

LUNDINGOLD

TSX, Nasdaq Stockholm: LUG
OTCQX: LUGDF

BUILDING A LEADING GOLD COMPANY
THROUGH RESPONSIBLE MINING

CLIMATE CHANGE REPORT

MAY 2023

Presented in accordance with the recommendations
of the Task Force on Climate-Related Financial
Disclosures (TCFD)

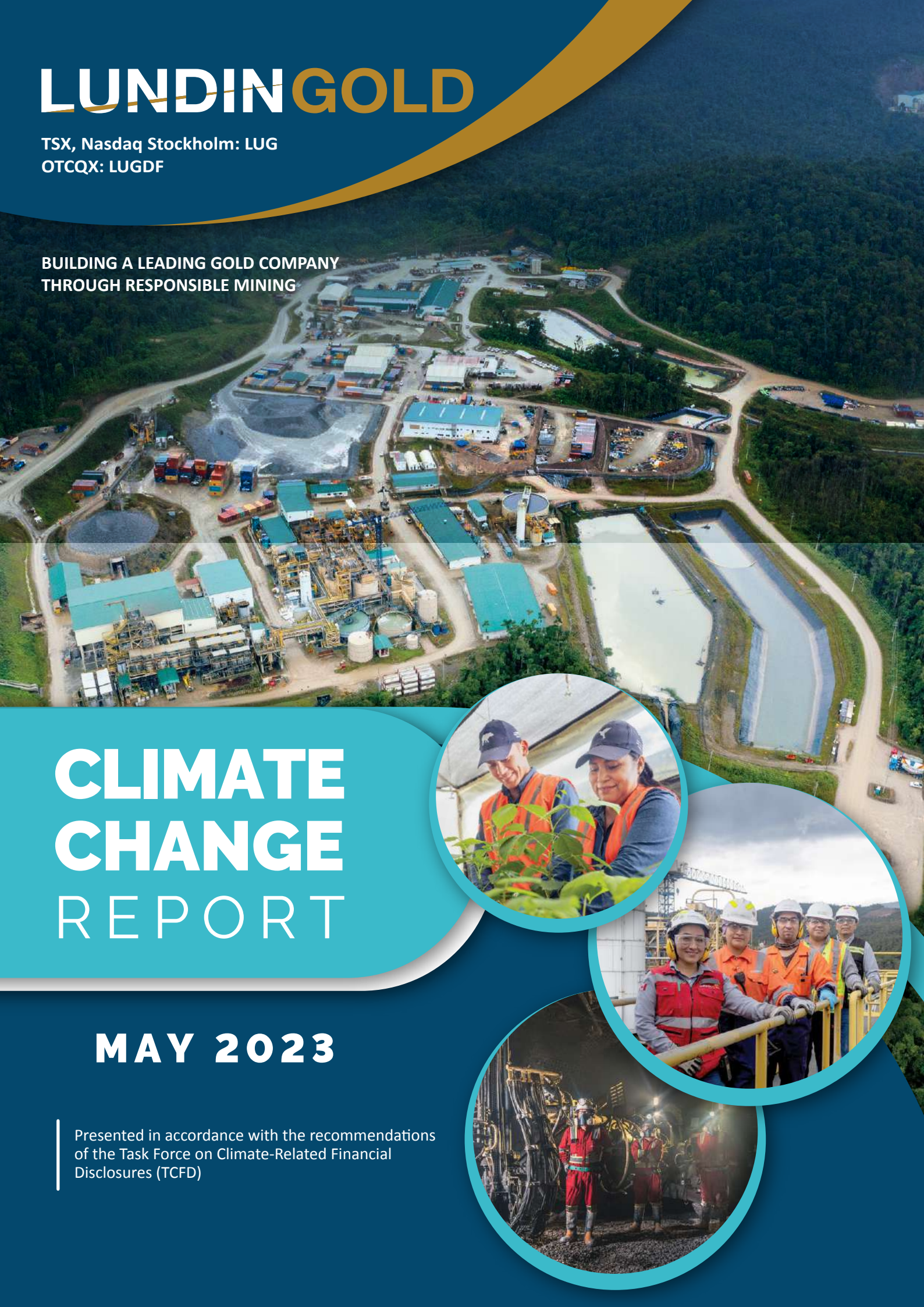


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A man with grey hair, wearing a dark blue suit, a light blue shirt, and a yellow tie, is sitting at a desk. He is smiling slightly and looking towards the camera. His hands are clasped on the desk. In the background, there is a large window with a view of a city with several tall buildings. The image is used as a background for the CEO message section.

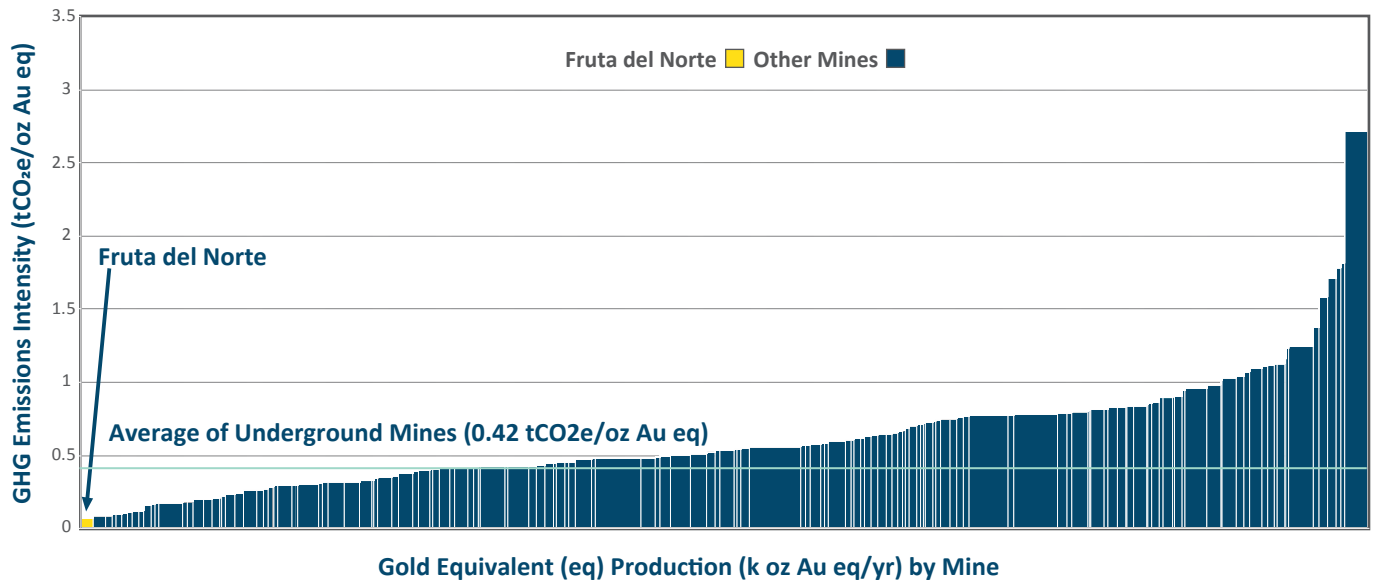
CEO MESSAGE

Dear Reader,

I am pleased to present our second Climate Change Report which documents the significant progress we have made over the past year to understand the risks and opportunities for Lundin Gold in the face of a warming planet. This report also lays out our commitment to minimize the impact of our operations on the climate.

Our flagship asset, Fruta del Norte, was the lowest carbon-emitting gold mine of 152 that publicly reported their 2021 Scopes 1 and 2 greenhouse gas (GHG) emissions. In 2021¹, Lundin Gold achieved a GHG emissions (Scopes 1 and 2) intensity of 0.07 tCO₂e per ounce of gold produced in the year. Lundin Gold's 2022 GHG emissions (Scopes 1 and 2) intensity is even lower at **0.06 tCO₂e per ounce of gold produced**. This extremely low emissions intensity is attributable to a variety of factors including the clean national power grid in Ecuador where our operations are located, the efficiency of the design of our operations, current operating procedures and the high grade ore at Fruta del Norte. This industry-best emissions intensity means that it is a challenge to further reduce our carbon footprint.

¹ See "[Metrics and Performance](#)" for details on the recalculation of our 2021 emissions data.



Lundin Gold recognizes that it is best practice to prioritize reducing our own emissions before turning to carbon offsets. We have identified several projects which are detailed in this report and all are underway. As a result of our significant climate work in 2022, Lundin Gold has determined that it has the potential to achieve a greater climate benefit by developing and investing in offset projects, including those in Ecuador which could lead to direct co-benefits. We are now advancing a plan to develop one or more local carbon offset projects which reinforces this important priority. This approach aligns well with Lundin Gold's commitment to preserve the rich biodiversity of Ecuador.

With this background, I am proud to announce Lundin Gold plans to be a carbon neutral business by 2030 with respect to its Scopes 1 and 2 emissions based upon our current life of mine (LOM) plan. Lundin Gold is determined to maintain its position as one of the world's lowest carbon intensity gold producers.

We also recognize that the majority of our GHG emissions are those that occur indirectly in our value chain. We believe that meaningful climate action must address these Scope 3 emissions. Lundin Gold will therefore continue to identify opportunities for reductions in the most material Scope 3 categories.

Based on its low carbon-emissions profile, Lundin Gold is uniquely positioned to become a gold producer of choice. Our commitment to responsible mining is a key ingredient to our success and provides a pathway to resilience in an uncertain climate future. I look forward to sharing our progress on this journey with you.

Thank you for your continued interest and support.

Ron Hochstein

President and Chief Executive Officer

May 10th, 2023

Vancouver, Canada



Lundin Gold is determined to maintain its position as one of the world's lowest carbon intensity gold producers.

LUNDIN GOLD'S BUSINESS AT A GLANCE



Lundin Gold Inc. (the **Company**) is a Canadian-based gold mining company which owns the Fruta del Norte gold mine (**Fruta del Norte or FDN**) located in southeast Ecuador and a large exploration land package that hosts FDN. The Company's shares are listed on the Toronto Stock Exchange and Nasdaq Stockholm under the symbol "LUG". It is a member of the Lundin Group of Companies and headquartered in Vancouver, Canada with an office in Quito, Ecuador.

Lundin Gold acquired Fruta del Norte, along with a portfolio of exploration concessions, at the end of 2014. Lundin Gold developed and financed the project, achieving first production from FDN in late 2019. The Company produces gold in the form of concentrate and doré, which require smelting and refining or only refining, respectively, to become marketable gold and silver. The Company sells its gold concentrate to various smelters internationally. The Company uses the services of a refiner to refine its gold doré. In 2022, Lundin Gold produced a total of 476,329 ounces (**oz**) of gold, of which 314,694 oz were produced as a concentrate and 161,635 oz as doré. Fruta del Norte is among the highest-grade operating gold mines in the world.

Lundin Gold is committed to responsible mining and understands the importance of sustainability to the



success of its business. Our vision is to build a leading gold company through responsible mining, and our commitment is to promote sustainability in everything that we do. Lundin Gold has established a Five-Year Sustainability Strategy (2021-2025) which identifies eight pillars based on its material topics, one of which is climate change. Each pillar includes objectives and KPIs against which annual targets are set and measured. Pursuant to this strategy, Lundin Gold is committed to progressively aligning its climate disclosures to the framework recommended by the Task Force for Climate Disclosure (TCFD).

Lundin Gold's Five-Year Sustainability Strategy



For more information regarding Lundin Gold's Five-Year Sustainability Strategy, please see our 2022 Sustainability Report available on our website at www.lundinalgold.com. This Climate Change Report specifically addresses the climate change pillar.

This report represents our second Climate Change Report, highlighting our progress towards TCFD alignment and our continued action to manage our impact on climate and build a climate-resilient operation and company.

All dollar amounts in this report are US dollars unless otherwise indicated.



ADDRESSING CLIMATE CHANGE AT LUNDIN GOLD

Since our inaugural Climate Change Report issued last year, the Intergovernmental Panel on Climate Change (IPCC) has released its latest report on the climate crisis, *AR6 Synthesis Report: Climate Change 2023*. In that report, the IPCC calls out the imperative for action to reduce carbon emissions within the next seven years in order to keep to the target of limiting the global average temperature to below 1.5 degrees Celsius. Moreover, the IPCC concludes that based on current climate action, humanity is on course to cross the 1.5-degree threshold sometime during the first half of the next decade. For Lundin Gold, the report highlights the need to plan for a future that includes a rapid transition to a low carbon economy while at the same time bracing for the physical impacts of a warming planet.

As part of its commitment to responsible mining, Lundin Gold is focussed on understanding the contribution of its operations to climate change and on reducing the GHG emissions related to its business. The Company also recognizes the importance of understanding the potential impacts of climate change on Lundin Gold's business and strategically working to improve its climate resilience for the benefit of all of its stakeholders.

Aligning with TCFD

Since the Company's first full year of operations in 2021, we have implemented the recommendations of the TCFD as a guiding framework for our climate strategy. Additionally, it serves as a tool by which we would report our progress to our stakeholders. This report addresses the four disclosure categories outlined in the TCFD: Governance, Strategy, Risk Management, and Metrics and Targets.



