AA1000AS (2008) principles of Inclusivity, Materiality and Responsiveness in its operations (further detail is provided below).
- LMC has processes in place for consulting and engaging with its key stakeholders in a structured and systematic manner.
- LMC has processes in place for recording and managing grievances through to their resolution.

2019 SUSTAINABILITY REPORT 107

## Independent **Assurance Statement**



## ADHERENCE TO THE PRINCIPLES OF AA1000AS

As required by the AA1000AS (2008) standard, outlined below are our observations relating to LMC's adherence to the principles of inclusivity, materiality and responsiveness.

### INCLUSIVITY

LMC's Responsible Mining Policy and Stakeholder Engagement Standard outlines the company's commitments regarding communities, stakeholders and external engagement. LMC's Stakeholder Engagement Standard and supporting Stakeholder Engagement Corporate Procedure (Stakeholder Engagement Guidance document) provides the minimum requirements for sites to identify and engage with groups and individuals who may be impacted by company activities. In prior years, when Apex visited the Candalaria Mine (2019), Zinkgruvan Mine (2018) and Eagle Mine (2017), Apex observed implementation of external stakeholder engagement during our discussions with external stakeholders and LMC employees. In 2020 Apex interviewed LMC employees and reviewed documentation and reports to determine stakeholder engagement during the 2019 assurance period. LMC's approach to stakeholder engagement, examples of primary stakeholder groups and the key interests and concerns of each stakeholder group are described in the Stakeholder Engagement section of the Report. Our observations, both in this assurance period and in previous years indicate that LMC takes Stakeholder concerns into consideration and has adequately addressed the inclusivity principle in its operations and the 2019 Report.

#### MATERIALITY

LMC commissioned a materiality assessment during 2017 that included identifying issues of importance for internal and external stakeholders. LMC conducted an internal review of material aspects identified in the 2017 materiality assessment to determine issues of importance to the company. LMC also identified additional issues that, while not deemed to be material to the business, were identified as issues of interest to some of their stakeholders. These additional issues were Governance, Human Rights, Biodiversity and Land, and Materials and Product Stewardship. The Report included a discussion of these identified issues and is organized to align with the issues determined to be material to LMC's business and stakeholders. Based on our site visits to the Candelaria Mine (2019), Zinkgruvan Mine (2018) and Eagle Mine (2017), interviews with external stakeholders (in previous years) and LMC employees and review of the Report, LMC has adequately addressed the materiality principle in its operations and the 2019 Report.

### RESPONSIVENESS

LMC has developed requirements and systems to respond to stakeholder issues such as grievances and complaints in their Stakeholder Engagement Standard and associated Stakeholder Engagement Procedure (Guidance). The Guidance document requires sites to have a Stakeholder Communication and Engagement Plan and a Grievance Mechanism in place to identify, track and respond to concerns raised by stakeholders both formally and informally. Apex observed the implementation of Stakeholder Engagement Guidance and the Grievance Mechanism through our discussions with

external stakeholders and LMC employees during our visits to the Candalaria Mine (2019), Zinkgruvan Mine (2018) and Eagle Mine (2017), and through interviews with LMC employees and review of internal documents and reports in 2020. Responses to stakeholder concerns were found to be timely and complete based on observations made at the aforementioned mines, interviews with LMC employees and reviews of internal documents and reports. Based on our review, we conclude that LMC has adequately addressed the responsiveness principle in its operations and the 2019 Report.

#### **KEY OBSERVATIONS**

- LMC's commitment to Stakeholder Engagement was evident during our previous visits in 2017, 2018 and 2019 to the Eagle, Zinkgruvan and Candelaria Mines, respectively, and from data review and interviews with LMC personnel both previously and during the 2019/2020 assurance process.
- Good internal data validation by corporate personnel was evident for all assured metrics, as well as for metrics not assured by Apex.

### STATEMENT OF INDEPENDENCE, IMPARTIALITY AND COMPETENCE

Apex is an independent professional services company that specializes in Health, Safety, Social and Environmental management services including assurance with over 30 years history in providing these services.

No member of the verification team has a business relationship with Lundin Mining Corporation, its Directors or Managers beyond that required of this assignment. We conducted this verification independently and to our knowledge there has been no conflict of interest.

