

FREEMPORT
FOREMOST IN COPPER

THE POWER OF COPPER



ABOUT FREEPORT-MCMORAN

Freeport-McMoRan Inc. (FCX) is a leading international mining company with headquarters in Phoenix, Arizona. FCX operates large, long-lived, geographically diverse assets with significant proven and probable mineral reserves of copper, gold and molybdenum. FCX's portfolio of assets includes the Grasberg minerals district in Indonesia, one of the world's largest copper and gold deposits; and significant mining operations in North America and South America, including the large-scale Morenci minerals district in Arizona and the Cerro Verde operation in Peru.

Cover Photo: A member of the PT Freeport Indonesia (PT-FI) environmental team conducts ongoing mangrove monitoring near our operation in Central Papua, Indonesia.





FREEMPORT
FOREMOST IN COPPER

Copper is critical
to support global
decarbonization.

OUR APPROACH

- 8 Our Strategy
- 9 Governance
- 12 Risk Management

REDUCTION

- 18 Performance
- 20 Climate Reduction Targets
- 26 FCX Decarbonization Roadmap
- 35 Scope 3

RESILIENCE

- 40 2021 Global Climate Scenario Analysis Summary
- 44 Translating Global Scenario Analysis into Action
- 47 Supporting Stakeholder Resilience

CONTRIBUTION

- 52 Copper's Role in the Energy Transition
- 54 Transition Pathway Initiative 1.5°C Assessment
- 55 Advancing Responsibly Produced Copper

ABOUT THIS REPORT

- 62 GHG Verification Statement
- 65 Assurance Statement

PERFORMANCE DATA

TCFD INDEX

September 2023



Richard C. Adkerson
Chairman of the Board and Chief Executive Officer

LETTER TO STAKEHOLDERS

Copper is the metal of electrification. Copper's essential role in current and emerging clean energy technologies is critical to global decarbonization. FCX is making a positive impact on the global energy transition by executing on our own climate strategy and delivering the responsibly produced copper necessary to support a net zero future.

I am pleased to share our decarbonization roadmap and progress in advancing key projects and initiatives which contribute to our climate strategy of reduction, resilience and contribution.

We believe in defined, measurable goals as part of our climate strategy. We have four 2030 greenhouse gas (GHG) emissions reduction targets covering nearly 100% of our Scope 1 and 2 emissions. Our absolute global Scope 1 and 2 GHG emissions in 2022 were 6% lower than our 2018 baseline levels. In 2022, we achieved positive progress on two of our four goals (PT-FI and Atlantic Copper smelter & refinery), while performance lagged against the other two (Americas copper and primary molybdenum sites).

We are committed to validating our 2030 GHG reduction targets through the Science Based Target initiative (SBTi). We are actively participating in an effort with industry peers to establish science-based targets for the copper sector based on the SBTi's Sectoral Decarbonization Approach. Accurate Scope 3 data can be difficult to obtain and will be necessary as we continue to pursue validation of our GHG targets through SBTi. We have made significant strides over the last several years to improve our Scope 3 estimates and our work is ongoing.

Over the past year, we continued to evaluate and advance several opportunities that we believe will positively contribute to our climate strategy. Achieving our targets will require a mix of strategies across our four decarbonization levers: decarbonizing electricity supply, equipment electrification, energy & asset efficiency, and process innovation. We seek to carefully evaluate each opportunity to understand potential implications to our GHG emissions, safety, cost, reliability and efficiency.

PT-FI's Grasberg operations account for approximately half of our global Scope 1 emissions. In late 2022, PT-FI completed the construction of a new dual-fuel power plant, which is currently undergoing the final stages of commissioning. The new plant provides us with additional lower-carbon intensive power and allows us to transition older diesel generation equipment to back up status. We also continue to progress plans to replace PT-FI's coal-fired power plant with a new gas-fired combined cycle facility fueled by liquefied natural gas (LNG). Early scoping study estimates indicated that a new power plant fueled by LNG could contribute to an approximate 60% reduction in PT-FI's Scope 1 GHG emissions intensity versus its 2018 baseline – doubling the reduction set out by PT-FI's current 2030 target. PT-FI is completing a feasibility study, which includes a detailed analysis of Scope 3 emissions, and is expected to be completed later this year.

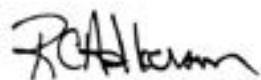
We also continue to pursue our "Copper Skies" initiative which is focused on increasing renewable and alternative energy supplies across our Americas operations. I am pleased to report that we executed a new renewable energy power purchase agreement (PPA) which is expected to transition our Cerro Verde operation in Peru to 100% renewable energy sources beginning in January 2026.

We continue to invest in innovation to advance heavy equipment electrification. We have active partnerships with Caterpillar and Komatsu to advance zero-emissions mining trucks, supporting technologies and infrastructure. Additionally, we are advancing the use of autonomous technology. We have operated fully autonomous electric trains at PT-FI for many years. In mid-2023, we made the decision to transition the haul truck fleet at our Bagdad mine in Arizona to 100% autonomous over time. The three-year conversion project will make Bagdad the first U.S. mine with a fully autonomous haulage system. This project is expected to optimize our fleet, contribute to safety and reduce GHG emissions through reduced idle time and improved operating efficiency. We believe this project will also position us to capitalize on future technological advancements in electrification.

Resilience is a core pillar of our climate strategy. Successfully managing the current and potential impacts of climate change is critical for our operations, our host communities, our customers and our other stakeholders. In early 2023, our resilience was tested by a significant rain event at the Grasberg minerals district, which approached the most extreme levels of rainfall predicted for the site. I am incredibly proud of our teams' response, focus on safety and ability to resume full operations safely and quickly.

Through a range of risk management practices, including scenario analysis, engineering, early warning systems, emergency response and more, we seek to enhance our resilience to both physical and transition climate risks across our global operations. We have conducted in-depth studies on physical risks including wet extremes, heat extremes, water stress and sea level rise. We are acting on the outcomes of this work in collaboration with our host communities and local stakeholders to further strengthen our resilience and ability to adapt.

In the three years since publishing our first Climate Report, conversations with our stakeholders about climate have intensified, innovation and technology advancement has accelerated, and the energy system that underpins our global economy has continued to evolve. As the world's largest publicly traded copper producer, we remain committed to working with our stakeholders to achieve our climate goals and to **Accelerate the Future, Responsibly.**



CLIMATE ACHIEVEMENTS 2020-2023

Establishing our Climate Strategy

- Formalized climate strategy of reduction, resilience and contribution
- Established 2030 GHG emissions reduction targets and 2050 net zero aspiration
- Committed to Task Force on Climate-related Financial Disclosures

Embedding Climate Considerations

- Added climate expertise to the Board
- Incorporated climate performance into annual executive compensation
- Completed global climate scenario analysis and follow-on studies
- Integrated climate into risk management tools
- Established an internal carbon shadow price

Ongoing Progress

- Progressing plans to replace PT-FI's coal-fired power plant
- Integrating additional renewable energy sources
- Investing in innovation to advance heavy equipment electrification
- Actively participating with Caterpillar and Komatsu to advance zero-emissions mining trucks, supporting technologies and infrastructure
- Engaging with industry peers to establish science-based targets for the copper sector based on the SBTi's Sectoral Decarbonization Approach.
- Enhancing Scope 3 emissions estimates
- Participating in efforts to understand copper's carbon footprint
- Collaborating with host communities to strengthen resilience

Electrowinning facility at our
Morenci operation, Arizona.





OUR APPROACH

FCX is a leading responsible copper producer — supplying approximately 9% of the world's mined copper. As global decarbonization accelerates, demand for copper is expected to increase. FCX is committed to meeting growing demand through our sustainability strategy — **Accelerate the Future, Responsibly**.

Our strategy is underpinned by the recognition that our products are key contributors to global progress, including the acceleration of decarbonization around the world. **Accelerate the Future, Responsibly** guides us to deliver on our company's business strategy of being **Foremost in Copper** by reinforcing our dedication to continuously advance the responsible production of our products. It also informs our stakeholders of what we stand for and is a framework that guides our decisions.

We seek not only to responsibly accelerate the future of copper and mining practices, but we also strive to enhance the future for all of our stakeholders, which is critical to delivering and maintaining shared value. We plan to continue to act on the critical social and environmental issues facing our business and our stakeholders with the aim of doing more good for our stakeholders and the planet — not just less harm.

We recognize that climate change poses considerable near- and long-term challenges for society and for our own operational and financial performance. Mining is energy-intensive and generates significant greenhouse gas (GHG) emissions that contribute to climate change. However, the copper we produce plays an essential role in global decarbonization. It is a critical component in the technologies that will be deployed in a highly electrified and low-carbon economy, including solar and wind energy and electric vehicles. These technologies are critical to support the global energy transition needed to meet the goals of the Paris Agreement.

This report seeks to provide our stakeholders with an update on our continued progress to advance our climate strategy across our three climate strategy pillars: **Reduction, Resilience** and **Contribution**.

OUR STRATEGY

As one of the world's largest copper producers, we understand our critical role in the low-carbon energy transition. We are dedicated to supplying the global economy with responsibly produced copper which includes operating in a manner that manages and mitigates our GHG emissions and other climate-related risks and impacts. Our climate strategy is comprised of three pillars:

1 REDUCTION

We strive to reduce, manage and mitigate our GHG emissions where possible. We have four 2030 GHG emissions reduction targets, covering nearly 100% of our Scope 1 and 2 GHG emissions, which help us to manage relevant, climate-related risks and support the decarbonization of our business globally. Our decarbonization initiatives can be described by four primary levers: decarbonizing electricity supply, electrification of equipment, energy and asset efficiency, and process innovation. We believe that these four levers are the foundation that will help us to further define our decarbonization roadmap to achieve our 2030 GHG emissions reduction targets and beyond.

2 RESILIENCE

We strive to enhance our resilience to climate change risks (both physical and transitional risks) for our current and future operations, our host communities and our stakeholders. This includes working to analyze and prepare for extreme weather events, water stress and other potential climate change impacts while also supporting our host communities and responding to anticipated market and regulatory demands.

3 CONTRIBUTION

We strive to be a positive contributor beyond our operational boundaries by responsibly producing the copper that will support the technologies needed to enable the energy transition. This includes collaborating with partners in our value chain and industry associations to identify climate-related solutions that will support the transition to a low-carbon economy and ultimately meet the goals of the Paris Agreement.

FCX aspires to participate in — and positively contribute to — a 2050 net zero economy.



GOVERNANCE

Sustainability is embedded in FCX's values and business strategy. Governance and oversight of sustainability ultimately resides with the Board of Directors (Board), with day-to-day management by the executive leadership and site-level management teams. Good governance requires focused and consistent leadership to ensure FCX's values and sustainability strategy are integrated into everyday operations and business decisions. We have the governance structure and processes in place to facilitate effective decision-making in furtherance of our strategy. Given the breadth and complexity of sustainability issues, our governance structure seeks to leverage our internal regulatory and technical expertise to identify sustainability-related risks and opportunities through the effective management and oversight of an interdisciplinary team.

BOARD OF DIRECTORS

The Board oversees and guides the company's business strategy and monitors the development and management of risks that impact the company's strategic goals, including sustainability-related risks. In its risk oversight role, the Board reviews, evaluates and discusses with appropriate members of management whether the risk management processes designed and implemented by management are adequate in identifying, assessing, managing and mitigating material risks facing the company, including financial, international, operational, social and environmental risks.

Certain areas of the Board's risk oversight are delegated to its four standing committees: Audit, Compensation, Corporate Responsibility and Governance. Each of these committees is composed entirely of independent directors and regularly reports to the full Board. [Committee charters](#) define the roles and responsibilities of each committee within the company's governance framework. Our Corporate Governance Guidelines, along with the charters of our four standing Board committees, provide FCX's governance framework and reflect the Board's commitment to monitor the effectiveness of policy, decision-making and performance at both the Board and management levels.

Throughout 2022, our Board continued to exercise its active oversight role including with regard to our climate strategy and related progress. The Board met six times in 2022 and also received periodic communications from our Chairman and CEO on, among other things, key environmental, social and governance (ESG) matters, including climate-related matters.

THE BOARD'S CORPORATE RESPONSIBILITY COMMITTEE

The Corporate Responsibility Committee (CRC), on behalf of the Board, oversees the company's environmental and social policies and implementation programs and related risks. The CRC reviews the effectiveness of the company's strategies, programs and policy implementation with respect to health and safety, responsible production frameworks, climate, tailings management and stewardship, water stewardship, biodiversity and land management, waste management, human rights, stakeholder relations, social performance and Indigenous Peoples, responsible sourcing and political activity and spending practices. During 2022, the CRC had four regularly scheduled meetings.

The CRC engages formally with management on the company's climate strategy, climate-related initiatives and climate performance. The four members of the CRC have diverse experience in sustainability matters, including Messrs. Dudley and Lance, who have climate expertise. Climate-related topics discussed during the 2022 CRC meetings included advancement of our climate strategy, our 2030 GHG emissions reduction targets and performance against those targets, feedback from ESG shareholder engagement on our climate strategy and related disclosures, and an update on other climate-related strategic initiatives.

To learn more about our Board, the CRC or our Governance approach, please refer to our [2023 Proxy Statement](#) and our [2022 Annual Report on Sustainability](#).



**Sustainability
is embedded
in FCX's values
and business
strategy.**

EXECUTIVE & SUSTAINABILITY LEADERSHIP

Our Chairman and CEO has ultimate responsibility for the company's sustainability performance, with active oversight from the Board. Our cross-functional Sustainability Leadership Team (SLT) includes members of management tasked with defining the sustainability strategy — including the climate strategy — and implementing our sustainability policies, systems and programs across the organization to achieve integrated decision-making for responsible production and performance.

The SLT is sponsored by our Chief Administrative Officer and is led by our Chief Sustainability Officer, with active participation from other members of the SLT, including our five business unit presidents. SLT membership also includes senior leadership from functional groups including health and safety, security, supply chain, human resources, sales, legal, compliance, sustainability and finance. The SLT regularly reviews, discusses and addresses climate-related matters in its meetings.