Governance

- We summarize how climate related risks and opportunities have been integrated into our governance



Strategy

- We discuss the possible impacts of climate related risks and opportunities on our business and our strategy



Risk Management

- We describe how Lundin Gold identifies, assesses and manages climate related risks
- We summarize key risks and opportunities, from our analysis so far, and how we're addressing them



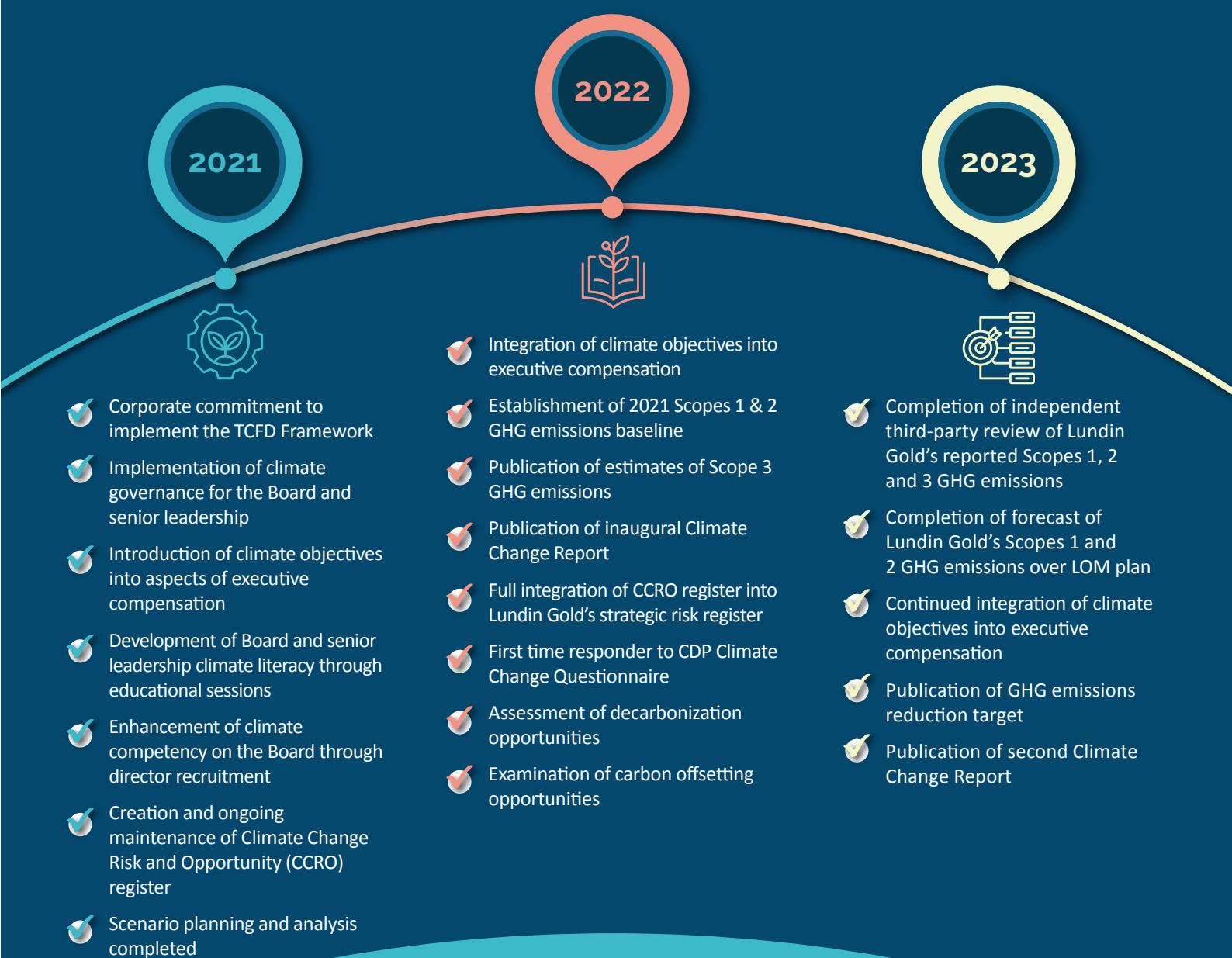
Metrics and Targets

- We disclose the metrics and targets that we use to assess and manage climate related risks and opportunities

Hydroseeding Activities at the North Access Road

We have measured and updated our progress in adopting the TCFD recommendations, a summary of which is found at the end of this report on [page 40](#).

Lundin Gold's Climate Journey




Our Approach to Managing Climate Change Risks and Opportunities

Lundin Gold implemented an enterprise risk management (ERM) system shortly after acquiring Fruta del Norte, which categorizes risks as strategic and operational. In connection with its risk review process, the Company considers possible causes and impacts of identified risks. Impacts are then assessed using an impact and probability matrix and assigned an impact level (low, medium or high). For all high and selected medium rated risks, mitigation plans are established. Each risk is assigned to a member of senior leadership, who is accountable to the CEO for management of the risk. Risks are reviewed by senior leadership every four months.


In 2021, when Lundin Gold embarked on the task of CCRO identification and management, it leveraged the framework of its established ERM system to create a stand-alone CCRO register. After this register was sufficiently developed, the Company fully integrated it into its strategic register at the start of 2022.

As part of its ERM process, Lundin Gold assesses the different CCROs that could impact our Company, as well as the communities in the area of our operations. We continue to take actions to mitigate identified risks in accordance with their risk rating to improve the resiliency of our business. As in the past, we differentiate between different types of climate-related risks:



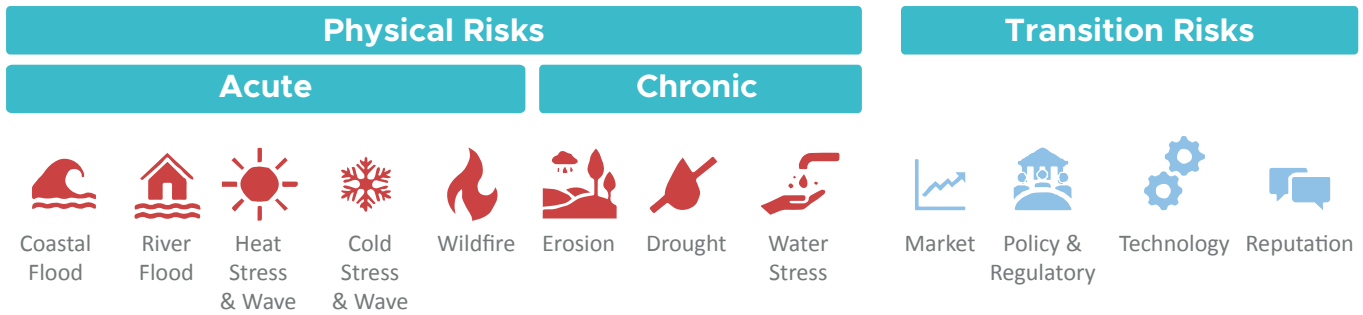
Physical Risks

Resulting from climate change that are either event-driven (acute) or longer-term shifts (chronic) in climate patterns. Categories of physical risk that we considered include coastal flooding, river flooding, heat/cold stress, heat/cold waves, wildfires, droughts, water stress, and erosion (storms). The acute physical risks may have financial implications such as direct damage to assets and indirect impacts, for example through supply chain disruptions. We also consider how our financial performance may be affected by chronic changes in water availability, sourcing, and quality as well as temperature changes reducing productivity and impacting employee safety.

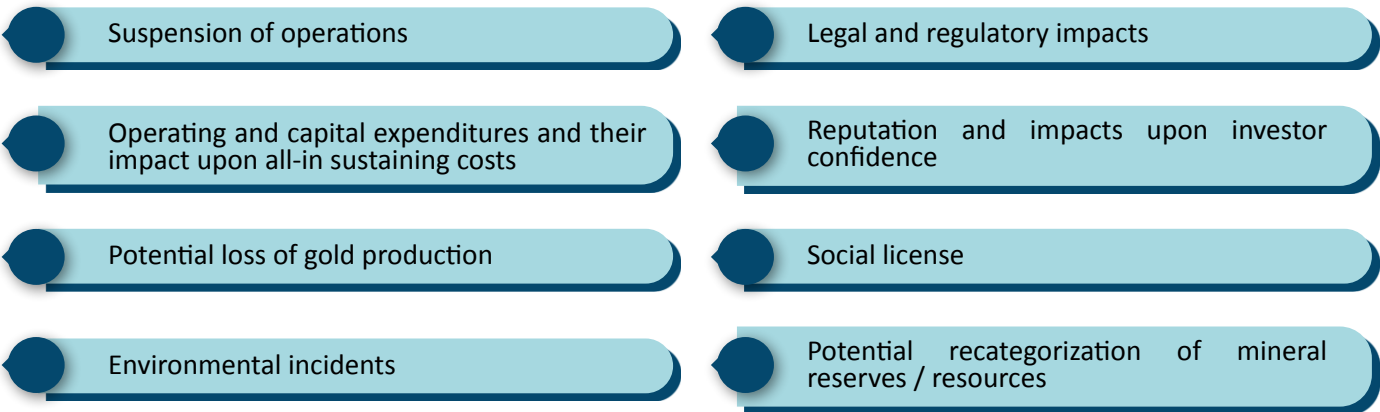


Transition Risks

Arising as global systems shift towards a green and low-carbon economy. These can be further categorized into market, policy and regulatory, technology, and reputational risks. Depending on the nature, speed, and focus of these changes, and the specific context of the Company within supply chains and markets, these risks have varying levels of severity. Transition risks can be event-driven (acute) such as policy shocks, or longer-term shifts (chronic) such as increasing regulatory requirements for climate-related disclosures.



In accordance with the recommendations of TCFD, we use the general set of physical and transition risks noted above to identify specific risks in our business. As noted above, we consider both the causes and potential impacts of the risk. We then consider the following impact categories in the context of climate change:



Risks are managed within our standard ERM system, while opportunities are assessed using a simplified five-by-five matrix based upon a measurement of ease of implementation and potential benefits. This outcome determines priority of action.

Opportunities identified to date include: new technologies leading to more efficient use of resources, fuel shifting, a premium price on low-carbon gold, access to funding sources / incentives related to decarbonization, and preferred access to financial markets due to low carbon footprint. Lundin Gold will continue to identify new opportunities as they present themselves.



Gold room



Doré Bars

Commentary on Gold Price

The impact of climate change on the gold market is uncertain and complex. Gold mining is energy-intensive and releases varying amounts of GHG emissions depending upon the technology and energy sources of a given mine. Some locations, as in the case of Fruta del Norte, depend primarily upon renewable sources of energy and thus have quite low emission intensities.

As the world transitions to cleaner sources of energy and implements policies that reflect the environmental costs of emissions, profits at mines with a high emission intensity may be squeezed and marginal deposits may become unviable. Additionally, as the physical impacts of a warming planet manifest themselves, mines will likely have to manage new challenges; for example, logistics associated with mining activities will likely become more complex, and some deposits will face

technical challenges, for instance due to changing water availability. These factors could impact gold supply.

In the future, climate change could disrupt financial markets for example through impacts to supply chains, significant investments in energy infrastructure, costs of implementing adaptation measures and damages covered by insurance. It is also possible that market disruptions could be caused by the sudden implementation of climate policies, such as carbon border adjustment mechanisms (CBAMs). Given gold's traditional role as a safe haven, the factors could impact gold demand.

The relative weights of these opposing forces are difficult to predict, and therefore the ultimate impact of climate change on gold price is unclear.

LUNDIN GOLD'S CLIMATE GOVERNANCE

Lundin Gold recognizes the strategic importance of climate change to the Company and has therefore integrated climate change into the Company's governance and management structure. In accordance with the recommendations of TCFD, the Board has oversight of climate-related risks, and senior leadership is responsible for the management of those risks. In climate-related risks have now been integrated Company's strategic planning processes.

Roles and Responsibilities of the Board of Directors

Lundin Gold's Board oversees the Company's approach to risk management which is designed to support the achievement of organizational objectives, including strategic objectives, to improve long-term performance and protect shareholder value. Lundin Gold's Board is responsible for overseeing the Company's risk identification, management and mitigation strategies and the risk assessment process.