Apex has implemented a Code of Ethics across the business to maintain high ethical standards among staff in their day-to-day business activities.

The verification team has extensive experience in conducting assurance over environmental, social, ethical and health and safety information, systems and processes, has over 20 years combined experience in this field and an excellent understanding of Apex's standard methodology for the verification and assurance of sustainability and environmental data.

Attestation:

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Principal Consultant Apex Companies, LLC Santa Ana, California, USA Pleasant Hill, California, USA

David Reilly, Lead Verifier Trevor Donaghu, Technical Reviewer Program Manager Apex Companies, LLC



## LUNDIN MINING CORPORATION DATA AND INFORMATION SUBJECT TO ASSURANCE - 2019

Туре	Unit	Results for 2019	
Fuels and Energy			
Purchased Fuels (Scope 1)	Gigajoules	5,595,420	
Purchased Electricity (Scope 2)	Gigajoules	5,143,375	
Total Energy Consumption (Scope 1 and 2)	Gigajoules	10,738,795	
Emissions			
Direct CO <sub>2</sub> e Emissions (Scope 1)	Metric Tons CO <sub>2</sub> e	452,848	
Indirect (purchased electricity) CO <sub>2</sub> e Emissions (Scope 2) (Location-based)	Metric Tons CO <sub>2</sub> e	493,355	
Indirect (purchased electricity) CO <sub>2</sub> e Emissions (Scope 2) (Market-based)	Metric Tons CO <sub>2</sub> e	480,858	
Total Scope 1 and Scope 2 CO <sub>2</sub> e Emissions (Location-based)	Metric Tons CO <sub>2</sub> e	946,203	
Water			
Total Water Withdrawal	Cubic Meters	34,702,540	
Total Water Discharged	Cubic Meters	14,253,121	
Safety			
Total Recordable Injury Frequency Rate (TRIF)	TRIF is calculated as (total number of recordable injuries (including fatalities, lost time injury, restricted work and medical treatment injury) x 200,000 hours)/ total hours worked	0.66	
Lost Time Injury Frequency Rate (LTIF)	LTIF is calculated as (total lost time injuries x 200,000 hours)/ total hours worked	0.40	
Stakeholder Engagement and Grievand	ce Mechanism		
Stakeholder Engagement	NA	LMC was found to be effectively engaging with Stakeholders and considering stakeholder input in adherence to the AA1000APS principles of inclusivity, materiality and responsiveness.	
Grievance Mechanism	NA	LMC has a functioning grievance mechanism in place and in use.	
Grievances Filed	Number of grievances filed during 2019 company wide	82	

## St



GRI Standard	Disclosures	Description	Page number(s) and / or URL(s)
02:	ORGANIZATIONA	AL PROFILE	
neral closures	102-1	Name of the organization	4, 5
16	102-2	Activities, brands, products and services	4, 5, 8-10
	102-3	Location of headquarters	4
	102-4	Location of operations	4, 8-9
	102-5	Ownership and legal form	4, 36, <u>AIF</u>
	102-6	Markets served	8, 10
	102-7	Scale of the organization	8-10, 36, 40
			<u>Management</u> <u>Discussions &amp; Analysis</u> and Financial Statements
			Management Information Circular 2020
	102-8	Information on employees and other workers	8, 10, 40
	102-9	Supply chain	11
	102-10	Significant changes to the organization and its supply chain	5, 11
	102-11	Precautionary Principle or approach	23, 70
	102-12	External initiatives	24
	102-13	Membership of associations	24
	102 13		Memberships
			and Associations
	STRATEGY		
	102-14	Statement from senior decision-maker	2, 3
	102-15	Key impacts, risks and opportunities	2, 3, 15-19
	ETHICS AND INT	EGRITY	
	102-16	Values, principles, standards and norms of behaviour	20, 22, 40 <u>Code of Conduct,</u> Ethical Values and
			Anti-Corruption Policy www.lundinmining.com
	102-17	Mechanisms for advice and concerns about ethics	22, 49
			Whistleblower Policy
All diactory C	reporting in and	with the (Core) option are seen at a with an anti-	
All disclosures for	reporting in accordance v	vith the 'Core' option are reported, with no omissions.	