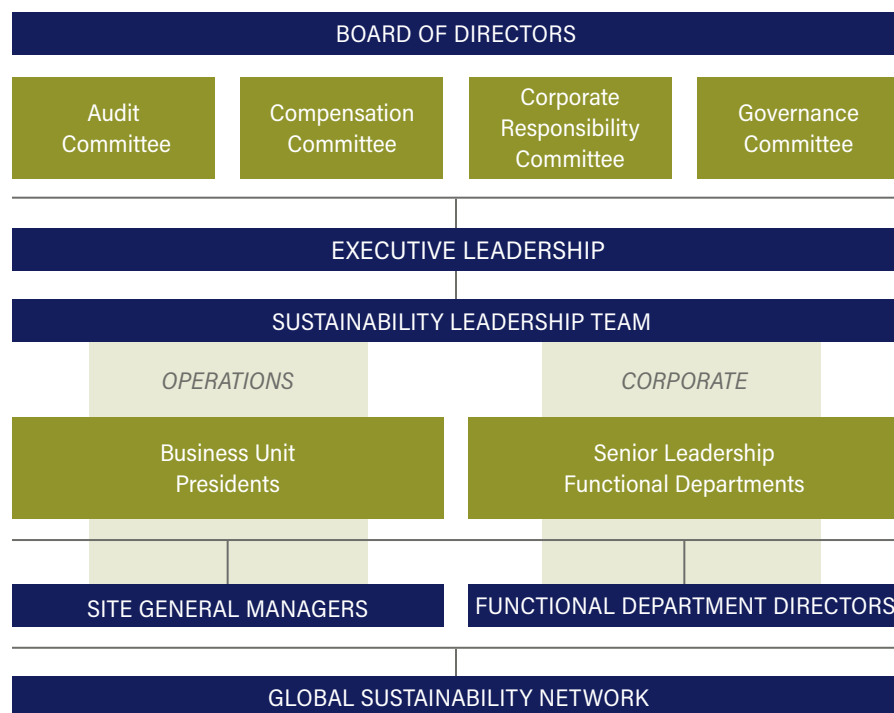
In 2022, the SLT met nine times and members of the SLT regularly reported to executive leadership, including our Chairman and CEO and our president. In addition, members of the SLT regularly report to the relevant Board committees on key ESG matters, including climate, and periodically report to the full Board.

CLIMATE TEAM

FCX has a cross-functional climate team that focuses on climate-related risks and opportunities, coordinates and implements FCX's climate strategy, and supports the business to prepare the company for the transition to a low-carbon future.

The climate team is comprised of representatives from across our business, including operations, sustainability, legal, engineering, government relations and finance, and is led by senior representatives from operations and sustainability, enabling us to integrate and operationalize our climate-related activities in an efficient manner. Periodically, members of the climate team report to the SLT on our progress implementing our climate strategy.

The climate team met three times in 2022 and focused on topics including updates on climate-related regulations, progress against FCX's GHG emissions reduction targets, including potential decarbonization projects, updates on FCX's 2021 global climate scenario analysis findings and follow-on work, and enhancements to our marginal abatement curve.



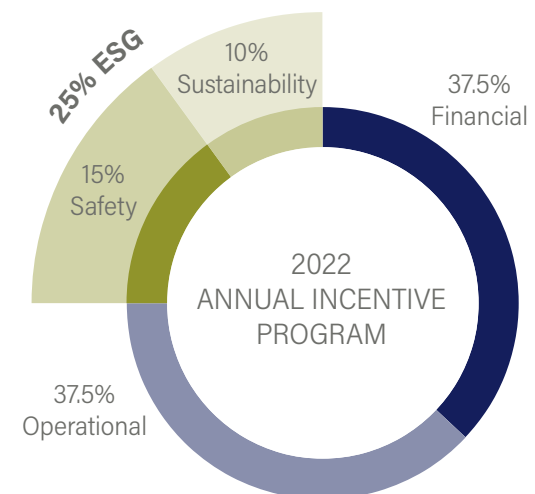
FCX has a cross-functional climate team that focuses on climate-related risks and opportunities, coordinates and implements our climate strategy, and supports the business to prepare the company for the transition to a low-carbon future.



Executive officers are held accountable for the company's ESG performance in part through the company's performance-based annual incentive program.

CLIMATE & EXECUTIVE COMPENSATION

Executive officers are held accountable for the company's ESG performance in part through the company's performance-based annual incentive program (AIP) via pre-determined ESG metrics aligned with our key ESG commitments and priorities. In 2022, ESG metrics collectively accounted for 25% of the AIP (15% safety and 10% sustainability). Since 2021, climate performance has been integrated into executive compensation, contributing to a portion of the sustainability component of the AIP. In February 2022, the Board's Compensation Committee further modified the climate metrics included in the AIP to include the development of GHG emissions reduction targets for our primary molybdenum sites and Atlantic Copper, demonstrated progress towards our existing 2030 GHG emissions intensity reduction targets for PT-FI and our Americas operations, as well as advancement of the Science Based Targets initiative (SBTi) verification process for our 2030 GHG emissions reduction targets.



RISK MANAGEMENT

We implement several processes to identify and assess climate-related risks, including our global climate scenario analyses, our sustainability risk register process (risk register) and our Enterprise Risk Management (ERM) program.

CLIMATE SCENARIO ANALYSIS

FCX conducts climate scenario analyses to identify, analyze and prepare for potential climate-related risks such as an increase in extreme weather events, water stress and opportunities such as demand growth or new market opportunities. In early 2021, we completed our first global climate change scenario analysis with support from a third-party consultant to identify potential climate-related risks and opportunities across our business considering three different climate scenarios and two different time horizons (2030 and 2050). The goal of the analysis was to gather additional information to support our ongoing climate-related decision-making and better prepare the company for possible outcomes in the short, medium and long term. Since the study was completed in early 2021, we have undertaken a significant amount of follow-on analysis to inform our strategy and operational and project plans. To learn more about our climate scenario analysis work, please refer to the [Resilience](#) section.

RISK REGISTER

We translate our responsible production commitments to everyday work through the use of our risk register which identifies, prioritizes, manages and tracks sustainability risks and actions at the corporate and site level. Defined in a global standard operating procedure, the process uses a risk assessment matrix to prioritize risks by both their likelihood and consequence, based on customized impact definitions by functional area to drive action. All risks require annual review, and detailed action plans are prepared for those rated as actionable.

The risks included in the risk register are mapped to our external commitments, including the International Council on Mining and Metals' (ICMM) 39 performance expectations and the Copper Mark's 32 ESG requirements. Our risk register assists our teams in identifying and prioritizing the most significant risks to our business and our stakeholders. We work cross-functionally to implement our various commitments, and our risk register enables site-level management teams to focus on priorities while promoting globally consistent implementation across our operations. In 2022, we developed and implemented a new digital solution to transform the risk register into a more effective tool, enabling sites to easily share identified risks and action plans while digitally connecting identified risks to other tools in the system, such as action plans, stakeholder maps and incidents.

Specific to climate, ICMM member companies are required, among other things, to implement processes for governance, engagement and disclosure; to advance site-level adaptation and mitigation solutions; to engage with host communities and others in the value chain; and to monitor and disclose Scope 1, 2 and 3 GHG emissions. In 2021, FCX contributed to the development of and signed the ICMM Climate Change Statement, which commits member companies to a goal of net zero Scope 1 and 2 GHG emissions by 2050 or sooner in line with the ambitions of the Paris Agreement. The Copper Mark requires participants to develop and implement energy efficiency programs, increase the use of renewable energy, set GHG emissions targets and report externally on both energy and GHG emissions performance at a site level according to an internationally recognized protocol.

Risks such as acute or chronic physical risks, current or emerging regulations, reputation, value chain, or others identified through our climate scenario analysis or by our operations teams are being integrated into site-level risk registers, and associated action plans are being developed and implemented. For example, our operational risks are updated annually at a minimum and now include site-specific, climate-related risks for both physical risks, such as water stress and extreme events, and transition risks, such as the cost of energy and carbon taxes.

ENTERPRISE RISK MANAGEMENT

Enterprise level risks are identified and assessed through our ERM program, designed to provide cross-functional executive insight across the business to identify and monitor risks, opportunities and emerging trends that can impact our strategic business objectives. Our ERM program provides the Board with information about the company's enterprise risk profile and allows the Board to assess and monitor the risks over the short, medium and long term, both within and outside our operational boundaries.

Our ERM management committee is comprised of senior leaders with responsibility across operations and core business functions, and with a breadth of knowledge, influence and experience covering the risks the company faces. The ERM management committee reports to our president and periodically provides reports on, among other things, business strategy, geopolitical trends, markets, people, innovation and cybersecurity risks, to the Audit Committee, the CRC and full Board.

The ERM management committee is responsible for providing input and oversight on the ERM program, which seeks to link our global operations and business functions to (1) identify enterprise risks and opportunities, (2) analyze and prioritize risks, (3) review risk control environments, including through internal audit, and determine additional management actions where warranted, and (4) monitor and report progress. Key ESG-related risks are included in the ERM program.

In 2022, the ERM function engaged company subject matter experts and third parties to further develop risk profiles for both physical and transition risks, including risk drivers, interdependencies within the broader ERM program, controls currently in place and planned response initiatives. During the year, our internal audit firm also conducted a foundational review of our physical and transition climate risk management practices. This included a review of associated roles and responsibilities, policies, procedures and related communication mechanisms.



PROJECT DEVELOPMENT SUSTAINABILITY REVIEW

As part of the internal risk review process, the Project Development Sustainability Review (PDSR) considers sustainability issues during the evaluation, and implementation of, potential expansion and development projects. The PDSR process enables us to identify, prioritize and proactively manage potential risks before a project begins and throughout its development. The process is applied during the early stages of mine expansion and project development, particularly during scoping, prefeasibility and feasibility stages so that risks may be adequately addressed early and continuously throughout, and also supports preparation for future closure of operations. The PDSR complements the risk register process and serves as a key input to the risk register once a project is operational, enhancing the integration of sustainability into decision-making across the company.

Since its inception in 2011, we have undertaken reviews and implemented actions for 38 projects. Key focus areas identified at different project stages have included: access to water, energy and materials, potential impacts to hydrology, air quality and carbon emissions, biodiversity, human rights, community receptivity, economic impacts, and land acquisition and resettlement.

We applied this process during the design phase of our Manyar smelter and precious metals refinery projects in Indonesia and are making regular updates during the construction phase. The project and corporate teams are working to address a number of actionable risks and opportunities, including risks to cultural heritage, climate change, water and human rights, among others. For example, in Indonesia, a key climate-related risk identified through our global climate scenario analysis was the potential for future water stress in the area of the Manyar smelter project located near Surabaya. PT-FI initially planned to utilize a local water source to supply the Manyar smelter. However, we recognized through our analysis that our host communities may need to rely on this water source in the future. In order to address this issue, the project team evaluated alternative water supply options and is now building a new desalination plant as the primary water source, which is supported by the Manyar smelter's proximity to the ocean.

The Project Development Sustainability Review process enables us to identify, prioritize and proactively manage potential risks before a project begins and throughout its development.



INTERNAL CARBON PRICING

In many of the jurisdictions in which we operate, governmental bodies are increasingly enacting legislation and regulations in response to the potential impacts of climate change. Carbon tax legislation has been adopted in jurisdictions where we operate, including Indonesia. We expect that such carbon taxes and other carbon pricing mechanisms will increase over time. Depending on the future state of various climate policies and the speed at which the world adopts various policies and initiatives, we recognize that all of our operating regions must prepare for carbon pricing regimes. With the benefit of our global scenario analysis (discussed in more detail in the [Resilience](#) section), as well as input and ongoing dialogue with external stakeholders and associations, FCX has established internal carbon shadow prices that include \$50, \$100, and \$150 per metric ton of CO₂ equivalent, reflecting the results and inputs from our three scenarios — no climate action (~4.0°C, formerly referred to as “Current State”), moderate climate action (~2.5°C) and aggressive climate action (1.5°C) — evaluated in our global climate scenario analysis completed in 2021.

We continue to work to integrate these internal carbon prices into our business processes to evaluate the potential impacts of an imposed carbon pricing regime on our current operations, longer-term business plans and potential future projects. We have integrated this internal carbon shadow price range into our life-of-mine plans and continue to socialize the use of internal carbon shadow prices with our project teams, incorporating its use in evaluating select projects as additional input to our decision-making for both existing operations and future projects. We recognize that climate-related policy changes are dynamic and rapidly shifting, and that our pricing assumptions must also be iterative and flexible. Accordingly, we are committed to reviewing our carbon pricing scale periodically so that the range is appropriate and relevant.



PT-FI's remote operators work above ground to safely and efficiently operate some of the most advanced haulage technology in our mines hundreds of feet below ground.





REDUCTION

As both a major consumer of energy, and a producer of the copper essential to the energy transition, we understand our responsibility to take action to reduce our own GHG emissions.

In 2020, we established our first 2030 GHG emissions reduction target for our Americas copper business and, in 2021, we established our second 2030 GHG reduction target for PT-FI (Grasberg). In 2022, we built on our momentum and established two additional 2030 GHG emissions reductions targets: one for our Atlantic Copper smelter & refinery in Spain and one for our primary molybdenum sites. Collectively, these four reduction targets cover nearly 100% of our global Scope 1 and 2 GHG emissions and help us to manage relevant, climate-related risks and support the decarbonization of our business globally.

In 2022, we signed our letter of commitment to submit our 2030 GHG emissions reduction targets to the SBTi, a collaboration between CDP, World Resources Institute, World Wildlife Fund and the United Nations Global Compact, mobilizing companies to set science-based targets. We believe that validating our GHG emissions reduction targets against the SBTi criteria is critical to understanding if our 2030 targets sufficiently align with the Paris Agreement's goals and specifically to a 1.5°C scenario.

To aid in this process, we are currently working with copper industry peers to establish science-based targets for the copper sector based on the SBTi's Sectoral Decarbonization Approach (SDA). We feel this is an important next step for the copper industry to enable robust and meaningful target-setting using a consistent methodology across Scopes 1, 2 and 3. An SBTi-aligned SDA for the copper industry would enable producers to establish intensity-based targets and would allow the copper industry to continue to grow in order to meet the demands of the global energy transition, which are expected to increase significantly in the next decade.

We have multiple decarbonization initiatives either already in process or under evaluation across our global business. These initiatives can be described by four primary levers: decarbonizing electricity supply, electrification of equipment, energy and asset efficiency, and process innovation. We believe that these four levers are the foundation that will help us to further define our decarbonization roadmap to achieve our 2030 GHG emissions reduction targets and beyond.

While Scope 3 emissions for copper are lower compared to many other metals, we have been working in recent years to better understand our Scope 3 footprint. To learn more about our continued progress in improving our Scope 3 emissions estimates, please refer to the [Scope 3](#) section.

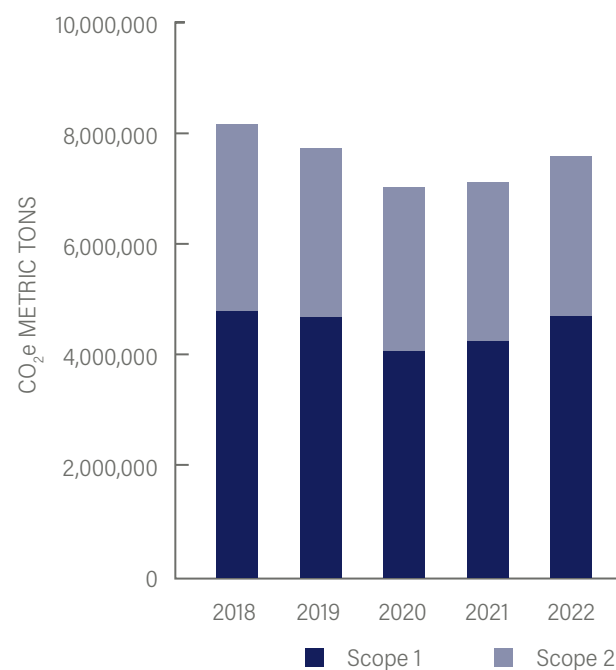
PERFORMANCE

Our global absolute GHG emissions (Scope 1 and 2) range between 7 to 8 million metric tons per year. Of this, approximately 89% comes from our copper mining operations in the Americas and Indonesia, approximately 7% comes from smelting and refining, approximately 3% comes from molybdenum mining operations, and the remaining 1% comes from other operations. Within copper mining, 64% of our GHG emissions come from mines in the Americas, with more than half of emissions attributed to Scope 2 from purchased electricity. The remaining 36% of GHG emissions from copper mining are generated by PT-FI in the form of Scope 1 emissions resulting from our coal-fired power plant that is used to generate reliable electricity for our remote operations and from diesel used to generate ancillary and backup power for mobile equipment and for other minor uses.