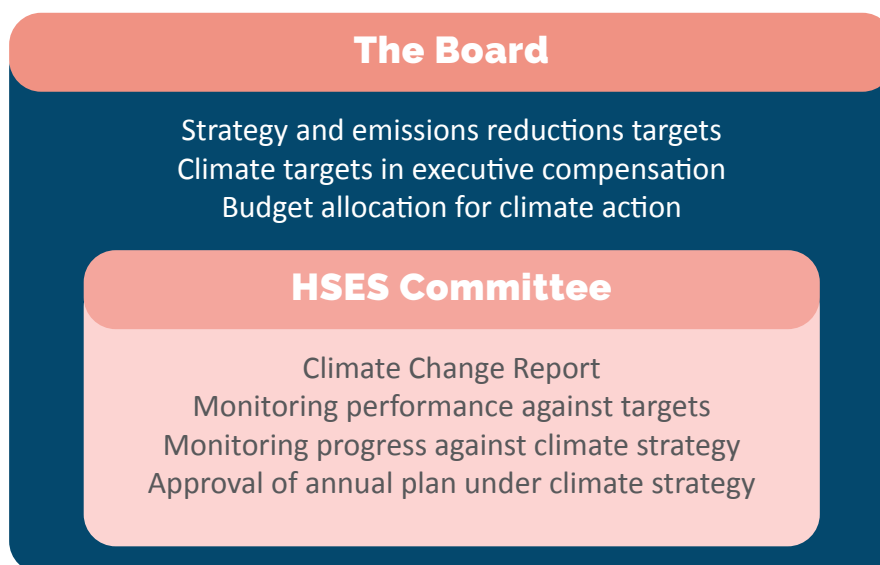
Complete Board governance details can be found in our regulatory filings, particularly our most recent Information Circular¹, including independence of directors, skills and experience, elections, tenure, diversity, evaluation and compensation. As a publicly traded company, Lundin Gold believes that compensation transparency strengthens trust, including the link between sustainability performance and compensation for our executives. We monitor corporate governance development on an ongoing basis, engage with key governance and proxy advisory services and adjust our practices where we determine it is beneficial for the Company and our shareholders.

Lundin Gold's Board members possess a broad range of knowledge and skills, covering mining, environment, strategic planning, risk management, finance, legal and technology, all of which equip them to consider potential implications of climate change on the Company's business. Through director education and through new director recruitment, the Board has enriched its competency in sustainability matters generally over the last several years, including in the area of climate change. For instance, most recently board education has focussed on better understanding how to integrate climate change considerations into corporate decision making and the role for the finance function and the Audit Committee.

¹ <https://lundingold.com/en/investors/shareholder-meeting-materials/>

FDN Tailings Storage Facility

Responsibility at the Board level for climate change oversight rests with the Health, Safety, Environment and Sustainability Committee (HSES Committee) with significant matters, such as our GHG emissions target, being reviewed and approved by the full Board. The HSES Committee is charged with overseeing the Company's effective management of CCROs and, in this regard, receives an update regularly. The HSES Committee is also responsible for reviewing and monitoring environmental performance – including climate related performance. Members of the Company's executive team attend meetings of the HSES Committee, and this Committee reports quarterly to the Board.



At the start of each year the HSES Committee reviews and approves the Company's climate strategy objectives and plans which are aligned with the Five-Year Sustainability Strategy. Members of the executive team report quarterly to the HSES Committee on climate strategy progress. The HSES Committee then reviews our progress against these objectives at the end of the year.

Roles and Responsibilities of Management

Given the importance of climate change, the Board has charged the CEO with ultimate responsibility for the Company's overall climate strategy. The CEO is assisted by two members of the executive team: the Vice President, Business Sustainability and the Vice President, Legal. These three executives attend HSES Committee meetings and report to that committee regarding climate matters.

The Vice President, Business Sustainability is responsible for advancing and tracking the Company's progress against its climate-related goals as set out in its Five-Year Sustainability Strategy and for facilitating the assessment and management of CCROs and for integrating these risks and opportunities into Lundin Gold's existing ERM framework. The Vice President, Legal is responsible for management of the climate governance, corporate exposure and compliance aspects of climate change, including the rapidly evolving landscape of global reporting standards relating to climate change. Together with the CEO, the Vice President, Business Sustainability and the Vice President, Legal work with Lundin Gold's Climate Resilience Group (the CRG), a site-level cross-functional working group. The CRG is responsible for the identification and implementation of decarbonization opportunities and adaptation plans at Fruta del Norte.



Board of Directors and Management Team Visit Shuar Stakeholders



Climate Change Progress and Executive Compensation

As part of its climate governance, Lundin Gold's Board recognizes the importance of aligning executive compensation with the achievement of the Company's strategic goals. Since Lundin Gold committed to implementing the recommendations of TCFD in 2021, the Board has integrated climate related targets into executives' short-term incentive plan.

Lundin Gold has two performance measures in its short-term incentive plan: corporate performance and individual performance. Corporate performance measures are identical for all participants while individual performance measures are specific to each participant based on their role. Last year, objectives related to climate change were integrated into both the corporate performance measures and into the individual performance measures for certain executives.

In 2022, 20% of the corporate performance measure was determined by sustainability matters; climate change related performance objectives accounted for a quarter of this weighting. The climate related performance objective was to develop a climate change strategy, including both a GHG emissions reduction target and adaptation plans. While Lundin Gold made good progress in 2022 on the development of its climate strategy, the Company intentionally deferred target setting due to the update to its estimates of Mineral

Reserves and Resources and the LOM plan. Without a full understanding of the LOM, a decarbonization plan to support an emissions reduction target could not be finalized. Given other climate-related work in the year, the adaptation plans were not advanced as planned. Executives therefore received slightly over half of their climate-related bonus potential.

Both the Vice President, Business Sustainability and the Vice President, Legal had climate change related objectives incorporated into their individual performance measures. A significant goal for both executives was the implementation of TCFD recommendations across all four themes and the publication of the inaugural TCFD report, which occurred last May. In addition, they developed an initial climate strategy, which laid the foundation for the establishment of the emissions reduction target as discussed later in this report. Both executives received their full bonus potential in respect of the climate-related portion of their individual performance measures.

For more information about Lundin Gold's approach to executive compensation, including climate change related performance measurement, see the Company's Management Information Circular dated March 2023 at www.lundinalgold.com or filed under the Company's profile at www.sedar.com.



Lundin Gold's Climate Governance

Board

Oversight of risk management, including climate change

HSES Committee

Oversight of climate change risk and performance

Compensation Committee

Oversight of executive compensation, including climate change related performance

President and Chief Executive Officer

Ultimate responsibility for implementation of climate change strategy

VP Business Sustainability and VP Legal

Responsibility for the execution of Lundin Gold's climate change strategy

CRG

Responsible for the identification and implementation of decarbonization opportunities and adaptation plans

Environmental Department

Responsible for tracking and reporting GHG emissions metrics



Board Visit to FDN

CLIMATE CHANGE RISK MANAGEMENT

Scenarios¹

Lundin Gold's approach to assessing climate-related risk begins with scenario analysis. We consider different possible futures and their long-term climate impacts, identify the leading indicators for each, and then determine which of these futures we believe is most likely.

Scenario analysis allows Lundin Gold to:

- Better understand the broader context in which it may be operating in the future.
- Assess the impacts that this potential future will have upon the business.
- Focus efforts upon mitigation measures that will reduce the severity of such impacts.
- Establish a framework to monitor both physical and transition risks.

We recognize that climate policy and climate impacts are dynamic, and we therefore review our scenario assessment on an annual basis.

As explained in our 2022 report, we chose scenarios based upon TCFD guidance. We have not modified our scenarios since that time, and therefore we continue to evaluate the following:

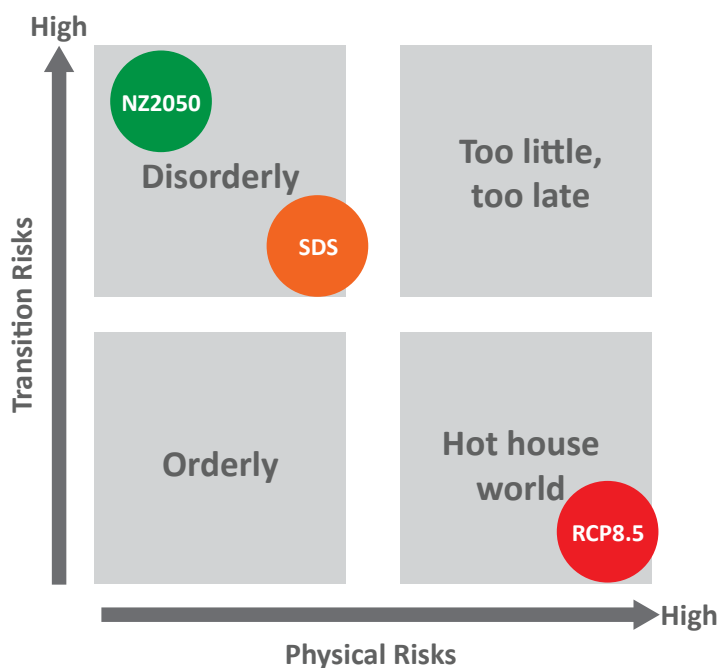
- International Energy Agency's (IEA) Net Zero 2050 Scenario.
- IEA's Sustainable Development Scenario (i.e., net zero in 2070).
- A high physical risk scenario based upon RCP² 8.5 from the IPCC.

The relative transition and physical risks associated with each of these scenarios is presented in the graphic on the next page.

¹ Scenario analyses help guide our Company to develop appropriate strategies for possible futures. As such, scenario analyses depend on forward-looking information, models and assumptions, and should therefore be treated with caution. Please refer to the Caution at the end of this report for more information.

² Representative Concentration Pathway: a series of atmospheric GHG concentration trajectories used by IPCC in climate modelling.

Underground at FDN



This year we again considered what each of these scenarios would mean for a wide range of Lundin Gold stakeholders at the local, national and international levels. We then reviewed a set of early warning indicators – that is, the “signposts” that help us to determine which scenario is most likely to develop. Once Lundin Gold’s management team reaches consensus, we use the selected scenario as our point of reference in our subsequent risk evaluation.

In 2021, we noted our belief that the world is currently on the trajectory identified in the IEA Sustainable Development Scenario. This scenario foresees net zero being reached in 2070, and thus transition risks will progressively become pronounced over the coming decades. Given this slower transition (as compared to other scenarios), physical risks will likely be more significant.

Over the course of the past year, we revisited this assessment. This started with a review of the current landscape and then we reconsidered the early warning indicators, asking if those associated with our chosen scenario were indeed observed or if we were instead seeing indicators of one of the other scenarios.

The landscape review highlighted the following trends:

Trend	Considerations
Extreme weather continues to grow in cost and frequency, with natural disasters causing in excess of \$250 billion worth of damages worldwide in 2022 alone. ³	Proactive efforts to build climate resilience are essential, not only to protect assets but also to assist in addressing climate challenges in local communities, and to demonstrate business continuity.
We continue to observe glacial retreat, rising sea levels, changes in ocean currents, deforestation, desertification and rising average global temperature.	These are indicators that the planet may be reaching the climate tipping point.
Leading scientific assessments indicate that global emissions must peak by 2025 to reasonably achieve the target of limiting global warming to 1.5 degrees Celcius. Global emissions have continued to rise in the seven years since the signing of the Paris Agreement, and current policies and international commitments appear insufficient to change this trend. ⁴	Momentum of climate regulation and carbon pricing is anticipated to build as the physical impacts of climate change become more severe (Canada and the EU are implementing carbon pricing systems). We will pay special attention to the introduction of CBAMs, as they address the issues of carbon leakage.

³ See <https://www.swissre.com/institute/research/sigma-research/sigma-2023-01.html>

⁴ See IPCC WGIII AR6 Summary for Policymakers: https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_SummaryForPolicymakers.pdf.

Trend	Considerations
Climate disclosure policies in various forms are being tabled in various jurisdictions around the world, including Canada (e.g., NI 51-107, Green Taxonomy, Guideline B-15) and USA (e.g., the SEC's upcoming disclosure guidelines). A global reporting standard is imminently expected from the International Sustainability Standards Board (ISSB). The EU continues to advance regulation with the Corporate Sustainability Reporting Directive (CSRD), emphasizing the concept of double materiality over business value as the focal point of disclosures.	Companies will need to disclose not just the impacts that climate will have on business continuity, but also the impacts of business operations on the environment. Lundin Gold can expect to be impacted by the new regulations coming out of the EU due to its listing on Nasdaq Stockholm.
We have observed no major shifts in Ecuadorian policy with respect to climate or nature regulation.	Given the political and economic situation in Ecuador, we do not expect major policy shifts in the short term, though we will continue to monitor.
The recent biodiversity COP15 adopted a framework through which governments will begin to regulate disclosures related to biodiversity impacts.	There is likely to be increasing scrutiny on biodiversity disclosures and tangible actions to meet related commitments.
The growing green finance movement has resulted in increasing calls for attractive interest rates for green projects even in emerging markets.	Given Lundin Gold's low emissions profile, we will consider these initiatives.
There is a growing interest in carbon offsetting as an avenue to reduce net carbon emissions.	Lundin Gold is currently incorporating offsetting in its carbon neutral pathway.
There continue to be technological advances, for example in battery and electrification.	Lundin Gold will evaluate price, performance and availability of these technologies as it considers equipment replacement at its operations.



With this landscape analysis in hand, the management team met in January 2023 to consider the early warning indicators for each scenario, and thus assess the most likely current trajectory at that point in time. This assessment is summarized in the table below.