GRI Standard	Disclosures	Description	Page number(s) and / or URL(s)
ECONOMIC TOP	PICS		
Economic Perfo	rmance		
GRI 103: Management Approach 2016	103-1, 103-2, 103-3	Management approach disclosures	36 Published Operating and Financial Results
GRI 201: Economic	201-1	Direct economic value generated and distributed	36, 38, 60, Lundin Foundation
Performance 2016	201-2	Financial implications and other risks and opportunities due to climate change	85
ECONOMIC TOP	PICS		
Indirect Econom	nic Impacts		
GRI 103: Management Approach 2016	103-1, 103-2, 103-3	Management approach disclosures	39
GRI 203: Indirect	203-1	Infrastructure investments and services supported	39
Economic Impacts 2016	203-2	Significant indirect economic impacts	38, 51-52, 58-59, 61
Local Economic	Impacts		
GRI 103: Management Approach 2016	103-1, 103-2, 103-3	Management approach disclosures	39
GRI 204: Procurement Practices 2016	204-1	Proportion of spending on local suppliers	43
GRI 202: Market Presence 2016	202-2	Proportion of senior management hired from the local community	43
Anti-Corruption			
GRI 205: Anti-corruption 2016	205-1	Operations assessed for risks related to corruption	23 <u>Code of Conduct</u>
2010	205-2	Communication and training about anti-corruption policies and procedures	23 <u>Code of Conduct</u>
	205-3	Confirmed incidents of corruption and actions taken	23
ENVIRONMENT	AL TOPICS		
Energy			
GRI 302:	302-1 🗸	Energy consumption within the organization	85, 87-88
Energy 2016	302-2	Energy consumption outside of the organization	93
	302-3	Energy intensity	91
	302-4	Reduction of energy consumption	93

All disclosures for reporting in accordance with the 'Core' option are reported, with no omissions. ✓ Represents data and information subject to external assurance.

GRI Standard	Disclosures	Description	Page number(s) and / or URL(s)
ENVIRONMENT	AL TOPICS		
Water			
GRI 103: Management Approach 2016	103-1, 103-2, 103-3	Management approach disclosures	77
GRI 303:	303-1 🗸	Water withdrawal by source	77-79
Water 2016	303-2	Water sources significantly affected by withdrawal of water	78, 84
	303-3	Water recycled and reused	78-79
Biodiversity			
GRI 304: Biodiversity 2016	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	98
	304-2	Significant impacts of activities, products and services on biodiversity	98
	304-3	Habitats protected or restored	101
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	99
Mining and Metals Sector Disclosures	MM1	Amount of land (owned or leased and managed for production activities or extractive use) disturbed or rehabilitated	101
2013	MM2	The number and percentage of total sites identified as requiring biodiversity management plans according to stated criteria and the number (percentage) of those sites with plans in place	98
Emissions	·		
GRI 103: Management Approach 2016	103-1, 103-2, 103-3	Management approach disclosures	85
GRI 305:	305-1 🗸	Direct (Scope 1) GHG emissions	87, 89-90
Emissions 2016	305-2 🗸	Energy indirect (Scope 2) GHG emissions	89
	305-3	Other indirect (Scope 3) GHG emissions	93
	305-4	GHG emissions intensity	91
	305-5	Reduction of GHG emissions	93
	305-7	Nitrogen oxides (NO <sub>x</sub> ), sulfur oxides (SO <sub>x</sub> ) and other significant air emissions	96
Effluents and W	aste		
GRI 103: Management Approach 2016	103-1, 103-2, 103-3	Management approach disclosures	77
GRI 306:	306-1 🗸	Water discharge by quality and destination	78-79, 81-84
Effluents and Waste 2016	306-2	Waste by type and disposal method	102
	306-3	Significant spills	71
	306-5	Water bodies affected by water discharges and / or runoff	78, 81, 83-84