In 2022, our global absolute Scope 1 and 2 GHG emissions increased by 6.9% to 7.7 million metric tons from approximately 7.2 million metric tons the prior year. GHG emissions increased due to higher production rates at PT-FI, Cerro Verde, Safford and El Abra, as well as the resumption of overburden removal, production and maintenance projects previously delayed due to COVID-19. Despite the GHG emissions increase in 2022, our absolute Scope 1 and 2 GHG emissions in 2022 were 6% lower than our 2018 baseline year levels reflecting improvements in energy efficiency and grid decarbonization in recent years.

Our revised 2022 Scope 3 emissions estimates represented approximately 43% of our total Scope 1, 2 and 3 emissions. Please refer to the [Scope 3](#) section to learn more.

5-YEAR GLOBAL ABSOLUTE GHG EMISSIONS (SCOPE 1 & 2)

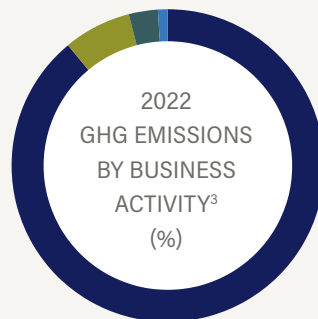




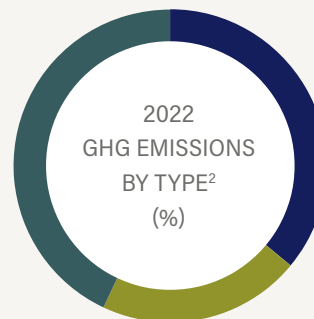
View more data in
the **Performance
Data Section**

GHG EMISSIONS

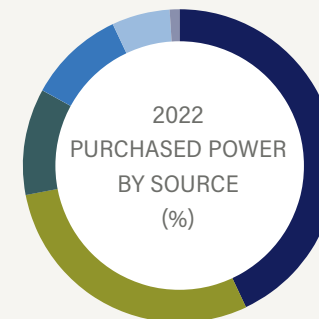
SCOPE 1 + 2 ¹ (CO ₂ e METRIC TONS)	2018	2019	2020	2021	2022
Copper Mining	7,210,910	6,884,622	6,281,624	6,452,531	6,866,853
Molybdenum Mining	265,391	277,775	221,605	197,314	236,324
Smelting & Refining	643,317	579,316	545,782	504,866	542,969
Other	42,745	47,816	41,417	35,003	39,140
Scope 1 + 2¹ Total - FCX Global	8,162,363	7,789,529	7,090,429	7,189,714	7,685,286
SCOPE 3 (CO₂e METRIC TONS)					
Scope 3 Total - FCX Global²	750,332	692,336	1,729,251	5,179,522	5,892,373



Copper Mining	89%
Smelting & Refining	7%
Molybdenum Mining	3%
Other	1%



Scope 1	36%
Scope 2	21%
Scope 3	43%



Natural Gas	43%
Hydro	29%
Coal, Other Fossil Fuels	11%
Solar, Wind, Geothermal	10%
Nuclear	6%
Other	1%

- Scope 2 emissions have been calculated using a market-based method, where available. The market-based calculation of Scope 2 emissions utilizes emission factors that are available at the time of inventory close. Emission factors are determined by each market according to their reporting schedule. Therefore, certain emission factors used in market-based calculations may be up to one year in arrears due to lag time. As required by the WRI/WBCSD Greenhouse Gas Protocol (GHG Protocol), FCX's location-based 2023 Scope 2 emissions are reported on the "Dual Reporting" tab. PT-FI generates its own electricity. As a result, there are no Scope 2 emissions associated with PT-FI operations.
- 2022 Scope 3 data has been revised since the publication of the 2022 Annual Sustainability Report in April 2023. At that time, Categories 1 to 8 (excluding Category 6) were based on spend data from the 2021 Climate Report, published in September 2022. We have since been able to update the data based on 2022 spend data.
- Reflects Scope 1 and 2 emissions only.

Note: GHG emissions data have been prepared in accordance with the GHG Protocol. FCX reports GHG emissions on a 100% operational basis. FCX's GHG emissions verification statement is available in this report, and on the Sustainability section of FCX's [website](#).

CLIMATE REDUCTION TARGETS

FCX has four 2030 GHG emissions (Scope 1 and 2) reduction targets (from our 2018 baseline year), which cover nearly 100% of our Scope 1 and 2 GHG emissions. The first and second targets seek to reduce the GHG emissions intensity¹ of our Americas copper operations² by 15% and our PT-FI (Grasberg) operations³ by 30%. The third and fourth targets are both on an absolute basis⁴ and seek to reduce the GHG emissions of our Atlantic Copper smelter & refinery by 50% and of our primary molybdenum sites⁵ by 35%. These four 2030 GHG reduction targets are detailed in the following table and pages.

We are not planning to use offsets to achieve our 2030 targets. As we develop our understanding and make plans for our 2050 net zero aspiration, we anticipate that we will need to balance residual GHG emissions with offsets and removals and plan to explore a variety of opportunities to achieve our net zero aspiration.

FCX has four 2030 GHG emissions reduction targets, covering nearly 100% of our Scope 1 and 2 GHG emissions.



View more data in the Performance Data Section

2030 GHG EMISSIONS REDUCTION TARGET PERFORMANCE

	Baseline Year 2018	2019	2020	2021	2022	Target Year 2030
Intensity Reduction Targets¹ (metric tons CO₂e/metric tons production)						
Americas Copper ² - 15% intensity reduction	3.72	3.70	3.81	3.59	3.63	3.17
PT-FI (Grasberg) ³ - 30% intensity reduction	4.76	7.73	5.40	3.71	3.52	3.34
Absolute Reduction Targets⁴ (total annual metric tons CO₂e)						
Atlantic Copper Smelter & Refinery - 50% absolute reduction	176,865	146,044	126,103	112,671	89,435	88,432
Primary Molybdenum Sites ⁵ - 35% absolute reduction	308,136	325,591	263,023	232,317	275,464	200,288

- Intensity reduction targets (CO₂e metric tons / metric ton copper) include total (Scope 1 and 2) emissions and do not include by-products in the denominator. Baseline and target are calculated and therefore may differ due to rounding.
- Americas copper (for target) includes Bagdad, Cerro Verde, Chino (including Cobre), El Abra, Morenci, Safford (including Lone Star), Sierrita and Tyrone mines as well as the Miami smelter and El Paso refinery. Our Americas copper intensity reduction target includes all payable copper, including payable copper in concentrate and cathode, but excludes rod and wire; GHG emissions associated with the production of by-product molybdenum are also included.
- Our PT-FI (Grasberg) intensity reduction target is based on payable copper produced in concentrate. In 2022, PT-FI concentrate was smelted and refined by PT Smelting (PTS) and third-party smelters/refineries whose emissions are currently accounted for as our Scope 3 emissions and therefore not included in this target. Completion of the PTS expansion and Manyar smelter project is currently anticipated to occur in mid-2024 with ramp-up completion scheduled through the end of 2024. Upon completion, we plan to review the GHG emissions categorizations for these operations. Certain of these emissions may be reclassified from Scope 3 to Scopes 1 or 2. Following this review, we may adjust our PT-FI target and baseline in line with the GHG Protocol.
- Absolute targets include total (Scope 1 and 2) emissions.
- Primary molybdenum sites target includes Climax and Henderson mines located in Colorado, U.S., and downstream molybdenum processing facilities located in the U.S., U.K. and the Netherlands (Fort Madison, Stowmarket and Rotterdam, respectively).



INTENSITY VS. ABSOLUTE GHG REDUCTION TARGETS

An intensity-based reduction target is defined as a reduction of GHG emissions per a unit of measure – for example per metric ton of production or dollars of revenue – in the target year, relative to the base year. Intensity reduction targets are useful when growth is necessary to meet rising demand or to ensure efficiency remains in focus. For this reason, we have set intensity-based targets for our copper producing business (based on production), which allows for better comparisons of GHG intensity among peers and provides an opportunity to adjust our overall approach as we seek to responsibly meet the anticipated increase in copper demand to support the global energy transition in the coming years.

An absolute emissions reduction target is defined as an overall reduction in the amount of GHG emissions emitted to the atmosphere in the target year, relative to the base year. Increases in business output can cause absolute emissions to rise even if efficiency improves on a per unit basis. Conversely, an absolute emissions reduction may also be the result of lower production rather than improvements in performance.

AMERICAS COPPER

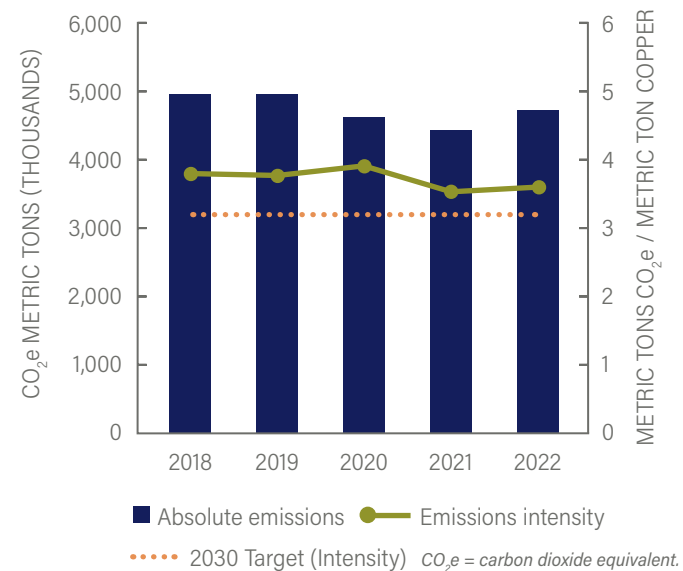
Our Americas copper GHG emissions reduction target evaluates the performance of the copper producing mines and refining facilities of our Americas operations. Our Americas target includes by-product molybdenum produced at our primary copper mines. We continue to pursue our target to reduce our GHG emissions intensity in the Americas by 15% per metric ton of copper cathode by 2030 from our 2018 baseline year.

To the right, we illustrate the absolute emissions and emissions intensity performance of our Americas copper operations through 2022. On an absolute basis, our Americas GHG emissions were approximately 4.7 million metric tons in 2022, which is 3% lower than 2018 emissions (target baseline year) but 6% higher than 2021.

Performance against our 2030 Americas copper emissions intensity reduction target is shown with the green line. In 2022, our emissions intensity was 2.5% lower than our 2018 baseline, although it was 1.3% higher than 2021. The increase from 2021 to 2022 was the result of several factors, including the resumption of production related activities deferred due to COVID-19 and several significant weather events in the winter months, which led to increased demand for natural gas and electricity, increasing emissions intensity at some sites. These weather events also resulted in lower production due to impacts to our open pit mines that cannot be mitigated during or immediately after significant rainfall due to unsafe conditions.

In support of our 2030 target, we continue to pursue opportunities to increase our supply of renewable energy through our “Copper Skies” initiative. We are also evaluating diesel-electric, ultra-class haul trucks to potentially increase load capacity, and reduce energy consumption and GHG emissions. For more information about these and other initiatives, please refer to the [Decarbonization Roadmap](#) section.

AMERICAS COPPER GHG EMISSIONS PERFORMANCE



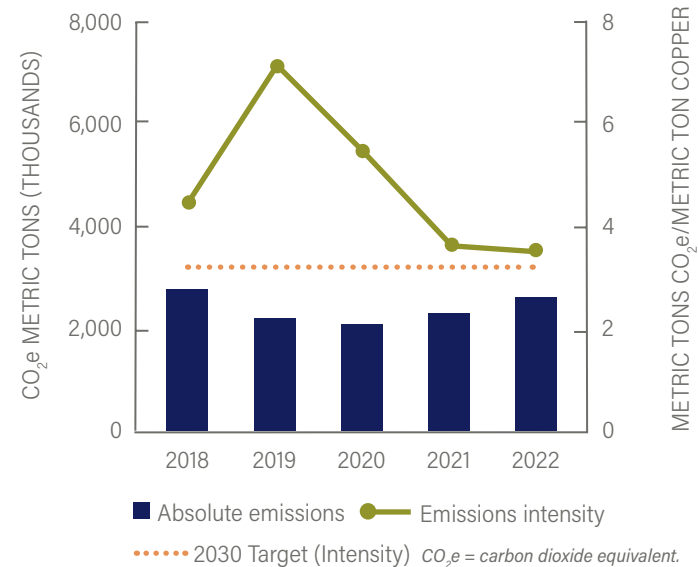
INDONESIA

PT-FI's Grasberg operations generate about one third of our global Scope 1 and 2 GHG emissions and approximately half of our global Scope 1 emissions, due in part to the high carbon intensity of its coal-fired electricity. We have committed to reduce GHG emissions intensity at PT-FI by 30% per metric ton of payable copper by 2030 from our 2018 baseline year.

In 2022, on an absolute basis, PT-FI's Grasberg emissions were approximately 2.5 million metric tons, which is 6% lower than 2018 (target baseline) emissions. Performance against our 30% emissions intensity reduction target is shown with the green line in the adjacent chart. In 2022, we continued to reduce PT-FI's GHG emissions intensity with a 5.2% improvement over 2021 and a 26% improvement since our 2018 baseline year — largely driven by the transition to fully underground mining at the Grasberg minerals district as well as increased recovery and production rates. PT-FI is also in the process of commissioning a new 129MW dual-fuel power plant (DFPP) at our port facility, which utilizes high-efficiency dual-fuel reciprocating engines on a flexible platform that can operate on either biodiesel or natural gas. The DFPP is expected to be fully permitted later in 2023. To learn more about the DFPP and our continued efforts to evaluate our transition away from coal generated energy, please refer to the [Decarbonization Roadmap](#) section.

While efforts to date have brought PT-FI very close to achieving the 30% intensity reduction target, looking ahead, we expect to see variance in our GHG emissions intensity performance due to changes in ore composition and related processing requirements, which can impact emissions intensity performance.