Early Warning Indicator Evaluation

Scenario Dimensions	NZ 2050	Sustainable Development	High Physical Risk
Clean energy generation	Rapid growth of renewables (>70% by 2040)	Moderate growth of renewables (~60% by 2040)	Moderate growth of renewables (~50% by 2040)
Fossil fuel dependency	Phaseout of fossil fuels for power generation	Phasedown of fossil fuels for power generation	Fossil-fueled energy security

Scenario Dimensions	NZ 2050	Sustainable Development	High Physical Risk
Carbon price	Carbon price of at least \$100 by 2030 and over \$400 by 2050; prevalence of CMAMs	Carbon price under \$100 in 2030 and under \$200 in 2050; progressive introduction of CBAM	Carbon price under \$15 in 2030 and under \$40 in 2050; no CBAMs
Industrial electrification	High adoption	Moderate adoption	Slow adoption
Green finance	Financing tied to performance and disclosure; "green" label highly desired	Moderate conditions for performance and disclosure; reduced investments in some sectors/regions	Minimal requirements, but a reduced level of private lending and investments in some sectors/regions
International climate governance and standards	Rapid ISSB and CSRD rollout and implementation; mandatory third-party verification International cooperation to address climate impacts through the COPs	ISSB and CSRD implemented at a phased pace, voluntary third-party verification becomes more common Moderate international cooperation to address climate impacts through the COPs	CSRD and ISSB implemented with significant carve-outs and implemented on a voluntary basis. Minimal expectations for third-party verification Little international cooperation to address climate impacts through the COPs
Investors & Lenders	Increased scrutiny of transition plans, with significant impact on financial conditions	Demand for transition and adaptation plans with moderate impact on financial conditions	Low scrutiny for adaptation plans but some regions are no-go zones for investment
Customers	Public commitments to move to net zero across Scopes 1,2 and 3 by 2050	Slow and definite movement towards decarbonisation across Scopes 1,2 and 3	No GHG-related considerations in due diligence processes
Suppliers	Industry trends towards electrification	Modest decarbonization efforts, with some electrification and low-carbon options available	Decarbonization is not a priority for mine suppliers
Governments & Regulators	Stringent regulations and carbon monitoring programmes; addition of biodiversity considerations	Higher carbon taxation, with a focus upon heavy industry	Heavy industry is not aligned with net zero initiatives with no consequences
Communities	High demands from communities related to climate policy impacts	Moderate demands from communities related to the economic impacts of climate policy and adaptation requirements	High demands from communities related to adaptation requirements
Employees	Reduced local workforce availability due to implementation of new technologies	Technological changes implemented slowly to allow for local workforce training and sporadic impacts to workforce availability due to extreme weather events	Emigration away from climate hotspots, and increased health-related costs. Disruption to workforce availability due to extreme weather events

● = Early warning indicator chosen by the management team.

Ultimately, our review of the current landscape and the associated early warning indicators suggest that the Sustainable Development Scenario remains the most likely. As such, our selected scenario has not changed. We recognize that climate policy and climate impacts are dynamic and as a result the Company will continue to review scenarios on an annual basis.

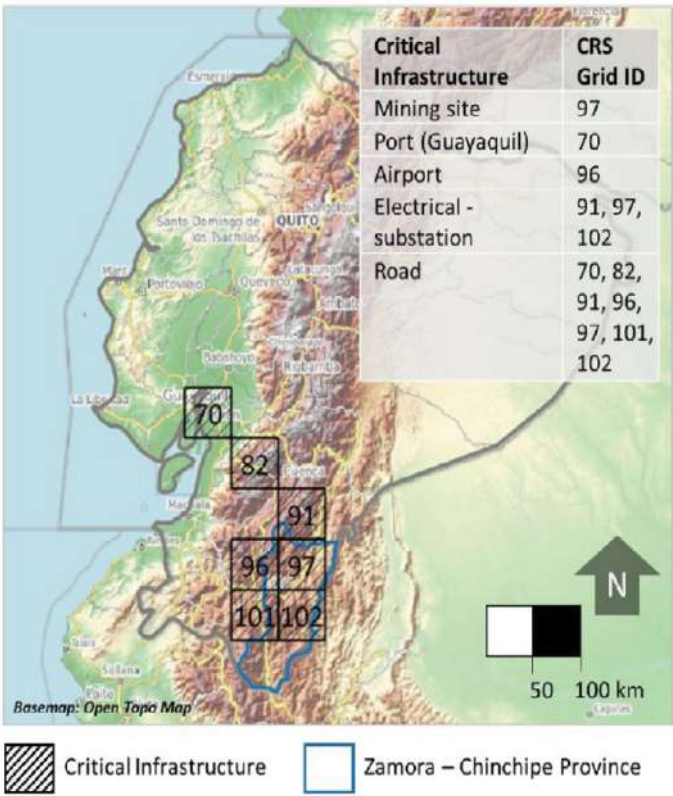
Given the above analysis, we have used the Sustainable Development Scenario as our frame of reference for evaluating the likelihood and impacts of physical and transition climate risks.

Physical Risks and Mitigation

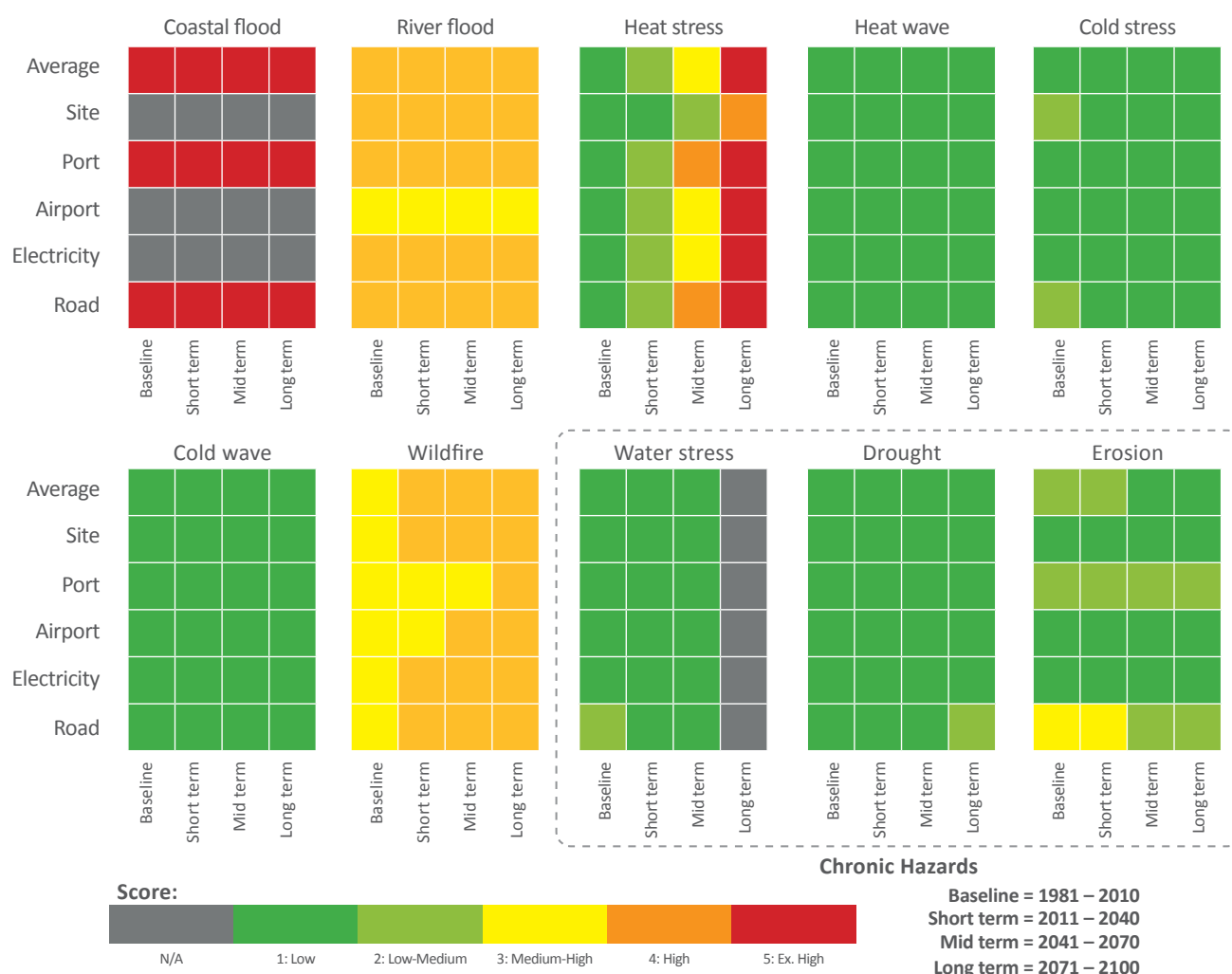
Our initial assessment commenced in 2021 with a study to better understand how climate risks and opportunities would present themselves in the context of Lundin Gold’s operations. In so doing, we further refined our understanding of the acute and chronic impacts resulting from extreme changes to the climate. We have continued to use this analysis over the past year.

This study analyzed physical hazards resulting from a changing climate on an approximately 50 km x 50 km grid square resolution in 30-year periods. The current mine life of FDN runs until 2034 which corresponds to the short-term period (2011-2040) in the modelling noted below. Nevertheless, we present the results of modelling through the end of the century to illustrate trends and as input to strategic discussions on the future longevity and growth of the business.

The locations of key Lundin Gold infrastructure were mapped on to this climate grid. The resulting exposure to climate hazards was then scored from one to five ranging from low to extremely high. The results of this 2021 work are presented in the graphic on the next page.



Physical Risk Scores for all Ten Hazards Over Three Time Periods



Major concerns in regions relevant to Lundin Gold remain floods and wildfire. Given the current climate, Lundin Gold is already exposed to coastal flooding (e.g., for port infrastructure and coastal roads), and this is projected to increase in the future. River flooding was scored high across all infrastructure, except the regional airport, in all timeframes. Wildfire had a high exposure from the mid-term onwards across multiple infrastructure areas.

Water-related chronic risks, such as water stress and drought, are not anticipated in the simulated model output. This is due to the low exposure of the region to the extreme heat and arid conditions that would trigger a water deficit. Chronic erosion is also simulated to be of lower concern on both mid- and long-term across all infrastructure.

As noted above, the critical physical risks are expected to present new hazards only in the medium term. As such, Lundin Gold's CRG has initially been tasked with identifying potential direct emission reductions. In 2023, we expect that the CRG will turn its attention to climate resilience and understanding possible adaptation requirements. Specifically, the CRG will consider updating current design standards to reflect the best science available. This will be followed by identifying investment requirements. The CRG will also assess emergency response capabilities and integrate such analysis into this adaptation planning. The CRG will also consider off-site adaptation measures to address risks associated with road, port and airport infrastructure.



Transition Risks and Mitigation

As part of the same 2021 study, we sought to understand the transition risks associated with our business. Headquartered and listed in Canada, operating in Ecuador and with value-chain linkages to as well as a stock exchange listing in the EU, Lundin Gold is exposed to three policy jurisdictions, which have pledges and targets for emissions reductions, primarily through the 2015 Paris Agreement. This legally binding international treaty establishes the goal of limiting climate change to below 2 degrees Celsius, and preferably below 1.5 degrees Celsius, compared to pre-industrial levels. Each jurisdiction has set a Nationally Determined Contribution (NDC), which remains unchanged since our previous Climate Change Report. Canada has set a long-term target, while Ecuador has retained a shorter-term focus, without having established a specific emission reduction target to date. Lundin Gold will continue to monitor relevant policies and transition risk.



Country	NDC Reduction Commitment Relevant to Lundin Gold	Long-Term Goal	Potential Implications for Lundin Gold
Canada ¹	2030: emissions reduction by 40-45% ² Contributory commitments made by each province and territory	Net Zero by 2050	Reductions to or offset of Scope 1 + 2 Emissions Increased disclosure requirements
Ecuador ³	Unconditional: emissions reduction by 9% ⁴ by 2025 Conditional: emissions reduction up to 20.9% ⁴ by 2025 if international support is given No 2030 target specified	Under development. Expected to align with 1.5-degree Celsius goal of the Paris Agreement	Reductions to or offset of Scope 1 + 2 Emissions Increased disclosure requirements
EU	N/A	N/A	Implementation of CBAMs Increased disclosure requirements

¹ <https://www.canada.ca/en/environment-climate-change/news/2021/04/canadas-enhanced-nationally-determined-contribution.html>

² Compared to 2005 levels of approximately 731 MtCO₂e.







³ <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Ecuador%20First/Primera%20NDC%20Ecuador.pdf>

⁴ Aggregate target for Agriculture, Energy, Industrial Processes and Waste Sectors, and compared to 2025 scenario with emissions of 76.9 MtCO₂.

Please see the table below for a summary of the primary types of risk identified through Lundin Gold's CCRO register.