## Dage number(s)

GRI Standard	Disclosures	Description	Page number(s) and / or URL(s)
ENVIRONMENTA	L TOPICS		
Environmental Co	ompliance		
GRI 307: Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations	71
Tailings and Wast	e Rock Management		
GRI 103: Management Approach 2016	103-1, 103-2, 103-3	Management approach disclosures	73
Mining and Metals Sector Disclosures 2013	MM3	Total amounts of overburden, rock, tailings and sludges and their associated risks	73-74, 76
<b>Reclamation and</b>	Closure		
GRI 103: Management Approach 2016	103-1, 103-2, 103-3	Management approach disclosures	95
Mining and Metals Sector Disclosures 2013	MM10	Number and percentage of operations with closure plans	95
SOCIAL TOPICS			
Employment			
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	105
Occupational Hea	alth and Safety		
GRI 103: Management Approach 2016	103-1, 103-2, 103-3	Management approach disclosures	26
GRI 403: Occupational Health and Safety	403-1	Workers representation in formal joint management-worker health and safety committees	26, 28, 51-52 <u>High Consequence</u> <u>Protocols (HPCs)</u>
2016	403-2 🗸	Types of injury and rates of injury, occupational diseases, lost days and absenteeism and number of work-related fatalities	103-104
	403-3	Workers with high incidence or high risk of diseases related to their occupation	26, 33

GRI Standard	Disclosures	Description	Page number(s) and / or URL(s)
SOCIAL TOPICS			
Diversity and Equ	al Opportunity		
GRI 405: Diversity and Equal Opportunity 2016	405-1	Diversity of governance bodies and employees	20, 40 Diversity & Inclusion Policy
Non-Discriminati	on		
GRI 406: Non- discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	25
Freedom of Asso	ciation and Collective	e Bargaining	
GRI 103: Management Approach 2016	103-1, 103-2, 103-3	Management approach disclosures	44
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	44-45
Mining and Metals Sector Disclosures 2013	MM4	Number of strikes and lock-outs exceeding one week's duration	44
Child Labour			
GRI 408: Child Labour 2016	408-1	Operations and suppliers at significant risk for incidents of child labour	45
Forced or Compu	lsory Labour		
GRI 409: Forced or Compulsory Labour 2016	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labour	44-45
<b>Rights of Indigen</b>	ous Peoples		
GRI 103: Management Approach 2016	103-1, 103-2, 103-3	Management approach disclosures	55
GRI 411: Rights of Indigenous Peoples 2016	411-1	Incidents of violations involving rights of Indigenous Peoples	56

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✓ Represents data and information subject to external assurance.

## Page number(s)

## UN Global Compact

GRI Standard	Disclosures	Description	Page number(s) and / or URL(s)
SOCIAL TOPICS			
Mining and Metals Sector Disclosures 2013	MM5	Total number of operations taking place in or adjacent to Indigenous Peoples' territories and number and percentage of operations or sites where there are formal agreements with Indigenous Peoples' communities	56
	MM6	Number and description of significant disputes relating to land use, customary rights of local communities and Indigenous Peoples	56
_	MM7	The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and Indigenous Peoples and the outcomes	55-56
Local Communiti	es		
GRI 103: Management Approach 2016	103-1, 103-2, 103-3	Management approach disclosures	46
GRI 413: Local	413-1	Operations with local community engagement, impact assessments and development programs	46, 49-50, 57
Communities 2016	413-2	Operations with significant actual and potential negative impacts on local communities	58-59
Socio Economic (	Compliance		
GRI 419: Socioeconomic Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	33, 67, 71, 96-97
MATERIALS AND	PRODUCT STEWARI	DSHIP	
GRI 417: Marketing and Labeling 2016	417 -1	Requirements for product and service information and labeling	67
GRI 417: Marketing and Labeling 2016	417-2	Incidents of non-compliance concerning products and services, and marketing communication	66-67
GRI 418: Customer Privacy 2016	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	66-67

Additional disclosures beyond the criteria for Core are reported to provide a more detailed and comprehensive report. These additional disclosures may be reported in full or used to guide relevant content.

The Mining and Metals Sector (MM) Disclosures have been retired by GRI. While a new GRI Sector Standard is awaited, these are included as additional disclosures and may be reported in full or used to guide relevant content.

All disclosures for reporting in accordance with the 'Core' option are reported, with no omissions.

✓ Represents data and information subject to external assurance.

### COMMUNICATION ON PROGRESS

**COMMUNICATION ON PROGRESS** Lundin Mining joined the United Nations Global Compact (UNGC) in 2016 and has documented its support of the 10 Principles on human rights, labour standards, environment and anti-corruption, and the 17 Sustainable Development Goals (SDGs), through an annual Communication on Progress (COP). This COP presents a summary of our 2019 progress and actions related to the UNGC Principles and the SDGs, achieved through Company-wide activities and documented in more detail throughout the 2019 Sustainability Report.