PT-FI (GRASBERG) GHG EMISSIONS PERFORMANCE¹



1. PT-FI does not currently generate Scope 2 emissions. As such, the PT-FI intensity reduction target includes total Scope 1 emissions only. The target excludes Scope 3 and does not include by-products in the denominator. Baseline and target are calculated and therefore may differ due to rounding.

IMPACT OF PT SMELTING AND MANYAR SMELTER PROJECT ON SCOPE 1 AND 2 EMISSIONS

Our PT-FI (Grasberg) intensity reduction target is based on payable copper produced in concentrate. In 2022, PT-FI concentrate was smelted and refined by PTS and third-party smelters/refineries whose emissions are currently accounted for as our Scope 3 emissions and therefore not included in this target. Completion of the PTS expansion and Manyar smelter project is currently anticipated to occur in mid-2024 with ramp-up completion scheduled through the end of 2024. Upon completion, we plan to review the GHG emissions categorizations for these operations. Certain of these emissions may be reclassified from Scope 3 to Scopes 1 or 2. Following this review, we may adjust our PT-FI target and baseline in line with the GHG Protocol.

ATLANTIC COPPER SMELTER & REFINERY

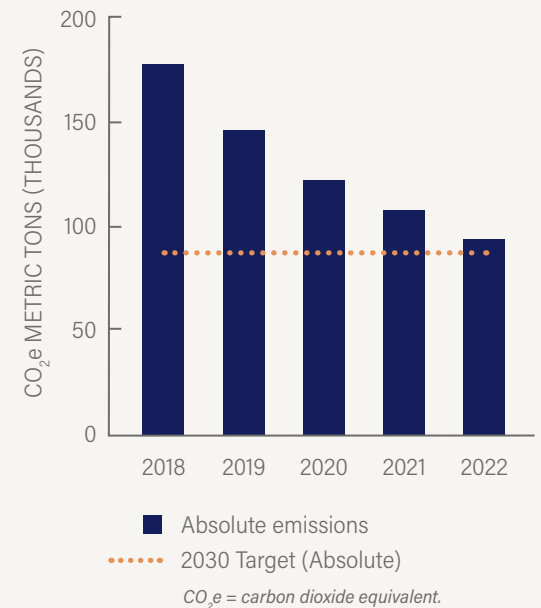
A 2021 benchmarking study by Skarn Associates ranked Atlantic Copper among the top 5% most energy efficient smelters in the world, despite being built in the 1970s. Atlantic Copper was the first copper smelter globally to be certified to ISO 50001 Energy Management System and currently consumes approximately 51% of its electricity from renewable sources or on-site, high-efficiency cogeneration.

Due to its high efficiency and sourcing of renewable energy, Atlantic Copper smelter & refinery has a lower Scope 1 and 2 GHG emissions inventory in comparison with many peers and has been working to decarbonize its operations for several years. In 2022, we established an absolute GHG emissions reduction target for Atlantic Copper that strives to reduce its absolute Scope 1 and 2 emissions by 50% by 2030, from our 2018 baseline year.

In 2022, Atlantic Copper completed a 78-day planned maintenance shutdown, which typically occur approximately every eight years. This led to a 21% reduction in its GHG emissions for the year compared to 2021 and a 49% reduction since our 2018 baseline. In 2023, GHG emissions are expected to increase to levels commensurate with production plans.

In support of our reduction target, we have identified specific opportunities for reducing Atlantic Copper's Scope 1 and 2 GHG emissions, including improving heat recovery from process gases, electrification of process heating equipment and energy efficiency projects. Atlantic Copper is also actively working to increase the share of renewable energy in its electricity supply, which is expected to support an additional reduction in its Scope 2 emissions.

ATLANTIC COPPER SMELTER & REFINERY GHG EMISSIONS PERFORMANCE



Note: We have excluded the potential future impact of Atlantic Copper's CirCular project within the scope of this target as it remains under development. The CirCular project aims to add an additional production process to the site to recycle end-of-life electronic material and increase the recycled content of our cathode, as well as produce tin and precious metals for the European electronics market. Once CirCular is operational, which is currently expected to occur in 2025, we plan to update our target as appropriate in accordance with the GHG Protocol guidelines.

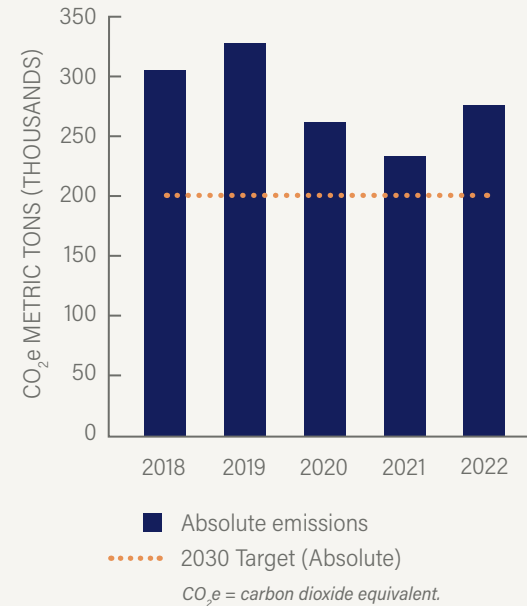
PRIMARY MOLYBDENUM SITES

In 2022, we also established an absolute GHG emissions reduction target for our primary molybdenum sites that seeks to reduce their absolute Scope 1 and 2 GHG emissions by 35% by 2030 from our 2018 baseline year. This target includes our Climax and Henderson primary molybdenum mines located in Colorado, United States (U.S.), and our three molybdenum processing facilities located in the U.S., U.K. and the Netherlands (Fort Madison, Stowmarket and Rotterdam, respectively). At our molybdenum processing facilities, we process molybdenum concentrate produced by both our primary molybdenum mines and certain of our primary copper mines where molybdenum is a by-product. However, emissions associated with mining molybdenum as a by-product are excluded from the scope of this target because those emissions are already accounted for in our Americas copper target.

Our primary molybdenum sites saw a 19% increase in GHG emissions in 2022 compared to 2021; however, GHG emissions were 11% below our 2018 baseline year. This increase was primarily due to a significant increase in production at our Climax mine (17%) and the related material movement to enable increased production rates in the future, all of which required additional material haulage and diesel use.

One of the significant drivers to achieving our primary molybdenum target will be reducing our Scope 2 emissions. The energy supplier to our primary molybdenum mines in Colorado has announced a plan to significantly decarbonize their energy system by 2030 and provide carbon-free electricity by 2050. Our emissions profile is expected to benefit directly from these plans. In addition, we are committed to evaluating carbon efficiencies in the feasibility phase of potential future projects, optimizing energy and asset efficiency and seeking other decarbonization opportunities at both our primary molybdenum mines and molybdenum processing facilities.

PRIMARY MOLYBDENUM SITES GHG EMISSIONS PERFORMANCE



Note: Primary molybdenum sites include the Climax and Henderson mines and downstream molybdenum processing facilities at Fort Madison, Rotterdam and Stowmarket.

FCX DECARBONIZATION ROADMAP

Multiple GHG emissions reduction initiatives are either already in process or are under evaluation across our global business. Collectively, we believe these initiatives are the foundation that will help us develop and further define our decarbonization roadmap to achieve our current 2030 GHG emissions reduction targets and eventually achieve our 2050 net zero aspiration. These initiatives fall into four primary levers: decarbonizing electricity supply, equipment electrification, energy & asset efficiency, and process innovations.

ILLUSTRATIVE NET ZERO PATHWAY*



Potential Availability	2022	2030 Interim GHG Targets	2040	2050 Net Zero Aspiration
1 DECARBONIZING ELECTRICITY SUPPLY	<ul style="list-style-type: none"> Renewable power at scale, with focus on wind and solar Microgrid integration, including battery storage Lower carbon power sources, such as LNG 	<ul style="list-style-type: none"> Industrial scale next generation renewable power sources such as hydrogen and geothermal 	<ul style="list-style-type: none"> Carbon capture and storage Advanced next generation renewables 	
2 EQUIPMENT ELECTRIFICATION	<ul style="list-style-type: none"> Autonomous electric trains and mobile equipment Hybrid or electric support equipment & light-duty trucks Diesel-electric haul trucks Conveyance and other haulage alternatives 	<ul style="list-style-type: none"> Autonomous and electrified or alternative fuel truck fleets Next generation trolley assist Battery storage and infrastructure 	<ul style="list-style-type: none"> Fully electrified mine equipment Advanced batteries and storage 	
3 ENERGY & ASSET EFFICIENCY	<ul style="list-style-type: none"> Artificial intelligence and machine learning In-pit crush and convey Advanced energy management Haul truck rebuild program and operator scorecards 	<ul style="list-style-type: none"> Hybrid leach-milling flow sheet with step change energy intensity improvement 	<ul style="list-style-type: none"> Continued efforts to drive efficient use and long life of equipment and infrastructure 	
4 PROCESS INNOVATION	<ul style="list-style-type: none"> Leach to the Last Drop Ore sorting Advanced block cave technology Advanced flotation Coarse particle filtration 	<ul style="list-style-type: none"> Sulfide leaching with geothermal heat and additives Next generation milling Alternative tailings approaches such as filtered or geostable tails Large scale concentrate leach plant (CLP) 	<ul style="list-style-type: none"> Integrated process flow approaches 	

*This is a high-level, illustrative net zero pathway covering only Scope 1 and 2 GHG emissions. The actual timing of commercial availability or viability of these technologies may vary from the illustration, and their inclusion in this illustration is not a commitment that FCX expects to implement any specific technology within a certain timeframe, or at all. As we develop our understanding and make plans for our 2050 net zero aspiration, we anticipate that we will need to balance residual GHG emissions with offsets and removals and plan to explore a variety of opportunities to achieve our net zero aspiration. We are not planning to use offsets to achieve our 2030 targets. See Cautionary Statement on Page 61 of this report.

SUMMARY OF DECARBONIZATION INITIATIVES BY LEVER

LEVER	DETAILS	PROJECTS IN PROCESS AND/OR UNDER EVALUATION
<p>1</p> <p>DECARBONIZING ELECTRICITY SUPPLY</p>	<p>Purchased electricity generates more than half of the GHG emissions of our Americas copper operations. Renewable energy projects and power purchase agreements (PPAs) in the U.S., Chile and Peru will be important to progressing our GHG emissions reduction efforts. In some jurisdictions where we operate, such as Chile, we benefit from using the local grid when renewables are integrated. In Indonesia, approximately 63% of our current GHG emissions generated result from our coal-fired power plant.</p>	<ul style="list-style-type: none"> Progressing the first phase of Copper Skies initiative to integrate up to 450MW in renewable power projects (wind/solar/battery storage) and PPAs in the U.S. Executed a new 160MW renewable PPA in Peru to replace the existing contract based on natural gas fueled generation Continuing to evaluate opportunities in Chile to incorporate renewable power Built and currently commissioning a new DFPP at PT-FI, which will operate initially using biodiesel and evaluating feasibility to transition to LNG
<p>2</p> <p>EQUIPMENT ELECTRIFICATION</p>	<p>Electrification of our haul trucks and other ancillary and light-duty equipment will be critical to decreasing our Scope 1 GHG emissions across our global operations. There is not currently a commercially viable alternative to the diesel-fuel haul trucks used at our open-pit operations. Electrification of ancillary equipment and light-duty vehicles can also support our efficiency and potentially reduce ventilation demands at our underground operations at PT-FI.</p>	<ul style="list-style-type: none"> Continue to participate in Caterpillar's Early Learner program and Komatsu's GHG Alliance Currently completing second year of two-year trials of 400-ton diesel-electric Komatsu and Caterpillar trucks at Cerro Verde; evaluating a full diesel-electric fleet as a future platform for further electrification, including trolley assist systems Initiated a project to convert Bagdad's haul truck fleet to autonomous and evaluating options at other sites Designed, built and currently operating an autonomous electric train at PT-FI underground Evaluating in-pit crushing and conveying at several mine sites Evaluating and testing various options for electrifying ancillary and light-duty equipment Actively involved in industry groups to create pathways for decarbonization
<p>3</p> <p>ENERGY & ASSET EFFICIENCY</p>	<p>Increased energy and asset efficiency at our sites can help support both our operational- and emissions-related performance. For example, by providing our operators with predictive data from machine learning technology, we have successfully enhanced concentrator throughput and efficiency at certain of our sites. FCX also has an extensive haul truck rebuild program to extend the life of our existing equipment, which avoids capital and Scope 3 GHG emissions. Sites are also working to identify other potential efficiency projects that will support GHG emissions reductions.</p>	<ul style="list-style-type: none"> Digital twin technology Energy management systems Several mill recovery improvement projects underway, including trials of new technology related to flotation Improvements to high pressure grinding mill circuits Haul truck cycle-time improvements; digital haul truck operator scorecards (HTOS) Haul truck rebuild program to extend equipment life
<p>4</p> <p>PROCESS INNOVATION</p>	<p>Through process innovations, such as Leach to the Last Drop, we are advancing efforts to improve copper recovery from our leach processes, including initiatives across our North America and South America operations to incorporate new applications, technologies and data analytics. Our CLP innovation allows for the hydrometallurgical processing of copper sulfide concentrates and advanced processing of molybdenum concentrates. For copper, CLP is a less energy intensive alternative to smelting, and for molybdenum, CLP results in a more refined product directly at the mine site.</p>	<ul style="list-style-type: none"> CLPs at Morenci and Bagdad are operational Internal and external initiatives underway to advance sulfide leaching technologies and to drive continuous recovery improvement; focused on traditional ores and ores that had been considered difficult to leach, like chalcopyrite In research and development phase and conducting in-field trials at existing leach stockpiles and future opportunities to recover copper from below mill cut-off grade material

DECARBONIZING ELECTRICITY SUPPLY

Americas

Purchased electricity generates more than half of our GHG emissions at our Americas operations, making this a critical focus area for our decarbonization efforts in the next decade. In 2022, renewable energy sources including solar, wind, biomass and hydroelectricity, accounted for 15% of total FCX energy consumption.

In North America, we are a major retail customer of several electric utility companies. The absence of organized electric power markets in the southwestern region of the U.S. is a challenge to the pace of grid decarbonization due to both regulatory and commercial constraints that have historically restrained growth in the renewable energy markets. Despite this, we believe FCX is well-positioned in North America to accelerate the delivery of renewable sources of electricity to our mine sites because we are vertically integrated into the electricity value-chain. We deliver approximately 70% of our own electrical energy needs in North America through wholesale contracts and have the ability to directly contract with developers to secure renewable energy to help achieve our goals.

We are actively seeking opportunities to integrate more renewable energy supplies at our North America operations as part of our Copper Skies initiative. The first phase of Copper Skies aims to establish renewable energy projects for our North American operations with the potential to integrate up to 450MW of renewable capacity into our power supply. The projects under evaluation include wind, solar and energy storage, and we hope to be able to integrate them into our operations by the end of 2028 or as quickly as market conditions allow. In 2022, we experienced slower-than-planned progress due to the permitting process and demand and changing dynamics in the renewables market. We continue to engage a third-party advisor to help us advance phase one of the initiative by engaging with the renewable energy development market, including pursuing PPAs.