Overview Climate Change Related Risks and Opportunities

Risks & Opportunities	Time Horizon	Potential Impacts	Initiatives to Manage Risks / Realize Opportunities
Physical Risks			
Acute <ul style="list-style-type: none"> Extreme weather events 		<ul style="list-style-type: none"> Tailings Storage Facility overtopping Landslides Loss of electricity supply Flooding of camp Damage to key infrastructure Reduced site access or availability of transport routes Increased operating costs 	<ul style="list-style-type: none"> Include climate scenarios into our operational planning Ongoing monitoring of seasonal rain pattern changes and ground water wells Collection of meteorological and hydrological data Review design criteria of critical infrastructure including the tailings storage facility Identification of alternative routes Incorporate climate considerations into closure planning
Chronic <ul style="list-style-type: none"> Changes to long-term weather patterns. Water abundance / scarcity Changes in sea level 		<ul style="list-style-type: none"> Increased costs due to required changes to infrastructure location, capacity, design, etc Changes in the availability of water (either scarcity or excess), which could impact power availability, among other impacts Required changes to environmental management plans 	

Risks & Opportunities	Time Horizon	Potential Impacts	Initiatives to Manage Risks / Realize Opportunities
Transition Risks			
Market <ul style="list-style-type: none"> Energy costs Insurance impacts Premium / penalty for climate performance and commodity exposure Inefficiencies in the carbon offset market 		<ul style="list-style-type: none"> Increased cost of carbon intensive inputs such as fuel, cement, steel Increased insurance premiums and/or deductibles or exclusion of certain risks from insurance coverage Use of carbon offsets to achieve reduction targets despite known inefficiencies in the market 	<ul style="list-style-type: none"> Efforts to embed climate risk in our procurement processes Include Scope 3 emissions in supplier engagement Work closely with insurance providers to meet updated requirements to maintain coverage Establish emission reduction targets Investor engagement to ensure a strong understanding of our climate strategy Develop a portfolio of internally developed carbon offsets
Technology <ul style="list-style-type: none"> Availability of low-emission mining equipment Renewable energy technology 		<ul style="list-style-type: none"> Align emerging technology with the requirements for equipment renewal 	<ul style="list-style-type: none"> Evaluate emerging technologies that are relevant for FDN Establish external partnerships Train employees on emerging technology to be implemented at FDN
Policy & Regulatory <ul style="list-style-type: none"> Emission reduction requirements Restrictions on heavy industry Reporting and disclosure 	 	<ul style="list-style-type: none"> Changes to land-use regulations. Limited ability to permit exploration or expansion Changes to disclosure standards. Uncertainty in future Canadian and Ecuadorian climate policies Changes in access to or cost of capital for gold mining 	<ul style="list-style-type: none"> Active monitoring of climate policy in all relevant jurisdictions Broad external engagement to monitor disclosure requirements and proactive adoption of relevant standards Develop educational sessions for the management team and board
Reputation <ul style="list-style-type: none"> Reduced demand for gold Reduced investor appetite for mining Attractiveness of gold mining for future employees 	 	<ul style="list-style-type: none"> Adverse reputational impact to the mining sector regionally or globally if it is perceived as being an impediment to addressing climate change Inability to meet decarbonisation expectations Increased pressure to reduce direct emissions, adopt green power sources, and offset emissions Difficulty in recruiting the next generation of employees 	<ul style="list-style-type: none"> Develop strong external communication regarding: <ul style="list-style-type: none"> Our efforts to contribute positively to reducing climate change The challenges that the Company faces Engage with key industry bodies to support a strong understanding of the role that mining has in the climate transition



= Operational issue within LOM time horizon



= Strategic issue for long-term company strategy

CLIMATE CHANGE STRATEGY AND IMPLEMENTATION

Goals under the Climate Pillar

The Climate Pillar of Lundin Gold's Five-year Sustainability Strategy lays out the following goals to be achieved by 2025.

Goals for 2025

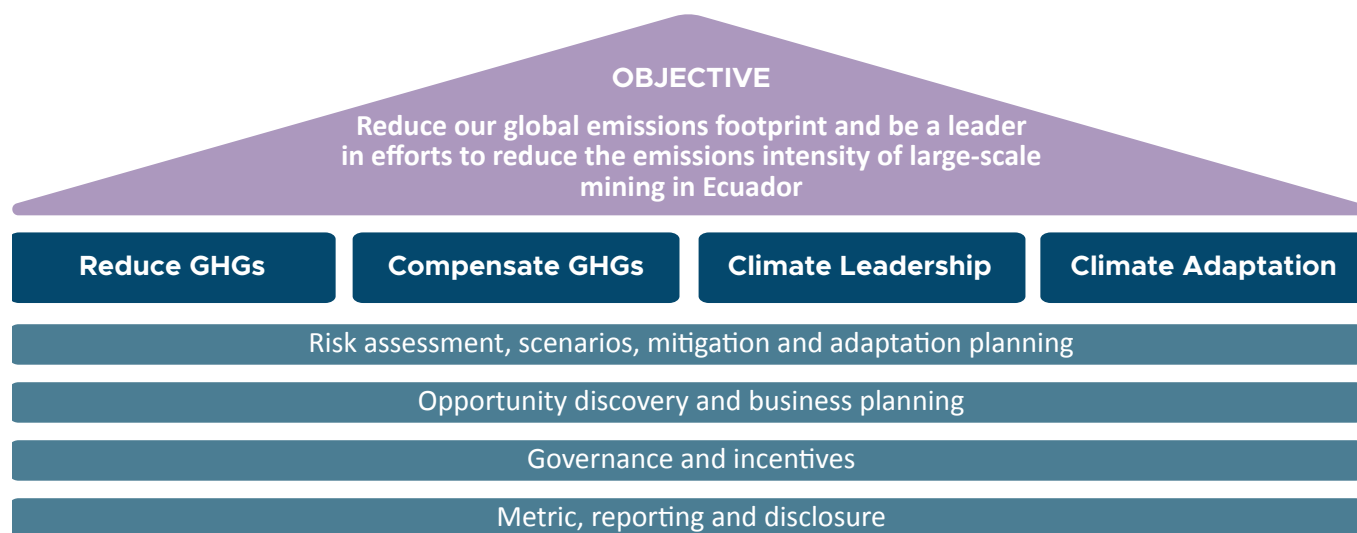
- Lundin Gold has established itself as a leader in efforts to reduce the GHG emission intensity of large-scale mining in Ecuador.
- Lundin Gold has established its operational emissions baseline and set an intensity based target commensurate with its commitment to lead on this issue.
- In order to further decrease its emissions footprint, the Company has sought out innovative offset opportunities that benefit local communities.
- The Company has identified the key risks it faces from a changing climate and has taken appropriate action to mitigate such risks.
- The Company works with its suppliers and other relevant stakeholders to identify opportunities to reduce GHG emissions in its value chain.
- The Company seeks cross-sector partnerships that have climate-related benefits.
- The Company has transparently communicated its climate change strategy and key actions to external stakeholders.
- All aspects of the TCFD have been incorporated into the Company's reporting on an ongoing basis and the Company has aligned reporting to SDG 13 (Climate Action).
- An appropriate carbon price has been established internally and integrated into financial evaluations.
- The Company's Board and management team have developed the expertise to ensure that this issue is well managed.

To achieve these goals, we have developed a specific climate change strategy that guides our actions in four focus areas: reduction of GHGs, compensation for GHGs, climate leadership and climate adaptation.

As noted above, Lundin Gold reports its progress to the HSES Committee on the four areas of its climate strategy, and such progress will be utilized to measure performance for the purposes of executive compensation.

FDN Operations

A graphical representation of our climate change strategy is provided below.



Progress under the Four Focus Areas of Lundin Gold's Climate Strategy

Since our last report, the Company has made significant progress in advancing its climate strategy. The advancements under its climate strategy are set out below.

FOCUS AREA 1:

Reduce the Carbon Footprint of our Operations through Decarbonization

In line with its commitment to responsible mining, Lundin Gold is committed to reducing the carbon footprint of its operations at Fruta del Norte through decarbonization initiatives. As an initial step towards developing a reduction plan, Lundin Gold reviewed its original Scopes 1 and 2 baseline calculations from 2021. Additionally, we determined that we needed to improve our understanding of current Scopes 1 and 2 emissions in order to identify and assess the benefits of identified carbon reduction opportunities. Lundin Gold therefore engaged a decarbonization consultant with expertise in the gold sector to conduct a detailed review. As a result, Lundin Gold changed its 2021 emissions baseline to make an adjustment to the electric power generation emission factor for Ecuador. We have moved to an average grid emission factor using a location-based methodology for the entire Ecuador electrical grid. Our previous Scope 2 reporting was based on the marginal grid emissions factor. The factor to be applied to our 2021 electrical use was reduced from 0.1917 tCO₂e/MWh to 0.0429 tCO₂e/MWh, which resulted in a significant reduction in estimates of Scope 2 emissions for the base year emissions data. In accordance with Chapter Five of the GHG Protocol, Lundin Gold has retroactively recalculated its 2021 data and therefore has restated its Scopes 1 and 2 baseline. Lundin Gold's updated 2021 emissions intensity of 0.07 tCO₂e per ounce of gold produced was the lowest among 152 mines reported publicly.

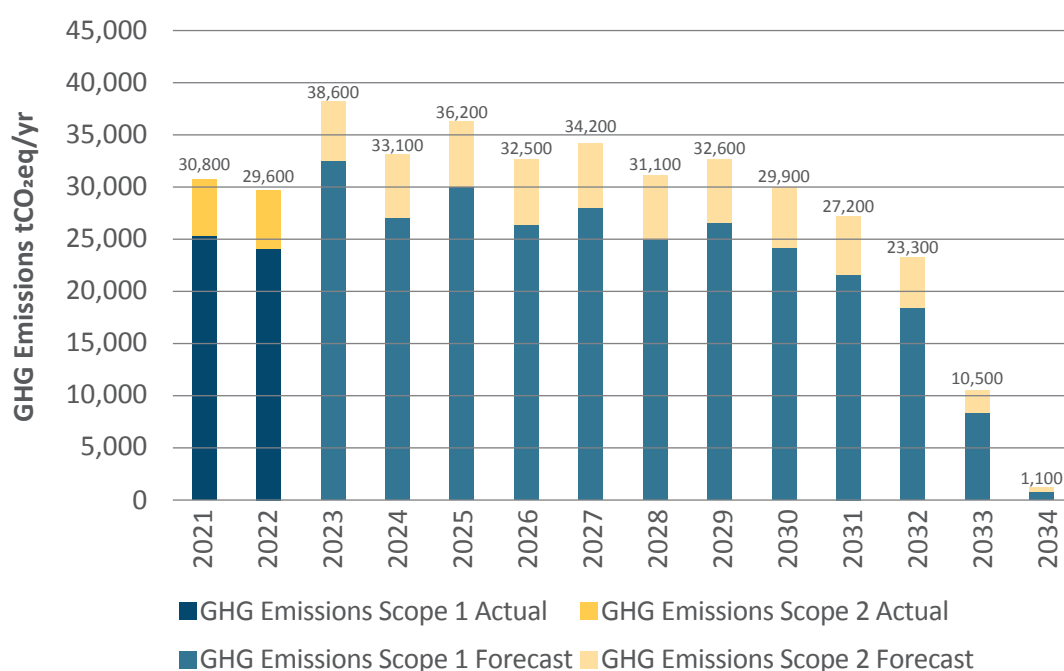


Lundin Gold's Emissions Intensity

Based on its GHG emissions intensity baseline of 0.07 tCO₂e per ounce of gold produced, FDN had the lowest carbon intensity of any gold mine globally that publicly reported in 2021. Its GHG emissions intensity has dropped further to 0.06 tCO₂e per ounce of gold produced in 2022.



In addition to improving its understanding of its GHG emissions from its operations, Lundin Gold determined that it was necessary to forecast the future emissions of its current operations based on its LOM in order to establish a GHG reduction target for Fruta del Norte. The results of the emissions forecast are shown in the graph below.



Scope 1 and 2 GHG emissions are forecast to remain generally stable in the absence of further mitigation measures with a slight decrease in Scope 1 emissions driven by reduced waste handling requirements in future years. For the purposes of the forecast, grid intensity was assumed to be constant from 2023 forward. Scope 2 emissions remain a small portion of overall emissions due to the low electrical grid intensity.

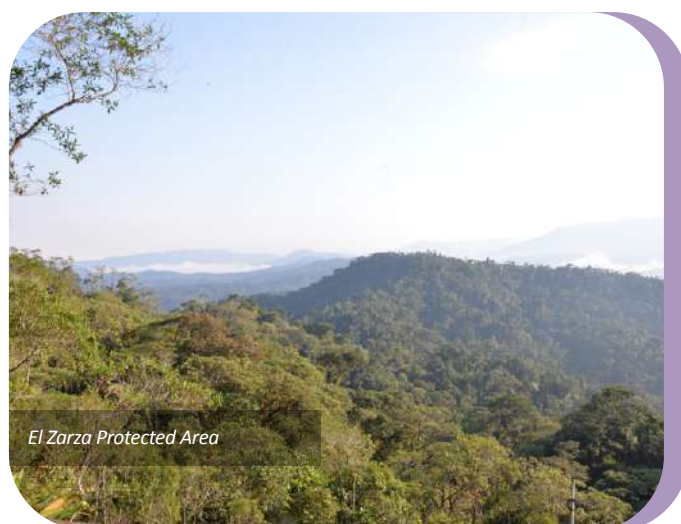
With a better appreciation of FDN’s industry low emissions over the LOM, Lundin Gold’s CRG worked with the leadership team at site to develop a range of decarbonization opportunities, which were then evaluated and prioritized using a marginal abatement cost curve developed for FDN. For details on the opportunities analyzed, their role in our decarbonization plan and progress on implementation to date, see the section below that addresses [“Lundin Gold’s Climate Commitment”](#).