Principles	Progress	Related SDGs	
Expectations	Human Rights		
1. Businesses should support and respect the	Lundin Mining currently integrates human rights into its business practices and processes such as the <u>Code of Conduct, Ethical Values, and Anti-Corruption ("Code of Conduct")</u> , <u>Responsible Mining Policy</u> and <u>Framework</u> .	5, 8, 12, 16	
protection of internationally proclaimed human rights	In 2019, the Company completed Human Rights Risk and Impact Assessments at its Eagle, Zinkgruvan, Neves-Corvo operations and Peru exploration site and will continue with assessments at its Chapada and Candelaria sites in 2021. In addition, the Company prepared a draft Human Rights Policy that will be finalized and released in 2020 and described in future reports.		
2. Business should make sure that they are not complicit in human right	The Company fosters a work environment free from discrimination against gender, age, race, national origin, marital status, sexual orientation, religious beliefs, disability, or any other personal characteristics protected by international human rights law. In 2019, human rights-related grievances were filed through the Company's grievance mechanism and Whistleblower reporting hotline. All cases were investigated and where claims were verified, management took appropriate action.		
abuses	In addition to the UNGC, Lundin Mining demonstrates its commitment to support human rights through consideration of the following international principles / standards: Organization for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises (MNEs), United Nations Guiding Principles on Business and Human Rights, and the Voluntary Principles on Security and Human Rights.		
	Supplementary details on progress on these areas can be found in these sections of the 2019 Sustainability Report:		
	<ul> <li>Governance - Human Rights</li> <li>Our People</li> <li>Social Performance - Our Approach</li> <li>Case studies (throughout the report)</li> </ul>		
Expectations	Labour		
3. Business should uphold the freedom of association and the effective recognition of the right to collective bargaining	Lundin Mining is committed to achieving a safe, productive and healthy work environment across all operations. The Company supports freedom of association and collective bargaining, does not tolerate any form of harassment and fosters a work environment free from discrimination. In 2019, two labour unions filed notices alleging limitation of union rights. Management engaged with the unions and resolved the complaints. We support the elimination of all forms of forced and compulsory labour, and child labour. Based on our internal assessment, none of our operations are at risk for incidents of child labour, or forced, or compulsory labour. Lundin Mining's position on labour is guided by the following policies, principles, standards	3, 5, 8, 10	
4. The elimination of all forms of forced and compulsory labour	and / or commitments: • <u>Code of Conduct</u> • Freedom of Association* • Proof of Age Requirements* • <u>Diversity Policy</u> • Equal Pay*		
5. The effective abolition of child labour	<ul> <li>Human Resources Policy*</li> <li>(*) details for these topics can be found on pages 7 &amp; 8 of the <u>2017 Communication on Progress Report</u></li> </ul>		
6. The elimination of discrimination in respect of employment	Lundin Mining provides oversight and governance for these Principles through the activities of the Human Resources / Compensation Committee of the Board. As well, the Company is a member of the United Nations Global Compact to advance the 10 Principles and 17 SDGs and considers the International Finance Corporation (IFC) Performance Standards on Social and Environmental Sustainability as best practice.		
and occupation	More details on progress in these areas can be found in this report: Our Performance against 2019 Targets – Social Performance, Our People.		



This is our **Communication on Progress** in implementing the principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