In South America, open, competitive electricity markets allow our operations to contract directly with energy generation suppliers. We believe this structure provides more opportunity, compared to our operations in North America, to more rapidly decarbonize our electricity supply.

At our Cerro Verde operations in Peru, we currently purchase power through two PPAs (natural gas and hydroelectric). The hydroelectric PPA is due for

renewal in 2029, and the natural gas PPA is due for renewal in 2025. In mid-2023, we signed a new 160MW renewable energy PPA which will replace the primarily natural gas based PPA that expires in 2025. This new PPA will provide a fully renewable source of energy and, together with our hydroelectric PPA is expected to transition Cerro Verde to fully renewable energy sources in 2026.

At our El Abra operations in Chile, we have one PPA, primarily supplied from natural gas fueled generation, in effect through 2028. The electricity grid in Chile has significantly reduced its carbon intensity in recent years, and in early 2023, we reached an agreement with a low-carbon energy provider to facilitate the incorporation of certified renewable energy within our existing PPA, where possible.

Indonesia

The high elevation and remote location of PT-FI's Grasberg operations create a challenging environment for delivery of reliable power. Currently, PT-FI's electrical power is primarily supplied by our coal-fired power plant, with an installed capacity of 198MW, which was built in 1998. Diesel generators, with an installed capacity of 130MW, provide peak and backup capacity.

To support the additional anticipated energy requirements for the expanded underground operations as well as energy required to process changing ore bodies over time, PT-FI identified an opportunity to integrate a lower-carbon power source at our operations with the development of a new 129MW DFPP. PT-FI is currently commissioning the plant and expects to receive the final permits later in 2023. The plant will provide the additional power needed and enable us to transition our older diesel generation equipment at the mill to backup status (from providing approximately 18% of our total power in our 2018 baseline year).

The DFPP was designed to use high-efficiency dual-fuel reciprocating engines on a flexible platform that can operate on either biodiesel fuel or natural gas. PT-FI is actively studying the feasibility of switching the fuel supply to LNG (as outlined on the following page), which could further reduce GHG emissions and provide other benefits, including potential energy cost savings and a potentially significant reduction in PT-FI's NOx emissions at the port.

PT-FI (GRASBERG): LNG & RENEWABLE ENERGY EVALUATION

In 2022, we continue to progress plans to replace PT-FI's existing coal-fired power plant at Grasberg with a new gas-fired combined cycle facility fueled by liquified natural gas (LNG). The findings from the preliminary scoping study completed in 2022 showed LNG has the potential to be an especially durable, lower-carbon energy source for our remote and complex operations in Central Papua, Indonesia. Following the scoping study, PT-FI initiated a comprehensive feasibility study which is ongoing and currently expected to be completed by the end of 2023.

The feasibility study is evaluating the full replacement of the existing coal-fired power plant with a new power plant and the potential to provide a supply of LNG for both the DFPP and a new power plant. The feasibility study contemplates LNG supply will be based on a floating storage and regasification unit (FSRU) permanently moored offshore of the port, where commercial LNG carriers would deliver LNG to the FSRU. Given the shallow depth of the Amamapare port, LNG would then be delivered to the port via a newly constructed subsea pipeline. The feasibility study includes a Scope 3 analysis to evaluate how upstream Scope 3 emissions may be affected by production, shipping and unloading of the LNG as well as other support services.

While we acknowledge that LNG is not a renewable energy source, a new power plant fueled by LNG does have the potential to significantly reduce PT-FI's GHG emissions intensity at Grasberg compared to the existing coal-fired power plant. Early scoping study estimates showed a potentially significant reduction in PT-FI's Scope 1 GHG emissions of approximately 1.1 million metric tons of CO₂ equivalent per year or approximately 60% reduction in PT-FI's Scope 1 carbon emissions intensity versus our 2018 baseline — double the reduction set out by PT-FI's current 2030 target.

We are encouraged by the potential to achieve a meaningful reduction in PT-FI's Scope 1 GHG emissions where solar and wind face challenges to becoming stable, single-energy solution to powering one of the world's largest copper and gold mining operations. Over the years, PT-FI and other third-parties have conducted various analyses to evaluate the viability of integrating more renewable energy sources into the energy mix. There are challenges; wind resources are poor in the region and while solar resources could be economically viable in certain applications, the opportunities are small in scale. Hydroelectric generation resources exist near our operations and in other areas in Central Papua; however, we do not currently believe this option is viable because of high capital costs and long development timelines. Despite these challenges, PT-FI continues to investigate renewable energy generation options to determine viability at both the small and large scale.

PT-FI ALTERNATIVE ENERGY EVALUATION CONSIDERATIONS

RENEWABLE TYPE	OPPORTUNITIES	CHALLENGES
Hydro Power	<ul style="list-style-type: none"> Large-scale run of river hydro power has potential to provide a significant percentage of PT-FI's energy requirements Could also be potential opportunity to support energy requirements for local communities Higher availability than other renewable resources 	<ul style="list-style-type: none"> Could potentially allow PT-FI to retire some thermal generation, but it would not provide 100% firm capacity and thermal generation could not be fully retired Would require significant deforestation and potential impact to remote communities Presents engineering challenges (e.g., tunneling) High capital costs Extended project development timeline (likely 8+ years) Project size and scale would likely require partner(s)
Solar Power	<ul style="list-style-type: none"> Smaller-scale utility projects could potentially be economically viable to support incremental power needs Potential to complement existing thermal generation by displacing some energy needs during hours that solar generation is available Potential opportunity to support community power requirements 	<ul style="list-style-type: none"> Photovoltaic power potential is low given significant cloud cover and climate in Central Papua (one of the world's wettest places) Suitable land in our area of operations is extremely limited for meaningful scale Would require significant deforestation to clear land and potential impact to communities Physical security and maintenance of solar installation would need to be carefully managed
Wind Power	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Wind resources in our operations area are well below the threshold required for viable wind power generation projects Scale and reliability not practical given energy requirements

EQUIPMENT ELECTRIFICATION

FCX is committed to working collaboratively to develop and advance technologies that will support decarbonization. Equipment electrification offers significant opportunities to decarbonize at both our open-pit and underground mines, by switching from less efficient fuel combustion and leveraging our electricity decarbonization efforts. We recognize that electrification of our haul trucks and other ancillary and light-duty equipment will be critical to decreasing our Scope 1 GHG emissions across our global operations.

In 2021, we joined and participated in the Charge on Innovation Challenge (the Challenge) as a patron supporter. The Challenge was a global competition expected to drive technology innovators across all industries to develop new concepts and solutions for large-scale haul truck electrification systems aimed at significantly cutting emissions from surface mining. FCX continues to engage with two of the innovators focused on next generation trolley assist systems and fast charging stations.

Through our membership in ICMM, we participate in the Innovation for Cleaner, Safer Vehicles (ICSV) initiative. The goal of ICSV is to accelerate the development of a new generation of mining vehicles and improve existing vehicles in order to introduce emission-free surface mining vehicles to minimize the operational impact of diesel exhaust and to develop vehicle collision avoidance technology for the mining industry.

Americas

At our Americas operations, we are evaluating diesel-electric, ultra-class haul trucks to potentially integrate into our decarbonization roadmap for our open-pit mines. These high-payload-capacity, diesel-electric haul trucks can add value through reduced fleet sizes which can support improved operating efficiencies and reduced unit costs.

In 2022, we joined Caterpillar's Early Learner program and Komatsu's GHG Alliance, which are focused on the development and advancement of zero-emissions mining trucks and other potential decarbonization solutions. Each program outlines a potential equipment decarbonization roadmap for haul trucks, which currently accounts for a significant portion of our Scope 1 emissions. The programs are designed to support companies as electrified equipment and supporting electrical infrastructure and technologies are deployed at our sites, while simultaneously accelerating the development of viable solutions with a focus on safety, cost, production and decarbonization. As part of our evaluation process, we have commissioned seven 400-ton class diesel-electric trucks – four from Caterpillar and three from Komatsu – for use at our Cerro Verde operations in Peru. As the trucks operate and generate critical data on haulage variables such as fuel efficiency and timing, we are leveraging the learnings for ourselves, and we are sharing the data and learnings with Komatsu and Caterpillar to help inform future models and drive continued innovation.

The diesel-electric trucks can also provide us with a more flexible platform for the future as we evaluate and consider enabling technologies, such as trolley assist systems. When diesel-electric trucks are coupled with these technologies, we estimate fuel consumption could be reduced by 20% to 30% compared to mechanical-drive trucks.

FCX is also participating in regional hydrogen innovation collaborations. In the U.S., an initiative called H2Hubs establishes networks of hydrogen producers, consumers and local connective infrastructure to accelerate the use of hydrogen as an alternative to fossil fuel-based energy. As part of this initiative, FCX is participating in the Southwest Clean Hydrogen Innovation Network to complete an assessment of potential hydrogen use at our mines. FCX has also joined two consortia in South America, H2-Chile and H2-Peru, which are both collaborative efforts between public, private and academic entities focused primarily on enabling the use of hydrogen in haul trucks and to support the energy transition more broadly.



ADOPTING AUTONOMOUS TECHNOLOGY AT BAGDAD

In mid-2023, FCX approved a new project to convert the fleet of 33 haul trucks at our Bagdad mine in Arizona to become fully autonomous over the next three years. This conversion project will make Bagdad the first U.S. mine with a fully autonomous haulage system.

This project is expected to optimize our fleet, improve operating efficiency and contribute to safety by removing our people from this area of the operation. The first two years of the conversion project will be spent retrofitting the existing haul trucks with autonomous technology, installing new supporting equipment and infrastructure, and training our workforce to safely operate and service the new technology. In the third year, the autonomous haul trucks are expected to come online.

By embracing this technology, Bagdad's GHG emissions from haul trucks are projected to decline as a result of reductions in idle time and overall efficiency improvements. Manned trucks often have to sit idling for, among other things, operator breaks, shift change, fatigue and coaching. Preliminary estimates indicate that we will be able to reduce idle time by more than 10,000 hours per year.

Although full electrification of haul trucks on a large scale is still years in the future, autonomous haul truck technology is an important step toward electrification. Rather than waiting for electrification technology to be developed and attempting to embrace it all at once, by transitioning Bagdad now, we believe we will be able to learn more about autonomous technology and how to leverage that technology before battery-operated haul trucks are introduced.

Indonesia

PT-FI's Grasberg block cave mine is the largest block caving operation in the world with a projected peak capacity of approximately 130,000 metric tons per day in 2024. As part of the underground mine development, PT-FI designed and built an autonomous electric train system to move ore through underground tunnels rather than traditional, diesel-powered trucks. The fully autonomous trains drive themselves to and from the loading chutes and unloading stations, with ore cars loaded remotely by operators at a surface control room. This highly efficient method of gathering and transporting the mined ore to the crushers not only reduces workforce exposure to ground failure, wet muck spills and air contaminants, but also supports reduced emissions by reducing the ventilation needs associated with diesel trucks. From a carbon perspective, this results in an approximately 80,000 metric ton net reduction in CO₂ equivalent per year (excluding Scope 3 and at full capacity) versus a comparable fleet of diesel trucks designed to do the same task.



ENERGY & ASSET EFFICIENCY

Energy Efficiency

FCX utilizes digital twin technology, which uses machine learning to study how equipment has historically operated and then provides predictive instructions to operators to support higher efficiencies and throughput moving forward. We continue to apply the digital twin technology to our concentrators across our Americas operations. Overall, our processing plants operate more efficiently with digital twin technology integration and increasing equipment utilization, resulting in lower GHG emissions per ton of copper produced.

Asset Management & Optimization

As our mines continue to develop and progress, they are inevitably getting deeper, and the ore grades are declining. This impacts the overall mine profile by way of longer haulage routes and increased haulage fleet sizes to achieve the same metal production. The adverse impact it has on GHG emissions intensity creates both challenges and opportunities for our operations to reassess and further unlock our potential to optimize mine plans, equipment selection, leverage operational best practices and deploy enabling technologies. Managing the impact of declining ore grades and deeper mines are an industry-wide challenge, which FCX recognizes as a key objective.

To address these challenges, over the last decade, we have sought to become leaders in asset optimization – maximizing the performance and overall life cycle of our haul trucks. This has enabled us to achieve greater efficiencies and reduce fleet sizes at each of our operations. It translates into lower capital and operating costs, as well as reduced energy requirements and GHG emissions. Specific to our Americas operations, we measure each haul truck's actual cycle-time versus the planned cycle with emphasis on the individual components of the cycle. This has further been enhanced by our uniquely developed haul truck operator scorecard (HTOS), which allows us to engage and involve our equipment operators in identifying opportunities for improvement and implementing meaningful solutions. By putting the operational data collected by the HTOS directly in the hands of our operators, they are better able to gauge and improve their day-to-day performance by adjusting their operational practices, improving safety and optimizing the overall haulage cycle. HTOS was launched in 2021, and 2022 was the first full year of the program. As the HTOS program continues into 2023, it has demonstrated increased haulage efficiency with further incremental reductions in actual haulage cycle-time performance versus plan, and with significant reductions in both cost and GHG emissions.

We seek to be a leader in asset optimization – maximizing the performance and overall life cycle of our haul trucks.



4

PROCESS INNOVATION

Conventional leaching requires less energy than smelting by using chemicals to remove copper from ore. When applied to oxidized copper ores, conventional leaching typically recovers between 35% and 85% of contained copper. Recovery rates depend on a variety of factors, including mineralogy, particle size, acid levels, copper grade and the length of the leaching process. Our team of experts designs each of our leaching processes by modeling these variables with the aim of optimizing recovery.

FCX believes it currently has an estimated 38 billion pounds of copper in our active leach stockpiles that has not been accounted for in our traditional leaching approach, as it had previously been considered either uneconomic and/or unrecoverable. Because this copper is already contained within our stockpiles, it does not require additional mining. If successful, our leaching initiatives could enable us to provide additional copper production with a lower carbon and water-intensity footprint. We are currently targeting an annual run rate of approximately 200 million pounds of copper per year through these initiatives by the end of 2023, with potentially larger opportunities in the future.

To address this opportunity, we initiated Leach to the Last Drop which is focused on further optimizing our approach to leaching with the aim of enhancing recovery rates closer to 85%.

As part of this program, operations teams use advanced computational modeling and improved sensors to better understand how to optimize our current leaching approaches. We also are piloting a new approach aimed at leaching a type of ore called chalcopyrite, which has traditionally been considered unsuitable for the leaching process. If successful, this new approach could enable us to leach existing stockpiles and could be applied more broadly across our global operations. It also has the potential to enable elimination of the milling and smelting steps in traditional chalcopyrite processing, which could reduce water and energy consumption.

We are continuing our work to apply covers to the leach stockpiles because heat retention has been found to enhance recoveries. From late 2021 through June 2023 we covered approximately 47 million square feet with clear plastic sheeting. This represents about one third of our total leach area.