Lundin Gold has always recognized that meaningful climate action must entail a reduction in the emissions outside of Fruta del Norte that relate to its business activities. We have therefore also sought to improve our estimates of Scope 3 emissions in 2022 and engaged our decarbonization consultant to conduct a detailed review of FDN’s 2021 and 2022 Scope 3 emissions. Due to changes in the categorization of certain emissions using the GHG Protocol’s Technical Guidelines for Scope 3 Emissions, improvements in data from suppliers and methodology corrections, the estimates of these emissions were significantly reduced. To allow for consistency in reporting going forward and to inform Lundin Gold’s future reduction initiatives aimed at its value chain, Lundin Gold has recalculated its previously reported 2021 estimates of Scope 3 emissions. See the [“Metrics and Performance”](#) section of this report.

FOCUS AREA 2:

Reduce the Carbon Footprint of our Operations through Offsetting

As explained above, in 2021 Lundin Gold was the lowest intensity gold mine globally based on publicly reported data from 152 gold mines. As a result of our decarbonization study, we have demonstrated that beyond the selected emission reduction initiatives ([see page 36](#)), our remaining options to reduce our emissions directly are either not currently available or extremely costly. For a given investment, we believe that we can currently have a far greater climate impact by looking outside of our operations.



For the past year we have been working together with the Lundin Foundation to establish an offset strategy. This commenced with a review of the current offset market and an assessment of the different types of offset credits that are currently available. We also sought to understand how companies can develop their own offset projects. We compared the pros and cons of both approaches, with an emphasis on ensuring local co-benefits.

Lundin Gold is now planning to move forward with its offset strategy. Over the coming year we will approach project developers and will determine which provide the greatest climate and community benefits. We will then assess the relative merits of these projects versus the offset credits available in the broader market. In our subsequent Climate Change Reports, we intend to provide an update on our offset development efforts. Lundin Gold remains committed to using offset credits only from projects that meet internationally recognized quality criteria.

FOCUS AREA 3:

Be a Climate Leader in Ecuador

As discussed in our previous Climate Change Report, we seek to establish climate leadership through the following actions:

- **Setting a target:** In our previous report, we indicated that we planned to complete this process in 2022. From the beginning, we have sought to first understand what type of target would be feasible, rather than establishing a target first and then determining which measures could help us to reach it. Our work over the past year commenced with our updated mine plan, which allowed us to model the likely trajectory of emissions at FDN. As noted elsewhere in this document, we then assessed potential emission reduction initiatives and developed a carbon abatement cost curve. With this information in hand, we have established Lundin Gold's 2030 emissions reduction target. See "[Lundin Gold's Climate Change Commitment](#)" later in this report.
- **Extending our ambition to our supply chain:** Though we have prioritized improving our understanding of possible Scope 1 and 2 emissions reductions, we recognize the need to address Scope 3 emissions in our supply chain as part of our strategy. As such, over the past year we have focused upon obtaining better data on our Scope 3 emissions, as it is essential to understand where the bulk of these emissions lie if we are to identify emission reduction opportunities with our vendors.



FOCUS AREA 4:

Adaptation to Physical Impacts

Based upon our scenario analysis work and choice of the Sustainable Development Scenario, Lundin Gold believes it must adapt to the inevitable physical impacts of global warming to ensure the resilience of our business. In this scenario, future warming is unavoidable due to past emissions. As such, Lundin Gold sees adaptation as a key aspect of its climate strategy. The CRG has conducted an initial assessment of the physical risks most likely to be experienced by Lundin Gold in Ecuador. The development of an adaptation strategy is planned to be a focus area for our climate strategy in 2023.



METRICS AND PERFORMANCE



Lundin Gold's GHG Emissions Reporting and Recalculations

Lundin Gold has been tracking and reporting its GHG emissions since 2017. Lundin Gold employs a range of metrics to understand and inform our energy and GHG emission reduction strategies. According to the GHG protocol for measuring carbon dioxide equivalents, we classify our GHG emissions as follows:

	Scope 1	Scope 2	Scope 3
Scope Definition	GHG emissions produced by the combustion of energy sources that are owned or controlled by Lundin Gold.	GHG emissions from the consumption of purchased electricity.	GHG emissions cover all other indirect emissions that occur in Lundin Gold's value chain.
How we generate these emissions	The majority of our Scope 1 emissions are attributable to diesel, gasoline, liquid propane gas, helicopter fuel and explosives for blasting at the Fruta del Norte mine site.	The vast majority of our Scope 2 emissions are generated by the energy we buy from the national grid in Ecuador, which consists of more than 93% electricity from renewable sources such as hydro-electric power generation.	Scope 3 emissions are attributable to purchased goods and services for operations, capital goods, emissions associated with the production and transport of the fuel and energy we use, transportation and refining of doré, transport and shipping of concentrate, transportation related to the supply of goods and services to site, land and air travel associated with employee commuting, business air travel, and offsite waste disposal.

As discussed earlier in this report, Lundin Gold committed significant resources in 2022 reviewing its prior year's Scopes 1 and 2 emissions data as part of its decarbonization opportunity assessment. As a result of that review and the change in power generation emission factor noted above, the factor to be applied to our 2021 baseline was reduced, which resulted in a significant reduction in estimates of Scope 2 emissions for the base year emissions data. In accordance with Chapter Five of the GHG Protocol, Lundin Gold has retroactively recalculated its 2021 data.

To allow for consistency in reporting going forward and to inform Lundin Gold's future reduction initiatives aimed at its value chain, Lundin Gold also conducted a detailed review of its 2021 reporting of Scope 3 emissions and made a number of significant changes (Scope 3 emissions are sub-divided into 15 categories, which are explained in the tables and graphics below). We have recalculated our 2021 Scope 3 Category 1 and 2 emissions based on a change in our methodology. For most of our purchased goods and capital spending, Lundin Gold calculates our Category 1 and 2 emissions using a spend-based method, which applies industry-average emission factors per dollar spent for different types of purchases. Some of the purchases were misclassified in the original 2021 calculation and the classifications have been corrected. We have recalculated our 2021 Scope 3 Category 4 emissions associated with concentrate shipping to correct the methodology.

2022 Comparative Data

The tables below highlight our Scope 1 and Scope 2 energy consumption and GHG emissions. All values are reported in GJ or tCO₂e emissions, which include CO₂, methane (CH₄) and nitrous oxide (N₂O) emissions, as appropriate. Lundin Gold measures emissions intensity based upon per thousand tonnes milled and per ounce of gold produced.

GHG Emissions (Tonnes CO ₂ Equivalent) ¹ Includes CO ₂ , CH ₄ , and N ₂ O, as appropriate								
GHG Scope	2022				2021			
	Scope 1	Scope 2	Total Scopes 1 & 2	Scope 3	Scope 1 ⁵	Scope 2 ⁵	Total Scopes 1 & 2 (Baseline Year) ⁵	Scope 3 ⁶
Fruta del Norte Site (tCO ₂ e)	23,011	5,557	28,568	-	24,981	5,397	30,378	-
Exploration (tCO ₂ e)	1,013	0	1,013	-	373	0	373	-
Ecuador Offices ² (Quito and Los Encuentros) (tCO ₂ e)	0	19	19	-	0	16	16	-
Vancouver Office ³ (tCO ₂ e)	0	0	0	-	0	0	0	-
Total (tCO₂e)	24,024	5,576	29,600	166,742	25,354	5,413	30,767	193,764
% of Total Annual CO ₂ e	12.2%	2.8%	15%	85%	11.3%	2.4%	13.7%	86.3%
Kilotonnes of Ore Milled (Kt)			1,559.18				1,415.63	
GHG Emissions Intensity⁴ (tCO₂e/Kt ore milled)			18.98				21.73	
Ounces of Gold Produced (oz)			476,329				428,514	
GHG Emissions Intensity⁴ (tCO₂e/oz. Au produced)			0.06				0.07	

¹ For full list of emission factors sources and other relevant data, please refer to the Climate Change section of our Lundin Gold 2022 GRI, SASB and LPRM Index and Sustainability Performance Data spreadsheet.

² Ecuador offices emissions consist of emissions from the Quito and Los Encuentros offices, the Las Peñas Camp, and our FDN nursery.

³ Emissions from our Vancouver office were determined to be negligible.

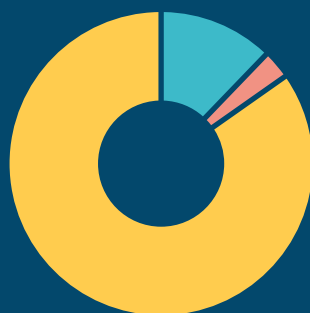
⁴ Intensity is calculated based on FDN Scope 1 and Scope 2 emissions only.

⁵ Baseline Scope 1 and 2 recalculated in accordance with the GHG Protocol mainly due to an improvement in the accuracy of the emissions factor for national electric power generation in Ecuador. Previously reported baseline: 2021 Scope 1: 25,399 tCO₂e; 2021 Scope 2: 24,170 tCO₂e.

⁶ 2021 Scope 3 recalculated due to improved understanding and reporting. Previously reported: 2021 Scope 3: 746,750 tCO₂e.

Note: Figures are rounded

2022 Estimates of GHG Emissions



■ Scope 1 12% ■ Scope 2 3% ■ Scope 3 85%

2022 Total Emissions by Scopes 1 and 2 (tCO₂e)



■ Scope 1
24,024 tCO₂e
81%

■ Scope 2
5,576 tCO₂e
19%

2022 Total Energy Consumption by Scopes 1 and 2 (GJ)



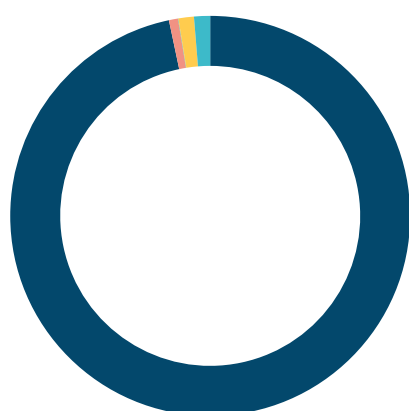
■ Scope 1
332,705 GJ
42%

■ Scope 2
467,589 GJ
58%

Total Emission by Type (tCO₂e)

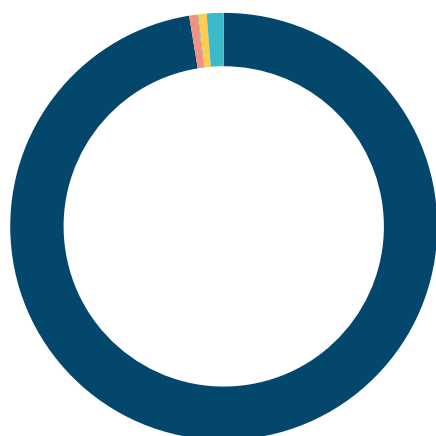
	2022		2021 (Baseline Year)	
Energy Source	tCO ₂ e	% of Total	tCO ₂ e	% of Total
Subtotal- Fuel source	24,024	100%	25,354	100%
Diesel	23,228	96.7%	24,696	97.4%
Gasoline	175	0.7%	162	0.6%
Jet A1	299	1.26%	156	0.6%
LPG (Propane/Butane)	10	0.04%	15	0.1%
Explosives	312	1.3%	325	1.3%
Subtotal- Electricity	5,576	100%	5,413	100%
Renewable	0	0%	0	0%
Non-Renewable	5,576	100%	5,413	100%
Total	29,600		30,767	
Kilotonnes of Ore Milled (Kt)	1,559.18		1,415.63	
Energy Intensity (tCO₂e/Kt ore milled)	18.98		21.73	
Ounces of Gold Produced (oz)	476,329		428,514	
Energy Intensity (tCO₂e /oz. Au produced)	0.06		0.07	

2022 Total Scope 1 Emissions by Fuel Type (tCO₂e)



- Diesel
96.7%
- Gasoline
0.7%
- Propane/Butane
0.04%
- Jet A1
1.26%
- Explosives
1.3%

2021 Total Scope 1 Emissions by Fuel Type (tCO₂e)



- Diesel
97.4%
- Gasoline
0.6%
- Propane/Butane
0.1%
- Jet A1
0.6%
- Explosives
1.3%



Total Energy Consumption by Type (GJ)