# **UN Global Compact**

Principles	Progress	Related SDGs	
Expectations	Environment		
7. Business should support a precautionary	Lundin Mining supports the precautionary approach and continues advancing numerous programs and partnerships to improve and optimize environmental, biodiversity and sustainability performance.	7, 9, 12, 13	
approach to environmental challenges	Our material environmental areas of focus include tailings and waste rock management, water, climate change and reclamation and closure.		
8. Undertake	Our practices are guided by the following:		
initiatives to promote greater environmental responsibility	<ul> <li><u>HSEC Committee of the Board</u></li> <li><u>RMMS</u> and supporting technical standards</li> <li><u>Responsible Mining Policy</u> and <u>Framework</u></li> <li>Participation in local, national, and international associations (<u>memberships and associations</u>)</li> </ul>		
9. Encourage the development and diffusion of environmentally friendly technologies	In 2019, the Company completed the implementation of the RMMS process at all sites and the first third-party RMMS audit program was conducted to assess HSEC performance and compliance at all sites with the exception of Chapada. The Chapada RMMS audit is planned for 2021. The results of the audit were reported to Lundin Mining management and sites are developing action plans to address findings and recommendations, for follow-up in 2020. The next audit and verification are in 2021 and will continue bi-annually.		
U	In addition to the UNGC, Lundin Mining's environmental practices voluntarily align with the IFC's Performance Standards on Social and Environmental Sustainability, and the OECD Guidelines for MNEs. Lundin Mining is a member of the Mining Association of Canada (MAC) and considers the MAC Towards Sustainable Mining Framework as a best practice to enhance Company-wide environmental standards and practices.		
	In 2019, Lundin Mining continued to integrate innovative, sustainable technologies into its operations and business strategy, including testing LTE / 4G networks for underground mines. To support industry-wide change, the Company signed a sponsorship agreement with the Coalition for Energy Efficient Comminution to promote the diffusion of environmental technologies across the mining industry. Additionally, Lundin Mining supports community initiatives that encourage technology development and entrepreneurship.		
	Details on progress in these areas, and partnerships to advance them, can be found in these sections of the 2019 Sustainability Report:		
	<ul> <li>Our Performance Against 2019 Targets – Environment</li> <li>Environment</li> <li>Case Studies (throughout the report)</li> </ul>		
Expectations	Anti-Corruption		
10. Business should work against	Lundin Mining has a zero-tolerance policy for bribery and corruption by employees, officers, directors, consultants, and contractors of the Company. The Company is committed to meeting or exceeding legal requirements wherever we operate. In 2019, there were no known incidents of corruption.	10, 12, 16	
corruption in all its forms,	Lundin Mining's position on anti-corruption is guided by the following:		
including extortion and bribery	<ul> <li><u>Code of Conduct</u> – including gifts and entertainment; conflicts of interest; political contributions and activities</li> </ul>		
,	<u>Audit Committee of the Board</u>		
	Lundin Mining monitors and evaluates anti-corruption best practices and performance through internal audits and its <u>Whistleblower Policy</u> (revised in 2019), which includes the Company's independent third-party ClearView Connects reporting system. Details on progress on these areas can be found in the following sections:		
	Governance     Social Performance		