We are also working to advance our existing CLP innovation in place at Morenci and Bagdad which allows for the hydrometallurgical processing of copper sulfide concentrates and advanced processing of molybdenum concentrates, respectively. For copper, CLP allows us to skip the energy intensive smelting step, and for molybdenum, CLP results in a more refined product directly at the mine site, rather than shipping overseas for processing. In both cases, CLP reduces associated energy and carbon emissions.



Our team of experts designs each of our leaching processes by modeling these variables with the aim of optimizing recovery.

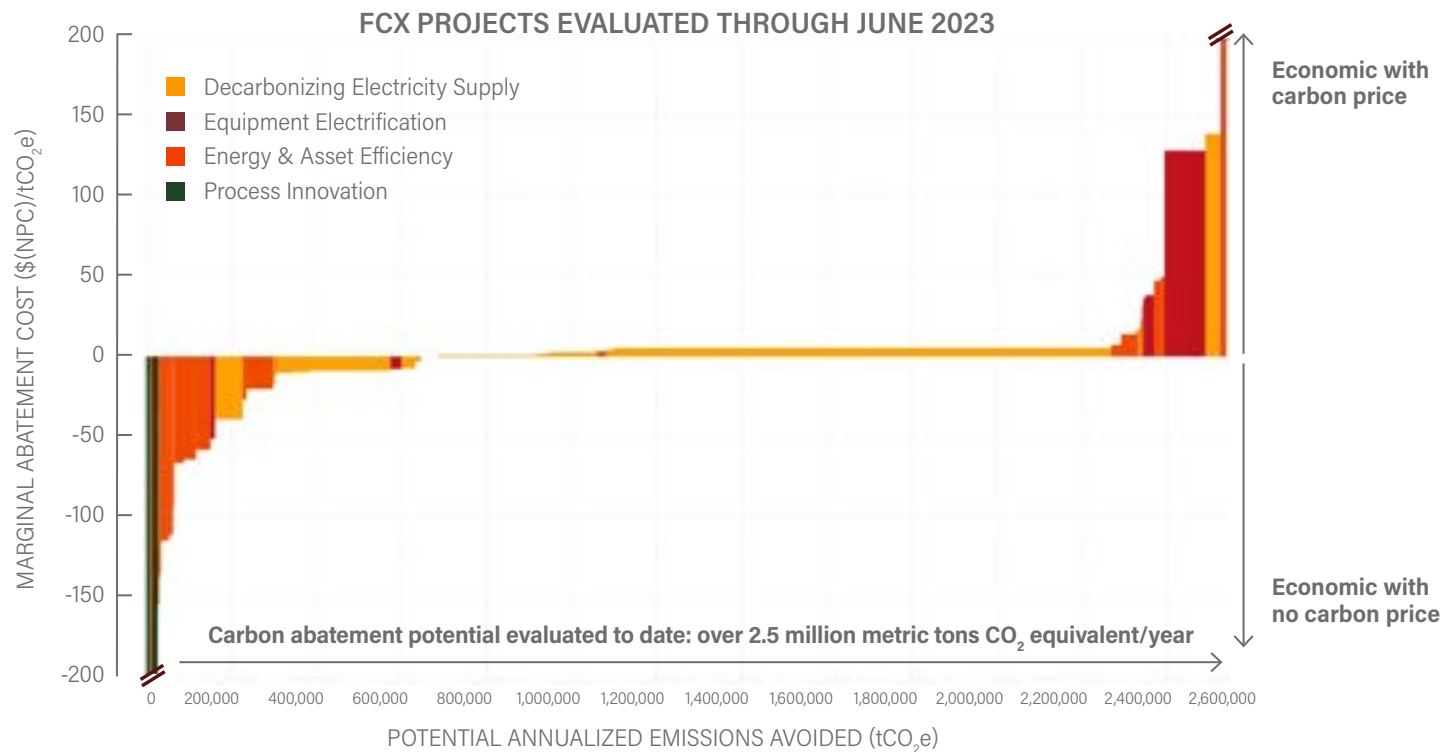
ABATEMENT CURVE DEVELOPMENT

A marginal abatement cost curve (abatement curve) is a tool to help consider potential emission reduction initiatives by visually communicating an estimated carbon abatement potential of a given project against its hypothetical economics (expressed in net present value or costs (NPC) per metric ton of carbon dioxide abated per year). Abatement curves can provide an indication of which projects could be economical with or without a carbon tax or incentive and the potential Scope 1 and 2 GHG emissions reduction on an annual basis by project. In late 2021 and early 2022, FCX engaged Partners in Performance, a global management consulting firm, to help develop a conceptual abatement curve for projects at four sites, which comprise 50% of our total Scope 1 and 2 GHG emissions.

Over the last year, we have built capacity internally and enhanced our processes to expand the scope of our original abatement curve work. As a result, we have now incorporated projects from an additional five sites, providing what we believe is a more diverse view of potential decarbonization projects across

different types of operations and jurisdictions. Going forward, we plan to continue evaluating and adding projects to our global abatement curve.

Throughout our decarbonization road mapping efforts, we have studied production plans and forecasted energy needs, as well as projected emissions through the life of the included operations. We then evaluated potential project opportunities across each of our four decarbonization levers (i.e., decarbonizing electricity supply, equipment electrification, energy and asset efficiency, and process innovation). For each potential project identified, we gathered traditional cost, engineering and timing data as well as potential reductions in GHG emissions. Potential projects were then plotted on an abatement curve and evaluated. Curves were shared across site teams to generate ideas and share projects and approaches. The graphic below reflects a view of the currently identified projects by lever for the nine sites and demonstrates their estimated potential contribution to our decarbonization roadmap.



Note: Range of net present value or costs is presented from -200 to 200 for visual simplicity; actual range is between -560 and 687. This abatement curve currently includes nine sites and reflects preliminary estimates based on site assumptions and engineering assessments. Includes Scope 1 and 2 emissions only on a CO₂e basis; Scope 3 emissions excluded. Abatement curves, including estimates of annualized emissions, are based on projections, plans, estimates, forecasts and assumptions, which may ultimately not prove to be realized.

SCOPE 3

Scope 3 emissions occur both upstream and downstream of our operations. Upstream emissions result from production of materials and fuels that we use in our processing such as lime, explosives, chemical reagents and diesel, as well as the emissions associated with copper concentrates we purchase for our Atlantic Copper smelter and refinery in Spain. Downstream emissions result from transport, further refining or transforming of our copper into useable products.

Generally, Scope 3 emissions for copper are low compared to many other metals as a result of the relatively minimal downstream processing required to transform copper cathode into various forms, such as wire for electrical cables. In addition, in use, copper is typically transmitting electricity or in a use that requires no energy, such as plumbing fixtures, roofing, surfaces, etc. For some metals other than copper, Scope 3 emissions can be multiple times their combined Scope 1 and 2 emissions. For FCX, our revised 2022 Scope 3 emissions¹ estimates represented approximately 43% of our total Scope 1, 2 and 3 emissions.

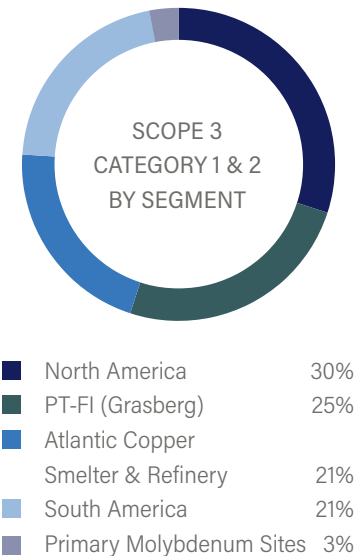
As we continue to advance our Scope 1 and 2 decarbonization efforts, we anticipate our Scope 1 and 2 emissions will decrease over time. On a proportional basis, this will continue to impact the total percentage that our Scope 3 emissions represent of our Scope 1, 2 and 3 emissions profile. In 2022, PT-FI concentrate was smelted and refined by PTS and third-party smelters/refineries whose emissions are currently accounted for as our Scope 3 emissions. Completion of the PTS expansion and Manyar smelter project is currently anticipated to occur in mid-2024 with ramp-up completion scheduled through the end of 2024. Upon completion, we plan to review the GHG emissions categorizations for these operations. Certain of these emissions may be reclassified from Scope 3 to Scopes 1 or 2.

We recognize that there is increasing pressure on companies to better understand and reduce their Scope 3 emissions. Robust, high-quality data is imperative to both understand our current performance as well as to establish a credible reduction pathway that will contribute to meaningful climate action. Because Scope 3 emissions are generated by other parties (i.e., they are other companies' Scope 1, 2 and 3 emissions) they are more difficult to estimate accurately. As a result, we have been working extensively over the last several years to improve our Scope 3 estimates. This includes improving the specificity in our estimates by using more accurate methods such as process-based Life Cycle Assessment (LCA) data and working to gather data directly from significant suppliers.

UNDERSTANDING OUR FOOTPRINT

The majority of FCX's Scope 3 emissions are currently calculated using a spend-based method, which means the estimates may overestimate or underestimate actual emissions due to a lack of precision.

Category 1 (Purchased Goods and Services) and Category 2 (Capital Goods) represent a majority (52%) of our Scope 3 inventory. Within Categories 1 and 2, the largest source of emissions (18%) result from the production of purchased third-party copper concentrate and other forms of copper for the Atlantic Copper smelter, where we estimate emissions based on the quantity purchased and, where available, site-specific carbon intensity information. The remainder of Categories 1 and 2, including reagents, lime and explosives, are calculated using a spend-based methodology and environmentally extended input-output (EEIO) emission factors. Categories that remain largely spend-based include Categories 3, 4, 5 and 7. Categories 9 and 10 are calculated using activity data such as distance or mass in conjunction with industry-average emission factors. Categories 8, 11, 12, 13, 14 and 15 are either not applicable or have a minor impact, in line with the GHG Protocol. Further detail about our calculation methodology can be found in the [Performance Data](#) section.



1. 2022 Scope 3 data has been revised since the publication of the 2022 Annual Sustainability Report in April 2023. At that time, Categories 1 to 8 (excluding Category 6) were based on spend data from the 2021 Climate Report, published in September 2022. We have since been able to update the data based on 2022 spend data.

A summary of our revised 2022 Scope 3 emissions estimates is provided below. These data have been reviewed by our third-party verifier, GHD, whose assurance statement is available in the [About this Report](#) section and on our [website](#).

SCOPE 3 EMISSIONS INVENTORY DEVELOPMENT

(CO ₂ e METRIC TONS)			
	INVENTORY REVIEW		
	Estimated FY 2020 Emissions	Estimated FY 2021 Emissions	Estimated FY 2022 Emissions
	<i>As of 2020 Climate Report</i>	<i>As of 2021 Climate Report</i>	<i>As of 2022 Climate Report¹</i>
Upstream			
Category 1: Purchased goods and services	323,012	2,849,703	3,087,916
Category 2: Capital goods	To be calculated	Included above	Included above
Category 3: Fuel and energy-related activities	225,358	551,616	938,832
Category 4: Upstream transportation and distribution	To be calculated	426,360	331,996
Category 5: Waste generated in operations	Minor Impact	8,665	6,254
Category 6: Business travel	1,684	1,315	4,667
Category 7: Employee commuting	Minor Impact	14,485	12,764
Category 8: Upstream leased assets	Not applicable	Not applicable	Not applicable
Downstream			
Category 9: Downstream transportation and distribution	336,159	442,010	399,201
Category 10: Processing of sold products	843,038	885,367	1,110,743
Category 11: Use of sold products	Minor Impact	Minor Impact	Minor Impact
Category 12: End-of-life treatment of sold products	Minor Impact	Minor Impact	Minor Impact
Category 13: Downstream leased assets	Not applicable	Not applicable	Not applicable
Category 14: Franchises	Not applicable	Not applicable	Not applicable
Category 15: Investments	Not applicable	Not applicable	Not applicable
Total Scope 3 Emissions	1,729,251	5,179,522	5,892,373

1. 2022 Scope 3 data has been revised since the publication of the 2022 Annual Sustainability Report in April 2023. At that time, Categories 1 to 8 (excluding Category 6) were based on spend data from the 2021 Climate Report, published in September 2022. We have since been able to update the data based on 2022 spend data.

Note: GHG emissions data have been prepared in accordance with the GHG Protocol, and we have expanded our Scope 3 emissions calculations to include additional categories. A majority of Category 1 emissions data were calculated using environmentally extended input-output (EIO) analysis, using purchasing data and the U.S. Environmental Protection Agency's emission factors. Emissions estimates for Category 1 and Category 3 include emissions associated with lime, chemicals, reagents, tires, explosives, and all remaining mining supplies and emissions associated with extraction, refining and transportation of raw fuels sourced to FCX sites and third parties used in the generation of electricity (natural gas, gasoline, coal, and other fuels) prior to combustion, respectively. FCX reports GHG emissions on a 100% operational basis. FCX's GHG emissions verification statement is available at the back of this report and on the Sustainability section of FCX's [website](#).

SCOPE 3 TARGETS

In addition to our 2050 net zero aspiration and 2030 GHG reduction targets in January 2022, we committed to validating our 2030 targets against the SBTi. SBTi requires a Scope 3 target if Scope 3 emissions exceed 40% of total emissions. Our revised 2022 Scope 3 emissions estimates represented approximately 43% of our total Scope 1, 2 and 3 emissions.

We are currently working with copper industry peers to establish science-based targets for the copper sector based on the SBTi's Sector Decarbonization Agreement (SDA) approach. We feel this is an important next step for the copper industry to enable robust and meaningful target-setting using a consistent methodology across Scopes 1, 2 and 3. An SBTi-aligned SDA for the copper industry would enable producers to establish intensity-based targets and would allow the copper industry to continue to grow in order to meet the demands of the global energy transition, which are expected to increase significantly in the next decade.

Further, in 2021, we played a significant role in the development of and endorsed the ICMM Climate Change Statement, which commits member companies to, among other things, establish Scope 3 targets. To that end, we continue to participate in projects with both the ICA and ICMM to support the development of industry-specific guidance that can help drive a consistent approach for member companies to estimate and improve their Scope 3 emissions inventories and enable meaningful target setting.

DECARBONIZING OCEAN-GOING VESSELS

Upstream and downstream transportation account for 12% of our Scope 3 emissions (Categories 4 and 9). As we work to understand and reduce our Scope 3 emissions, we believe it is important to work with our suppliers to identify opportunities for collaboration. In 2023, we signed a memorandum of understanding with NYK Bulk & Projects Carriers Ltd., a significant bulk carrier of copper concentrates, to collaborate on the decarbonization of ocean-going vessels that contribute to these emissions.



EMPLOYEE RIDESHARING PROGRAM

In 2023, we introduced new rideshare programs at three of our operating sites (Morenci, Bagdad and Miami) which are expected to help address challenges posed by the lack of housing, the high cost of long commutes and the GHG emissions associated with employee commuting. These pilot programs aim to alleviate the strain of long commutes, enhance safety, and reduce environmental impact by reducing the number of cars on the road. Each site has developed its own unique program, wherein the company provides vans for interested workers to commute to and from the operations.