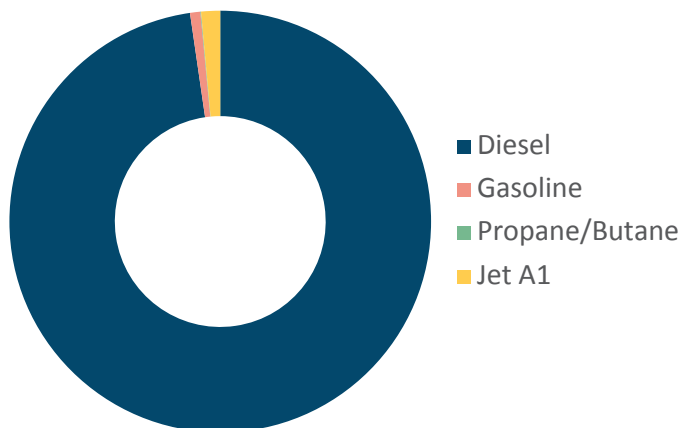
	2022			2021 (Baseline Year)		
GHG Scope	Scope 1	Scope 2	Total Scopes 1 & 2	tCO ₂ e	% of Total	Total Scopes 1 & 2 (Baseline Year)
Fruta del Norte Site (GJ)	318,113	465,992	784,105	350,918	452,515	803,433
Exploration (GJ)	14,592	0	14,592	5,721	0	5,721
Ecuador Offices (Quito and Los Encuentros) (GJ)	0	1,552	1,552	0	1,376	1,376
Vancouver Office (GJ)	0	45	45	0	37	37
Total (GJ)	332,705	467,589	800,294	356,639	453,928	810,567
Kilotonnes of Ore Milled (Kt)	1,559.18			1,415.63		
Energy Intensity (GJ/Kt ore milled)	513.28			572.58		
Ounces of Gold Produced (oz)	476,329			428,514		
Energy Intensity (GJ/oz. Au produced)	1.68			1.89		

Total Energy Consumption by Energy Source (GJ)

Energy source	2022		2021 (Baseline Year)	
	GJ	% of Total	GJ	% of Total
Subtotal- Fuel source	332,705	100%	356,639	100%
Diesel	325,063	97.7%	351,273	98.5%
Gasoline	2,625	0.8%	2,586	0.7%
Jet A1	4,846	1.4%	2,526	0.7%
LPG (Propane/Butane)	171	0.1%	254	0.1%
Subtotal- Electricity	467,589	100%	453,928	100%
Electricity (Renewable)	438,600	93.8%	425,786	93.8%
Electricity (Non-Renewable)	28,989	6.2%	28,142	6.2%
Total	800,294		810,567	
Kilotonnes of Ore Milled (Kt)	1,559.18		1,415.63	
Energy Intensity (GJ/Kt ore milled)	513.28		572.58	
Ounces of Gold Produced (oz)	476,329		428,514	
Energy Intensity (GJ/oz. Au produced)	1.68		1.89	



2022 Energy Consumption by Fuel Type (GJ)



2022 Scope 3 Emissions Comparative Estimates by Category

Category	Source ¹	2022 tCO ₂ e	2021 ² tCO ₂ e	Notes on Calculation and Sources
1	Purchased goods and services	110,451	132,381 ³	Quantis GHG Scope 3 Tool and Vendor supplied data.
2	Capital goods	13,391		
3	Fuel and energy-related activities	5,406	5,794	UK Government GHG Conversion Factors for Company Reporting (2021 and 2022).
4	Upstream transportation and distribution	33,507	52,568	EPA Emissions Factors for GHG Inventories, April 2021 and April 2022. UK Government GHG Conversion Factors for Company Reporting (2021 and 2022). Mining Association of Canada – Energy and Greenhouse Gas Emissions Management Reference Guide – Land Transport (2014).
5	Waste generated in operations	794	1,035	EPA Emissions Factors for GHG Inventories, April 2021 and April 2022. UK Government GHG Conversion Factors for Company Reporting (2021 and 2022).
6	Business travel	202	62	Vendor supplied data using Sabre Travel Network's carbon emissions tool.
7	Employee commuting	2,965	1,901	Employee air travel to and from FDN, corporate offices and local land travel. EPA Emissions Factors for GHG Inventories, April 2021 and April 2022. Mining Association of Canada – Energy and Greenhouse Gas Emissions Management Reference Guide – Fuel-based methodology for employee land transport (2014).
8	Upstream lease assets	N/A	N/A	The Company does not operate any material upstream leased assets.
9	Downstream transportation and distribution	-	-	Included in Category 4.

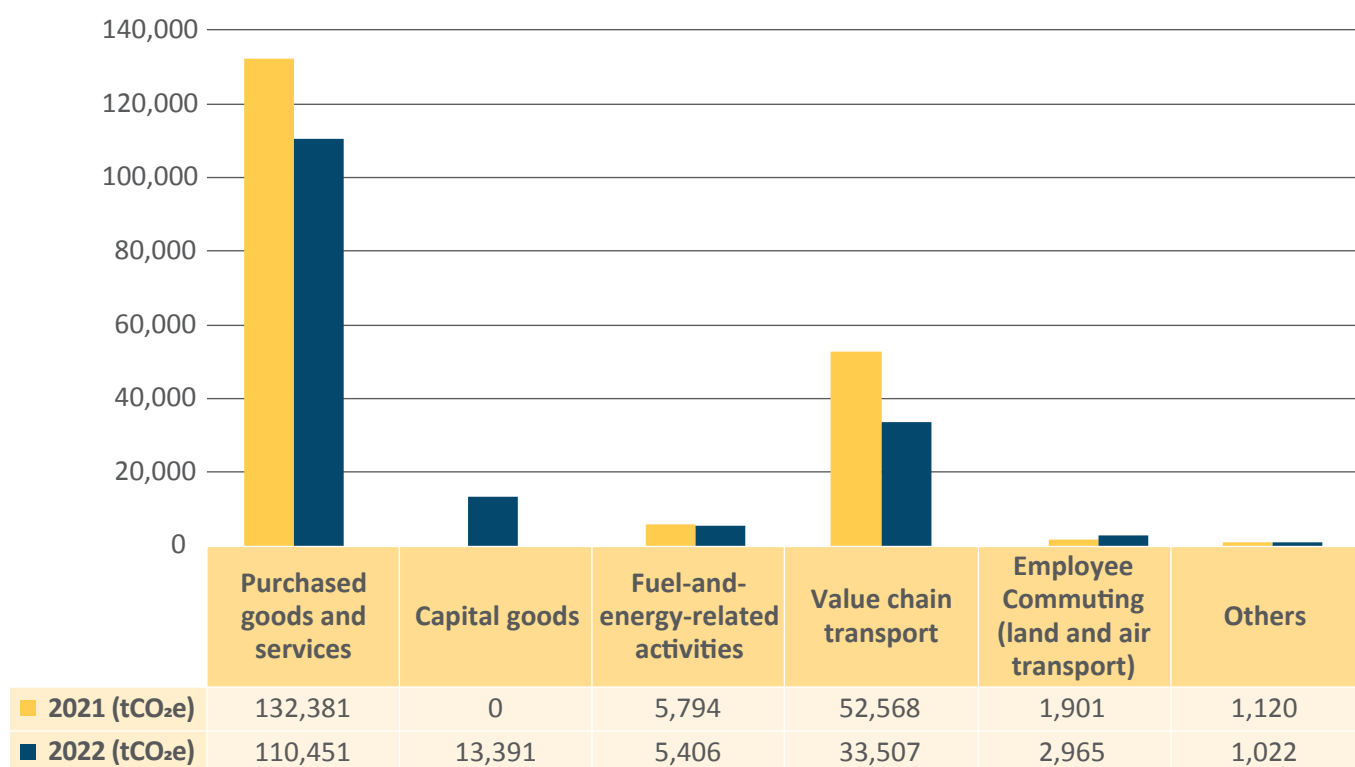
¹ Source references are informed by the GHG Protocol Corporate Value Chain (Scope 3) Standard.

² Recalculated due to changes in methodology, misclassifications and corrections.

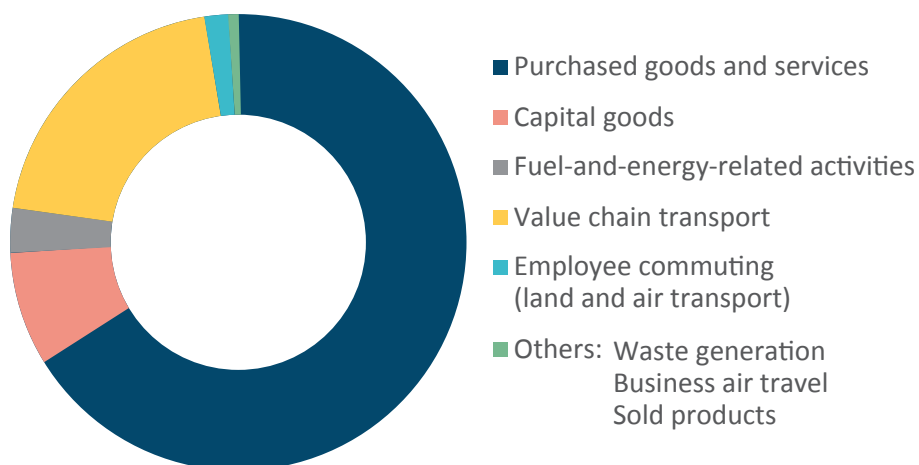
³ In 2021, the Company did not segregate emissions relating to capital goods from those relating to purchased goods and services.

Category	Source ¹	2022 tCO ₂ e	2021 ² tCO ₂ e	Notes on Calculation and Sources
10	Processing of sold products	26	23	Includes refining of gold doré sold. Annual global gold market GHG emissions from “Gold and climate change: Current and future impacts (2019)” from World Gold Council. Processing of concentrate has not been included. The Company intends to extend reporting on this source in the future. Processing into final products was estimated but determined to be immaterial.
11	Use of sold product	-	-	Immaterial, not estimated.
12	End-of-life treatment of sold goods	-	-	Estimated but determined to be immaterial.
13	Downstream leased assets	N/A	N/A	The Company does not operate any downstream leased assets.
14	Franchises	N/A	N/A	The Company does not have any franchises.
15	Investments	-	-	Immaterial, not estimated.
	Total estimated	166,742	193,764	

Scope 3 Emissions Comparative Estimates by Category (tCO₂e)



2022 Scope 3 Estimates (tCO₂e)



Commentary on 2022 Performance

Lundin Gold's GHG emissions (Scopes 1 and 2) dropped by 3.8% in 2022 compared to 2021. This decrease is largely attributable to a reduction in diesel consumption by 7.4% compared to 2021. Some of this reduction is attributable to the mine development plan which involved less haulage due to less activity at the upper and lower operating levels of the mine during the year. The other source of reduction was the campaign to reduce mine truck idling while waiting to be loaded underground. Minimizing idling has now become standard practice in the mine.

Lundin Gold's estimates of Scope 3 emissions were also reduced in 2022, in large part due to a change in shipping. The Company's logistics provider has contracted some of our concentrate shipping on LNG and bio-LNG-fueled ships. The use of LNG and bio-LNG resulted in a reduction of 10% of GHG emissions for those routes. We are currently reviewing opportunities to contract LNG and bio-LNG fueled ships for additional shipping routes.



LUNDIN GOLD'S CLIMATE CHANGE COMMITMENT

Our Commitment

Lundin Gold recognizes that tackling climate change is an urgent challenge and one which we are committed to address across all aspects of our operations. **To that end, Lundin Gold commits to becoming a carbon neutral business by 2030 with respect to its Scopes 1 and 2 emissions based upon our current LOM plan.**

Based upon 2021 publicly reported data, FDN has the lowest GHG emissions intensity baseline of 0.07 tCO₂e per ounce of gold produced¹ and an average projected annual Scope 1 and 2 emissions of approximately 33,000 tCO₂e to 2030. Given this and the research led by the CRG, we currently believe that there are limited options for Lundin Gold to significantly reduce its carbon emissions through decarbonization initiatives alone (though we will continue to assess emerging technology and other opportunities for such direct decarbonization). Based on this, Lundin Gold believes that it has the potential to achieve a greater climate benefit by developing and investing in different offset projects, including in Ecuador which could lead to direct co-benefits.



Lundin Gold's Climate Target

Lundin Gold plans to become a carbon neutral business by 2030.

Decarbonization Plans

As noted above, the CRG did significant research over the past year to identify potential decarbonization options. As highlighted in the figure on the next page, a number of measures were initially identified with potential to reduce Scope 1 and 2 emissions, of which three will lead to cost savings as well (i.e., they have a negative cost).