## Cautionary Note on Forward-Looking Statements

Certain of the statements made and information contained herein security at the Company's operations; changing taxation regimes; is "forward-looking information" within the meaning of applicable health and safety risks; exploration, development or mining results Canadian securities laws. All statements other than statements of not being consistent with the Company's expectations; unavailable or historical facts included in this document constitute forward-looking inaccessible infrastructure and risks related to ageing infrastructure; information, including but not limited to statements regarding the counterparty and credit risks and customer concentration; risks Company's plans, prospects and business strategies; the Company's related to the environmental regulation and environmental impact of guidance on the timing and amount of future production and its the Company's operations and products and management thereof; expectations regarding the results of operations; expected costs; exchange rate fluctuations; reliance on third parties and consultants permitting requirements and timelines; timing and possible outcome in foreign jurisdictions; community and stakeholder opposition; civil of pending litigation; the results of any Feasibility Study, or Mineral disruption; the potential for and effects of labour disputes or other Resource and Mineral Reserve estimations, life of mine estimates, unanticipated difficulties with or shortages of labour or interruptions and mine and mine closure plans; anticipated market prices of metals, in production; uncertain political and economic environments; currency exchange rates, and interest rates, the development and litigation; regulatory investigations, enforcement, sanctions and / implementation of the Company's Responsible Mining Management or related or other litigation; risks associated with the structural stability of waste rock dumps or tailings storage facilities; changes in System; the Company's ability to comply with contractual and permitting or other regulatory requirements; anticipated exploration laws, regulations or policies including but not limited to those related and development activities at the Company's projects; and the to mining regimes, permitting and approvals, environmental and Company's integration of acquisitions and any anticipated benefits tailings management, labour, trade relations, and transportation; thereof. Words such as "believe", "expect", "anticipate", "contemplate", climate change; compliance with environmental, health and safety "target", "plan", "goal", "aim", "intend", "continue", "budget", "estimate", laws; enforcing legal rights in foreign jurisdictions; information "may", "will", "can", "could", "should", "schedule" and similar expressions technology and cybersecurity risks; estimates of future production identify forward-looking statements. and operations; estimates of operating, cash and all-in sustaining cost estimates; delays or the inability to obtain, retain or comply Forward-looking information is necessarily based upon various with permits; compliance with foreign laws; risks related to mine estimates and assumptions including, without limitation, the closure activities and closed and historical sites; challenges or expectations and beliefs of management, including that the Company defects in title; the price and availability of key operating supplies or can access financing, appropriate equipment and sufficient labour; services; historical environmental liabilities and ongoing reclamation assumed and future price of copper, nickel, zinc, gold and other obligations; indebtedness; funding requirements and availability metals; anticipated costs; ability to achieve goals; the prompt and of financing; liquidity risks and limited financial resources; risks effective integration of acquisitions; that the political environment relating to attracting and retaining of highly skilled employees; risks in which the Company operates will continue to support the associated with acquisitions and related integration efforts, including development and operation of mining projects; and assumptions the ability to achieve anticipated benefits, unanticipated difficulties related to the factors set forth below. While these factors and or expenditures relating to integration and diversion of management assumptions are considered reasonable by Lundin Mining as at time on integration; the estimation of asset carrying values; internal the date of this document in light of management's experience controls; competition; dilution; existence of significant shareholders; and perception of current conditions and expected developments, conflicts of interest; activist shareholders and proxy solicitation these statements are inherently subject to significant business, matters; risks relating to dividends; risks associated with business economic and competitive uncertainties and contingencies. arrangements and partners over which the Company does not have Known and unknown factors could cause actual results to differ full control; and other risks and uncertainties, including but not materially from those projected in the forward-looking statements limited to those described in the "Risks and Uncertainties" section of and undue reliance should not be placed on such statements and the Annual Information Form and the "Managing Risks" section of the information. Such factors include, but are not limited to: volatility Company's MD&A for the year ended December 31, 2019, which are and fluctuations in metal and commodity prices; global financial available on SEDAR at www.sedar.com under the Company's profile. conditions and inflation; risks inherent in mining including but not All of the forward-looking statements made in this document are limited to risks to the environment, industrial accidents, catastrophic qualified by these cautionary statements. Although the Company equipment failures, unusual or unexpected geological formations has attempted to identify important factors that could cause actual or unstable ground conditions, and natural phenomena such as results to differ materially from those contained in forward-looking earthquakes, flooding or unusually severe weather; uninsurable information, there may be other factors that cause results not to risks; changes in the Company's share price, and volatility in the be as anticipated, estimated, forecast or intended and readers equity markets in general; the threat associated with outbreaks of are cautioned that the foregoing list is not exhaustive of all factors viruses and infectious diseases, including the novel COVID-19 virus; and assumptions which may have been used. Should one or more risks related to negative publicity with respect to the Company of these risks and uncertainties materialize, or should underlying or the mining industry in general; reliance on a single asset; assumptions prove incorrect, actual results may vary materially from potential for the allegation of fraud and corruption involving the those described in forward-looking information. Accordingly, there Company, its customers, suppliers or employees, or the allegation can be no assurance that forward-looking information will prove to of improper or discriminatory employment practices, or human be accurate and forward-looking information is not a guarantee of rights violations; actual ore mined and / or metal recoveries varying future performance. Readers are advised not to place undue reliance from Mineral Resource and Mineral Reserve estimates, estimates on forward-looking information. The forward-looking information of grade, tonnage, dilution, mine plans and metallurgical and other contained herein speaks only as of the date of this document. characteristics; risks associated with the estimation of Mineral The Company disclaims any intention or obligation to update or Resources and Mineral Reserves and the geology, grade and revise forward-looking information or to explain any material continuity of mineral deposits including but not limited to models difference between such and subsequent actual events, except relating thereto; ore processing efficiency; risks inherent in and / or as required by applicable law. associated with operating in foreign countries and emerging markets;

## lundin mining

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## SUSTAINABILITY REPORT FEEDBACK

We welcome feedback from stakeholders regarding our 2019 Sustainability Report. For further information or comments, please contact:

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