Within the first half of 2023, Morenci's program saw the participation of approximately 280 employees, while Bagdad and Miami had 20 individuals already enrolled with many others expressing their interest in joining the program. In Miami, our objective was to expand recruitment and retention opportunities by making employment in the area more appealing to individuals residing in the Phoenix metropolitan area, located approximately 70 miles west of the operation site. Additionally, we are currently exploring the possibility of implementing a similar program in Colorado. As demand increases, we anticipate adding more vans to these programs to meet the growing needs of our workforce.

Estuary area of our PT-FI operations in Indonesia, where we are focused on managing and mitigating our impacts and supporting long-term ecosystem resilience.





RESILIENCE

FCX's operations are in geographically and climatically diverse locations that range from one of the driest places in the world (El Abra in the Atacama Desert in Chile) to one of the world's wettest (PT-FI's Grasberg operations in the province of Central Papua, Indonesia). To date, we believe we have successfully adapted our operations to these extreme environments through a combination of efforts informed by the knowledge gained from scientific study, on-the-ground experience and engineering design.

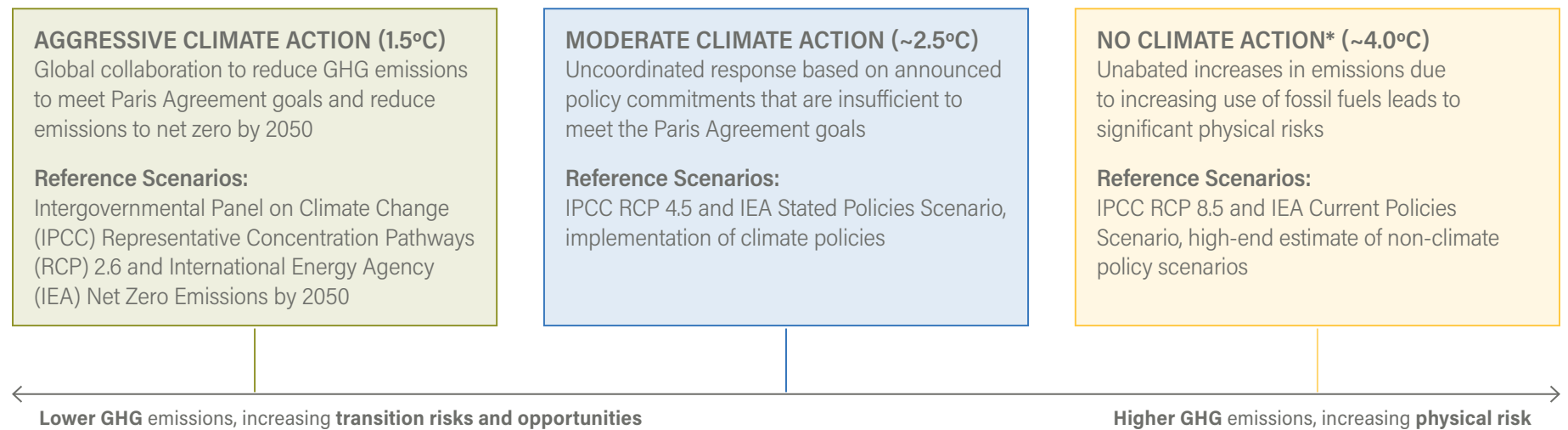
As the climate changes, we recognize the need to build a robust understanding of the potential range of risks and opportunities across our global company. We strive to enhance our resilience to both physical and transitional risks associated with climate change for our operations, our host communities and our stakeholders. This includes working to analyze and prepare for an increase in extreme weather events, water stress and other potential climate-related impacts.

As part of this work, in 2021, we completed our first global climate change scenario analysis considering both physical risks and transition risks and opportunities across three different climate scenarios. Following this analysis, beginning in 2022, we conducted three follow-on third-party studies focused on enhancing our understanding of how the potential climate-related physical risks identified in our global study might materialize at a more localized level.



2021 GLOBAL CLIMATE SCENARIO ANALYSIS SUMMARY

Our 2021 global climate scenario analysis considered both physical risks and transition risks and opportunities across three different climate scenarios: no climate action* scenario, moderate climate action scenario and aggressive climate action scenario. In general, the results of the analysis demonstrated that physical risks are highest for FCX in the no climate action scenario and lowest in the aggressive climate action scenario. Conversely, transition risks and opportunities are highest in the aggressive climate action scenario and lowest in the no climate action scenario. Our global scenario analysis covered our operational and non-operational assets as well as our supply chain. For more detailed information on our global climate scenario analysis, please refer to our [2020 and 2021 Climate Reports](#).



*The "no climate action" scenario was previously referred to as "current state" and has been renamed to more accurately reflect that the scenario is not based on "current state," rather assumes that some current policies may be rolled back.

DEFINING TRANSITION AND PHYSICAL CLIMATE RISKS

We have adopted the Task Force on Climate-related Financial Disclosures' (TCFD) categorization of climate-related risks as either "transition" or "physical" climate risks. Transition risks are those climate-related risks arising out of governmental, market or other actions associated with the transition to a low-carbon economy. These may include events such as a change in general consumer preferences, the implementation of climate-progressive governmental regulations, the deployment of clean energy technologies or an increase in legal liability for high carbon-emitting entities. Physical risks are those climate-related risks that arise from the physical impacts of climate change. As in the TCFD framework, we consider these risks to be either "chronic," such as long-term variability in weather patterns, or "acute," such as individual extreme weather events such as floods or short-term droughts.



TRANSITION RISKS

From a transition risk perspective, our global scenario analysis indicated that for both the moderate climate action and aggressive climate action scenarios, we must continue to monitor evolving carbon and energy policies and prices and evaluate the potential implications for our business, particularly with regard to sulfur supply. Under the aggressive climate action scenario we may also experience technology risks associated with our dependence on heavy equipment for which low-carbon alternatives are not currently readily available and/or commercially viable (e.g., haul trucks). To learn more about our efforts to innovate our haul truck fleet please refer to the [Reduction](#) section.

Sulfur Market Supply

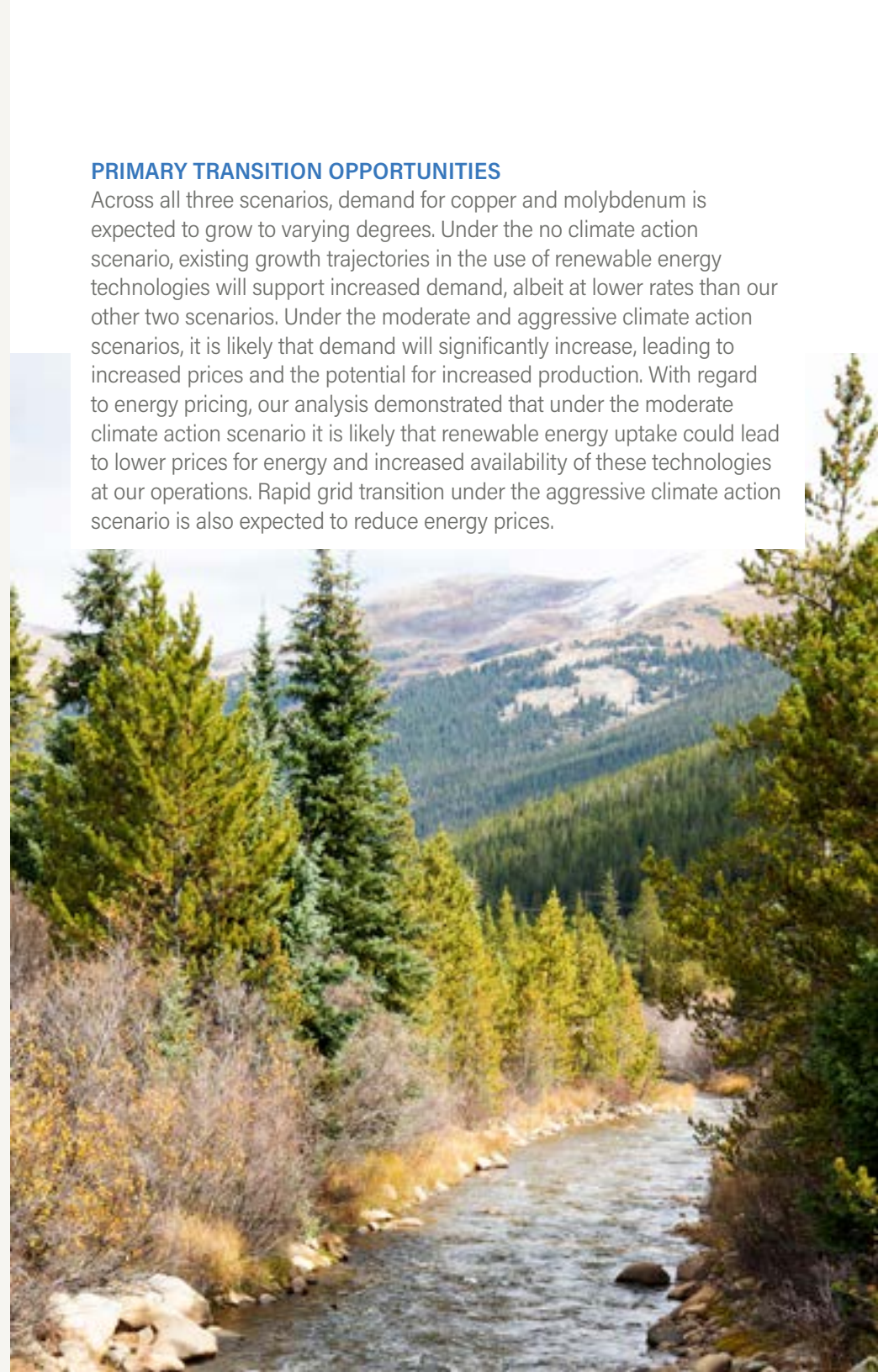
Sulfur is necessary for sulfuric acid production, an essential material for our SX/EW (leached) copper production. Currently, fossil fuel production is a low-cost producer of sulfur given that sulfur is a by-product of oil and gas processing. Depending on future climate scenarios, FCX may face challenges from sulfur supply deficits and price volatility if demand for oil and gas sharply declines, and refineries and natural gas processing plants that produce sulfur are decommissioned. In the short- to medium-term, we are working to diversify our sulfur supply from sources outside of the U.S., to help mitigate the potential supply risks associated with declining supply from domestic U.S. sources. In the longer term, we seek to better understand and quantify this potential risk by working with industry peers to conduct a study to evaluate the potential market dynamics and challenges that may occur for both sulfur and sulfuric acid under various climate scenarios in more detail. This study will help inform the development of mid- to long-term alternative plans and sourcing opportunities should they be required.

Potential Carbon Pricing & Regulations

Energy or carbon laws or regulations to reduce GHG emissions and/or shift to clean energy could impact mining economics or generate incentives to invest in clean energy. Evolving carbon pricing policies could increase the cost of doing business from direct and supply chain GHG emissions or could impact the competitiveness of FCX's commodities. Existing and proposed governmental conventions, laws, regulations, policies and standards as well as existing and proposed voluntary disclosure standards and frameworks (both in the U.S. and internationally), including those related to climate and GHG emissions, may in the future add significantly to our operating costs, limit or modify our operations, impact the competitiveness of the commodities we produce, and require more resources to comply and remediate in response. For more information, please see the [Risk Management](#) section.

PRIMARY TRANSITION OPPORTUNITIES

Across all three scenarios, demand for copper and molybdenum is expected to grow to varying degrees. Under the no climate action scenario, existing growth trajectories in the use of renewable energy technologies will support increased demand, albeit at lower rates than our other two scenarios. Under the moderate and aggressive climate action scenarios, it is likely that demand will significantly increase, leading to increased prices and the potential for increased production. With regard to energy pricing, our analysis demonstrated that under the moderate climate action scenario it is likely that renewable energy uptake could lead to lower prices for energy and increased availability of these technologies at our operations. Rapid grid transition under the aggressive climate action scenario is also expected to reduce energy prices.



PHYSICAL RISKS

Our global climate scenario analysis identified potential physical risks that may impact our sites across four main themes: wet extremes, heat extremes, water stress and sea level rise. The map below provides an overview for each of these themes and the overall changes across the majority of the climate scenarios and time horizons assessed when using data derived from the results of our global model analysis.

ARIZONA

Wet extremes: currently exposed to significant rainfall events; increases in extreme precipitation frequency and severity are possible, but not certain

Heat extremes: projected to experience large future increases in heatwave days, overall declines in annual rainfall and extended periods without rain

CHILE

Heat extremes: potential to experience significant future increases in heatwave days

Water stress: currently experiences extended periods without rainfall and has an extremely high water stress rating; water stress projected to increase in the future, combined with longer periods without rain

PERU

Water stress: projected to experience increased water stress, combined with longer periods without rain

PHYSICAL RISK THEMES

Wet Extremes: Increases in rainfall in a day as a result of storms can lead to damaged infrastructure, safety risks and lost production.

Heat Extremes: Increases in heat wave days can stress equipment and people, particularly among vulnerable populations; overall declines in rainfall and extended periods without rain can lead to drought.

Water Stress: Increases in heat wave days and extended periods without rain can lead to significant water stress compared to today.

Sea Level Rise: Sea level rise coupled with changes in storm surge could lead to impacts at coastal facilities due to higher water levels.

INDONESIA

Wet extremes: Central Papua currently experiences the highest rainfall out of all our operations, averaging approximately 200 inches annually

Sea level rise*: Our ports in Central Papua and East Java are projected to experience rising sea levels, with varying potential impacts

*Our 2021 global climate scenario analysis indicated our Atlantic Copper operations in Spain and Manyar smelter project near Surabaya, Indonesia may be exposed to an increase in events associated with sea level rise. After conducting additional localized studies, we have determined this risk is negligible. Additional assessments are being undertaken at FCX's Amamapare Port to further evaluate potential flood mitigation measures to improve resilience against coastal flooding at the port. Learn more about this study on page 46.

TRANSLATING GLOBAL SCENARIO ANALYSIS INTO ACTION

LIMITATIONS OF GLOBAL SCENARIO ANALYSIS

Our 2021 global climate scenario analysis, using projections from global climate models, was intended to be an initial screening analysis – or a first step – in the identification of potential physical risks that could impact our operations.