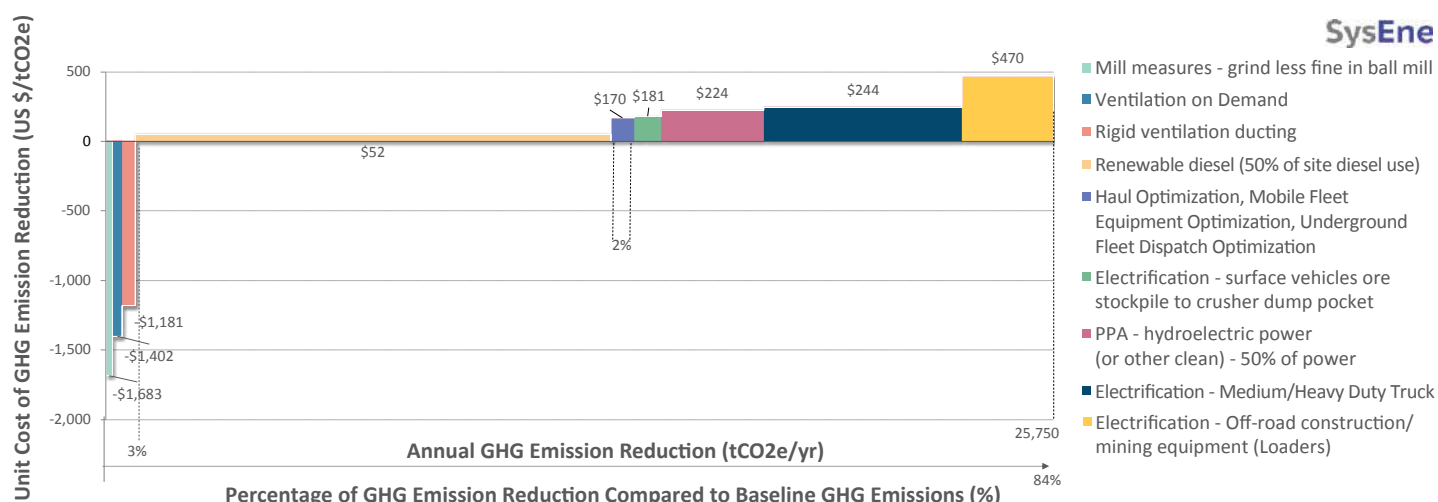
The analysis of a range of decarbonization opportunities using a marginal abatement cost curve² developed for FDN demonstrated that the options currently available are either very expensive with minimal climate impact given the Company's industry leading low emissions profile or not available at this time.

¹Based on 2021 emissions reporting for 152 gold mines.

²To build a marginal abatement curve, each potential measure was reviewed and is represented by one of the boxes on the curve. The measures are listed in the legend on the right. The width of the box is the amount the potential emission reductions per year and the height of the box is the cost per tonne of carbon reduced. Measures are listed in order from lowest cost per tonne to highest cost per tonne. The purpose of this curve is to graphically indicate which potential measures are the most cost effective and how much carbon reduction can be achieved.

FDN Personnel

Assessment of GHG Emission Reduction Measures



Upon completion of the curve, we split the emission reduction initiatives into three groups: 1) initiatives that are being implemented currently; 2) Initiatives that are not currently feasible; and, 3) initiatives that are deemed too expensive on a cost per tCO₂e basis, given other emission reduction options available through offsets.

In Group 1, Lundin Gold has identified three measures that both reduce emissions and bring cost savings, which are described below. Given Ecuador's low carbon intensity electrical grid, these measures will lead to significant energy and cost savings, but only limited GHG savings. One additional measure, haul optimization is already being implemented and has been included in Group 1, though it has a positive cost. Through load management on its haul trucks and the introduction of a fleet dispatch system to reduce queuing of haul trucks, Lundin Gold is working to reduce its consumption of diesel, which is expected to reduce 2% of its Scope 1 emissions as estimated using the 2021 baseline. See "[Commentary on 2022 Performance](#)".

The Group 1 measures are currently expected to reduce emissions by approximately 1,500 tCO₂e per year and generate a 5% reduction in GHG emissions against Lundin Gold's current LOM forecasted emissions for 2030.

Group Two includes additional measures which have been identified as having the potential to significantly reduce GHG emissions, but are not currently feasible. Lundin Gold will monitor these opportunities closely and, if viable, look to implement them once available to further reduce its GHG emissions by up to approximately 16,000 tCO₂e per year.





Reduction Measures Assessed

Measure	Considerations	Annual Reduction Potential	Status
Group 1 Measures: Being Implemented or Implementation Near Term			
Reduce grinding in ball mill	In 2022, Lundin Gold performed trials on reducing the particle size of material leaving the grinding circuit. The trial resulted in reduced power demands and increased gold recovery.	180 tCO ₂ e Scope 2	Implementation started in 2023
Ventilation <ul style="list-style-type: none"> Ventilation-on-demand Hard ducting for mine ventilation 	<p>Lundin Gold plans to increase the efficiency of mine ventilation by implementing the two measures described below:</p> <p>Supplying ventilation based on where it is needed for operations will lead to significant energy savings. Lundin Gold plans to implement a ventilation-on-demand system in two phases. First, underground booster fans will be manually turned off by the surface operators when they are not required for operations. Later, the process will be automated with sensors on the operating equipment to turn underground fans off when they are not required.</p> <p>Lundin Gold is replacing its flexible ducting with a rigid alternative. This will both reduce the friction associated with supplying air and reduce the frequency of leaks leading to significant energy savings.</p>	630 tCO ₂ e Scope 2	Implementation started 2023
Haul Optimization	Lundin Gold plans to reduce fuel consumption through improved load management on its haul trucks and through the implementation of a fleet dispatch system to reduce queuing of haul trucks.	650 tCO ₂ e Scope 1	Implementation started 2023
Total Group One		Approximately 1,500 tCO₂e Scopes 1&2	

Measure	Considerations	Annual Reduction Potential	Status
Group 2 Measures: Not currently feasible			
Renewable diesel for 50% of site requirements ¹	Renewable diesel production is planned to begin in 2025 at an operation in Paraguay. Lundin Gold will engage suppliers and assess the feasibility of purchasing this renewable fuel.	12,910 tCO ₂ e Scope 1	Monitoring
Power Purchase Agreement for Electrical Purchase 50% of site power	Although the carbon intensity of electricity used at FDN is low, purchasing lower carbon power for the site's operations has the potential to reduce Scope 2 emissions further. The Government of Ecuador controls power distribution in the country and several independent power producers sell low carbon power to the Government. Lundin Gold intends to engage both low carbon power suppliers and the Government to further assess this option.	2,800 tCO ₂ e Scope 2	Monitoring
Total Group Two		Approximately 16,000 tCO ₂ e Scopes 1&2	

¹Lundin Gold used 50% for analysis. Actual implementation could be more or less than 50% depending on cost and availability. Carbon savings will scale proportionately.

The Company will continue to pursue direct emission reductions through the identified measures noted above and others that may emerge through the work of the CRG.

Offsets

Lundin Gold recognizes that it is best practice for a company to prioritize reducing its own emission before relying on carbon offsets. Given the limited direct carbon reduction options currently available to Lundin Gold, we believe we can have a greater climate impact through offsets. In keeping with this approach, we have dedicated significant time and resources to assessing our options for direct emission reductions. As noted above, we have successfully identified several projects that we are implementing, as well as several others that show promise, but which are not currently available.

Considering these constraints and uncertainties Lundin Gold is committed to implementing an offset strategy with a strong connection to our operations. Lundin Gold plans to engage with existing carbon offset projects and explore the development of its own carbon offset projects, prioritizing Ecuador with the aim of supporting the local economy and reducing GHG emissions locally. Lundin Gold is also committed to preserving the rich biodiversity of the region in which Fruta del Norte is located and envisions sponsoring a local carbon offset project which reinforces this important priority.

We are currently developing an offset strategy based on the five principles which align with our commitment to responsible mining. We recognize the uncertainty relating to the use of offsets, including among issues their future availability and cost, and will endeavour to design our projects to mitigate those risks.

In future reports we will provide details on our offsets in order to increase the transparency of these efforts.

Principles of Offsets Strategy



Scope 3 Progress

We also recognize that the majority of our GHG emissions are those that occur indirectly in our value chain. We believe that meaningful climate action must address these Scope 3 emissions. After completing a detailed review of its estimates of Scope 3 emissions in 2022, Lundin Gold has resolved to continue to improve its understanding of these emissions and to identify opportunities for reductions in the most material Scope 3 categories. To date, Lundin Gold has initiated several promising areas for further assessment relating to viability and emission reduction potential. These include:

- 1 Using paste backfill additives to reduce amount of cement required
- 2 Increasing the grade of concentrate to reduce the number of tonnes shipped
- 3 Reducing grinding in the ball mill (i.e., a Scope 2 reduction that will also lead to a reduction in the amount of grinding media required)
- 4 Using LNG and bio-LNG ships to reduce emissions associated with concentrate shipping



Process Plant Ball Mill

In future reports, Lundin Gold intends to provide details on progress around our Scope 3 emissions reductions initiatives.



FDN Paste Plant

PROGRESS TOWARDS TCFD ALIGNMENT

TCFD Recommendation	Measurement of our Progress
Governance: a) Describe the Board's oversight of climate-related risks and opportunities.	●
Governance: b) Describe management's role in assessing and managing climate-related risks and opportunities.	●
Strategy: a) Describe the climate-related risks and opportunities the organization has identified over the short-, medium- and long-term.	↻
Strategy: b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.	↻
Strategy: c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	◐
Risk Management: a) Describe the organization's processes for identifying and assessing climate-related risks.	●
Risk Management: b) Describe the organization's processes for managing climate-related risks.	●
Risk Management: c) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management.	●
Metrics and Targets: a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	●
Metrics and Targets: b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	↻
Metrics and Targets: c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	↻

● Complete ◐ Developing ↻ Ongoing

CAUTION REGARDING FORWARD-LOOKING INFORMATION AND STATEMENTS



Certain of the information and statements in this Climate Change Report are considered “forward-looking information” or “forward-looking statements” as those terms are defined under Canadian securities laws (collectively referred to as “forward-looking statements”). Any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions or future events or performance (often, but not always, identified by words or phrases such as “believes”, “anticipates”, “expects”, “is expected”, “scheduled”, “estimates”, “pending”, “intends”, “plans”, “forecasts”, “targets”, or “hopes”, or variations of such words and phrases or statements that certain actions, events or results “may”, “could”, “would”, “will”, “should”, “might”, “will be taken”, or “occur” and similar expressions) are not statements of historical fact and may be forward-looking statements. By their nature, forward-looking statements and information involve assumptions, inherent risks and uncertainties, many of which are difficult to predict, and are usually beyond the control of management, that could cause actual results to be materially different from those expressed by these forward-looking statements and information. Lundin Gold believes that the expectations reflected in this forward-looking information are reasonable, but no assurance can be given that these expectations will prove to be correct. Forward-looking information should not be unduly relied upon. This information speaks only as of the date of this press release, and the Company will not necessarily update this information, unless required to do so by securities laws.

This Climate Change Report contains forward-looking information in a number of places, such as in statements relating to the GHG emissions forecast for FDN, the implementation and success of the Company’s climate strategy, the costs associated with the implementation of its strategy and its ability to meet its GHG emissions reduction target and the future availability and cost of offset credits. There can be no assurance that such statements will prove to be accurate, as Lundin Gold’s actual results and future events could differ materially from those anticipated in this forward-looking information as a result of the factors discussed in the “Risk Factors” section in Lundin Gold’s Annual Information Form dated March 31, 2023, which is available at www.lundinalgold.com or on SEDAR.

Lundin Gold’s actual results could differ materially from those anticipated. Factors that could cause actual results to differ materially from any forward-looking statement or that could have a material impact on the Company or the trading price of its shares include: risks related to political and economic instability in Ecuador; risks associated with the Company’s community relationships; risks related to estimates of production, cash flows and costs; risks inherent to mining operations; shortages of critical supplies; the cost of non-compliance and compliance costs; control of the Company’s largest shareholders; volatility in the price of gold; failure of the Company to maintain its obligations under its debt facilities; risks related to Lundin Gold’s compliance with environmental laws and liability for environmental contamination; the lack of availability of infrastructure; the Company’s reliance on one mine; security risks to the Company, its assets and its personnel; risks related to illegal mining; exploration and development risks; the impacts of a pandemic virus outbreak; risks related to the Company’s ability to obtain, maintain or renew regulatory approvals, permits and licenses; uncertainty with and changes to the tax regime in Ecuador; the reliance of the Company on its information systems and the risk of cyber-attacks on those systems; the imprecision of Mineral Reserve and Resource estimates; deficient or vulnerable title to concessions, easements and surface rights; inherent safety hazards and risk to the health and safety of the Company’s employees and contractors; risks related to the Company’s workforce and its labour relations; key talent recruitment and retention of key personnel; volatility in the market price of the Company’s shares; measures to protect endangered species and critical habitats; social media and reputation; the adequacy of the Company’s insurance; risks relating to the declaration of dividends; uncertainty as to reclamation and decommissioning; the ability of Lundin Gold to ensure compliance with anti-bribery and anti-corruption laws; the uncertainty regarding risks posed by climate change; limits of disclosure and internal controls; the potential for litigation; and risks due to conflicts of interest.

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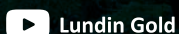
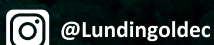
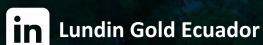
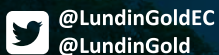
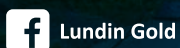
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