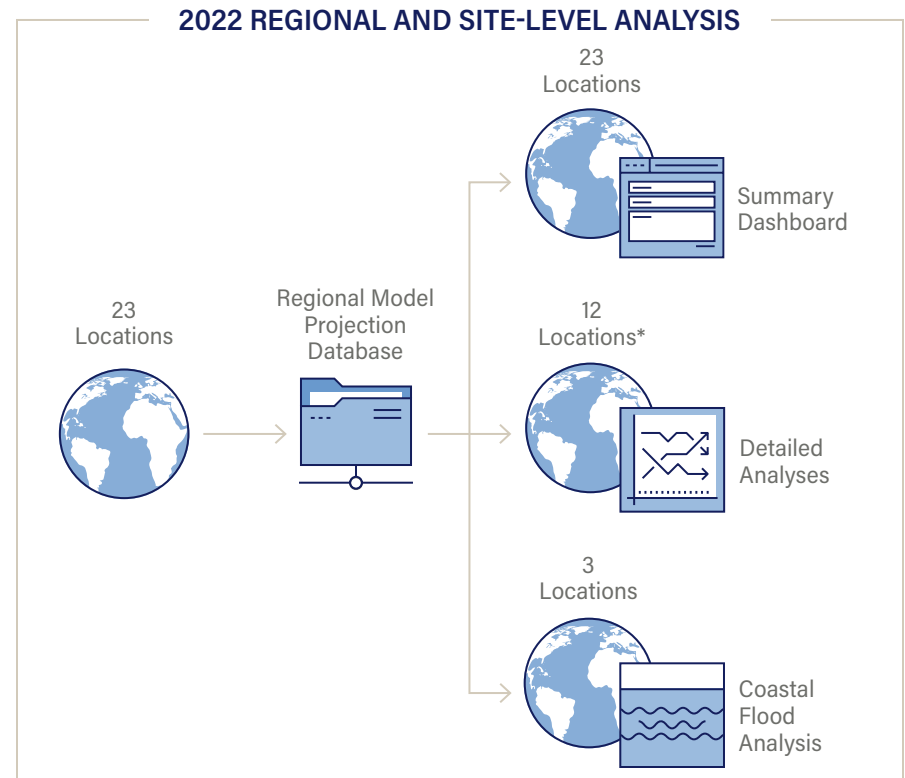
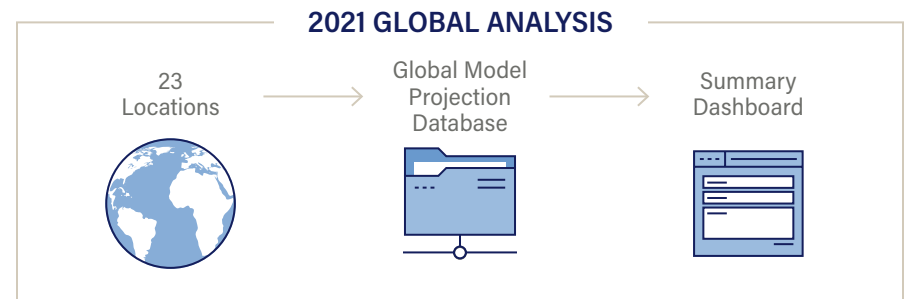
One of the challenges with climate models is that projections can vary significantly from one model to another for a given scenario. To address this concern in our global scenario analysis, we followed best practice by evaluating as many available models from the scientific community as possible – generally 10 separate models.

Another challenge specifically with regard to global climate models is they simulate processes across the entire earth. As a result, they are limited in the level of detail they can provide. Global climate model grids are generally based on a scale of approximately 200 kilometers (km) x 200 km. Within each model grid cell, inputs like topography, rainfall, temperature and evaporation are represented uniformly across the entire grid cell. This creates an average of conditions, or “smoothing,” across the grid cell, resulting in a potentially oversimplified and unrepresentative basis for decisions. Model “smoothing” may be inconsequential in some areas of the world where terrain changes slowly, but in areas where conditions change significantly within a 200 km x 200 km grid cell, the resolution of global climate models is too low to be representative and capture important and localized details.

For example, at PT-FI, a global climate model with a grid cell resolution of 200 km x 200 km could have the Grasberg open pit, which is approximately 4,000 meters above sea level, in the same model grid cell as our lowlands facilities, which are at an elevation of 50 meters above sea level. Because they are in the same grid cell, the projected output for these two locations in the global model are identical, despite having vastly different precipitation regimes driven by extreme topographic and elevation changes. Regional climate models have higher resolutions (generally 50 km and 25 km), which enable them to better account for and incorporate the effects of changing topographic features.

The graphical representation to the right provides a visual depiction of how we have gone from screening level global analysis to localized analysis that is robust enough for decision-making. The following pages describe this in more detail.

IMPROVED DECISION MAKING USING SCENARIO ANALYSIS



*Additional sites may be incorporated, as needed, in the future.

REGIONAL CLIMATE SCENARIO ANALYSIS

Upon review of our global climate scenario results, we concluded that an additional evaluation of regional climate models would yield more reliable, representative and decision-useful information. With support from third-party consultants, in late 2021 and early 2022, we identified available models from the scientific community and selected appropriate downscaled regional climate models covering our areas of operation to further evaluate and refine three of the four physical risk themes identified in our global analysis: wet extremes, heat extremes and water stress.

Using these regional model projections, we created an internal dashboard to support analysis of the large, multi-dimensional dataset and facilitate dialogue with our sites on water management. The dashboard takes the complex projection database and visualizes it to provide a concise and transparent representation of site-level climate metrics, including maximum one-day rainfall, hottest temperature and total annual rainfall, by climate scenario, year and site. Internal decision-makers are now able to access the dashboard to complement planning processes. For additional information please refer to the [2021 Climate Report](#).

DEFINING EXTREME EVENTS

For a given location, understanding the possible severity of a rain event and its probability of occurrence is critical for design and long-term planning. For some facilities, the 100-year storm is used in the design while for others (with higher risk profiles) the probable maximum precipitation (PMP) event is used in the design.

The 100-year storm is an event that has a 1% chance of being exceeded at a given location over a period of time (for example, the 100-year 24-hr storm and the 100-year 1-hr storm both have a 1% chance of occurring each year).

The PMP is considered the "perfect storm" where conditions in the atmosphere combine to produce precipitation over an area that is extremely unlikely to be exceeded. These PMP events are much rarer than the 100-year event and can be generally 2-5 times bigger, depending on region of the world.

The regional climate change analysis work described in this document was used to help understand how projected changes to climate could change these extreme rainfall events.

USING CLIMATE MODELS FOR SITE WATER MANAGEMENT

Following the integration of the regional climate model projections into the dashboard mentioned previously, we worked with Applied Weather Associates (AWA) — a specialist hydrometeorological consulting firm with extensive experience evaluating climate change projections in relation to extreme precipitation — to utilize the regional climate model projections and historical data, to better understand how potential climate-related impacts may materialize at the site level. To date, we have completed 12 detailed site-specific studies, including operational and non-operational sites, with the process underway for 2 more sites in 2023.

For sites where climate change models project a significant increase in precipitation, we have been examining the potential effects, including how this could change the overall design of a facility or associated infrastructure. Initially, these evaluations have been focused on our tailings facilities; however, we plan to expand this work to cover other infrastructure in the future.

Of particular importance for high consequence structures, e.g., many of our tailings facilities, is the PMP event, which is an estimate of the worst-case rain event against which select facilities are designed to withstand. Evaluation of potential future meteorological conditions from climate change models indicates that current PMP estimates for FCX facilities are sufficiently conservative.

While extreme events are rare, they are possible. In early 2023, a significant rain event occurred at the Grasberg minerals district, which approached these extreme levels. The event was approximately twice the magnitude of the 100-year recurrence interval event for a 60-minute duration at that location. The intense rainfall led to floods and mudslides, damaging infrastructure in the vicinity of the mill and mine roads, and impacting the local community. Our mining and processing activities were temporarily halted to allow for emergency measures, leading to no workforce-related injuries as a result of the event. Restoration and cleanup began immediately, and full operations resumed the following month, demonstrating the benefit of strong resilience planning and quick action. AWA is conducting a post-event evaluation to reconstruct the storm and determine if the precipitation could have been more severe had certain conditions been different. The evaluation will allow us to consider potential adaptations to existing and future facilities if necessary.

ASSESSING SEA-LEVEL RISE AND COASTAL FLOODING RISK

Sea level rise was the fourth potential physical risk theme identified in our global climate scenario analysis in 2021. The global model projections suggested that the main risk to our business from sea level rise was the potential for coastal flooding to impact infrastructure at our Atlantic Copper site in Huelva, Spain, our Manyar smelter project near Surabaya, Indonesia, and our Amamapare port in Central Papua, Indonesia. In 2022, further analysis by DHI Group (DHI) – a global water management consultancy firm – determined that there is negligible credible risk of coastal flooding at the Atlantic Copper site through 2050 and critical infrastructure is adequately raised above all credible coastal flood levels at the Manyar smelter project through 2050. For further information on these assessments, please refer to the [2021 Climate Report](#).

Amamapare Port – Central Papua, Indonesia

In 2022 and early 2023, DHI undertook a detailed evaluation of the potential for coastal flooding at FCX's Amamapare port on the southern coast of Central Papua, Indonesia. The Amamapare port is the main shipping hub for our Grasberg copper concentrates and where the power plant for the entirety of the Grasberg operations and many other support services are located.

To evaluate coastal flooding potential, the assessment considered how multiple variables may change over the design life of the facility (through 2061), including tides, mean sea level, storm surge, sea level rise, and settlement or subsidence. The study concluded that some infrastructure at the port needs further study in order to develop appropriate mitigation measures to reduce the risk of flooding in the coming decades due to a combination of the variables listed above, some of which are driven or exacerbated by climate change. An additional study to further understand the impact of several of these variables is being scoped to complete the analysis. Together, these studies will enable evaluation of potential flood mitigation measures to improve resilience against coastal flooding at the port.

Sea level rise was the fourth potential physical risk theme identified in our global climate scenario analysis in 2021.

MANAGING WATER SUPPLY RISKS

While the previous sections focused on conditions that could result in too much water at our facilities, equally important are the scenarios in which we may encounter water supply risks. To effectively manage our water supply-related risks in the near-term, we seek to understand the various and continually changing physical environments, hydrological systems, and sociopolitical and regulatory contexts of each of our operations. Risk considerations include climate conditions, water sources, baseline water stress, excess water, litigation and access challenges. Just as we have defined our four decarbonization levers to achieve our GHG reduction objectives, FCX is seeking to identify best practices, scalable levers and technological innovations in order to maintain our high water-use efficiency rates over the long-term. At the same time, FCX is also working to identify alternative water sources to reduce our reliance on freshwater. For information on which sites may experience water stress and examples of how we have responded through long-term water storage credits, alternative water sources, desalination projects and efficiency, please refer to our [2022 Annual Report on Sustainability](#).

For example, significant growth, overallocation and declining climate conditions have resulted in water shortages and stress that impact Colorado River Basin water users. A small percentage of total water use at our Morenci and Sierrita mines in Arizona comes from the Colorado River through the Central Arizona Project (CAP) system, a 336-mile-long system of aqueducts, tunnels, pumping stations and pipelines. To support the resilience of our operations, as well as for nearby communities, we have made significant investments to store some of our allocated CAP water supply in underground aquifers in the Phoenix and Tucson areas. The stored water is regulated by the Arizona Department of Water Resources. For each acre-foot of water stored, FCX acquires a long-term storage credit (LTSC), which can be accessed at any time in the future. In times of water shortage, FCX has agreements in place to transfer its LTSCs to local communities, allowing them to access the stored water in exchange for their rights to other water sources, such as the Black River (a tributary to the Salt River). FCX currently holds sufficient LTSCs for Morenci, which we estimate will allow continued access to water for approximately 20 years. For more information, please refer to our [2022 Annual Report on Sustainability](#).

SUPPORTING STAKEHOLDER RESILIENCE

OPERATIONS, WORKFORCE, COMMUNITIES & SUPPLY CHAINS

As part of our global climate scenario analysis, we analyzed the current and potential future exposure of our operations, elements of our workforce and communities, and key vendor infrastructure and supply chains to a number of physical hazards. The following table provides an overview of the main potential impacts identified throughout the course of the scenario analysis that could affect our operations, workforce and our surrounding host communities.

SUMMARY OF POTENTIAL PHYSICAL RISK IMPACTS

PHYSICAL RISKS	OPERATIONAL IMPACTS	WORKFORCE & COMMUNITY IMPACTS	LOGISTICS & SUPPLY CHAIN IMPACTS
Extreme Precipitation	<ul style="list-style-type: none"> Production curtailment or increased costs from damage to, or inaccessibility to, operational and reclaimed facilities Compliance risks from increased soil erosion and off-site releases 	<ul style="list-style-type: none"> Health and safety risks and property or infrastructure damage 	<ul style="list-style-type: none"> Supply disruption from supplier property damage or flooding of critical infrastructure Increased trucking costs due to increased demand for trucks for disaster relief and reconstruction
Extreme Heat	<ul style="list-style-type: none"> Increased cooling costs, overheating of processing equipment, and increased energy prices or potential power curtailment 	<ul style="list-style-type: none"> Decreased productivity and increased health and safety risks, particularly among vulnerable populations Exacerbated social unrest in regions with poor local governance or social support systems 	<ul style="list-style-type: none"> Increased energy/cooling costs at supplier sites
Water Stress	<ul style="list-style-type: none"> Production curtailment from limits on water allowances and availability Increased power prices or outage from hydropower plants water shortage 	<ul style="list-style-type: none"> Increased competition, pressure on local resources, and food and water insecurity in regions where FCX operates Community displacement/migration 	<ul style="list-style-type: none"> Limits to water allowances and availability for suppliers
Extreme Cold	<ul style="list-style-type: none"> Disruption to energy supply from freezing gas pipelines and increased heating demands Increased natural gas and electricity prices 	<ul style="list-style-type: none"> Increased heating demands and costs 	<ul style="list-style-type: none"> Supply delays or increased prices of critical supplies from power outages at supplier locations and frozen roads and/or rail tracks
Wildfire	<ul style="list-style-type: none"> Production disruption and reduced access 	<ul style="list-style-type: none"> Evacuations, injuries, fatalities and respiratory diseases due to poor air quality 	<ul style="list-style-type: none"> Supply delays from property damage, power outage or limited site access at supplier locations and logistics networks
Sea Level Rise	<ul style="list-style-type: none"> Disrupted operations at our coastal sites, e.g., Amamapare port 	<ul style="list-style-type: none"> Health and safety risks and community displacement 	<ul style="list-style-type: none"> Supply delays from flooding of ports, airports or railroads and roads

SUPPORTING COMMUNITY RESILIENCE

The physical effects of climate change are expected to have social, economic, political and security implications that would likely be most accentuated under our no climate action (~4°C) scenario. Aiding communities in adapting involves supporting their efforts to enhance their climate resilience and increase their ability to withstand events such as droughts and floods.

At our Community Partnership Panel (CPP) forums in North America, we share information with community stakeholders about our operational activities and facilitate dialogue on issues that impact them to seek their input and strengthen collaboration.

In 2022, we continued our dialogue with CPPs to both educate and seek feedback on our strategy and the potential physical risks our communities may face as a result of climate change. To do so, one of our internal climate experts presented on FCX's overall climate strategy and the results of our global climate scenario analysis, which included physical risks and how they might impact local communities. Following the presentation to each site's CPP, community members responded to polling questions about how FCX can help enhance climate resilience in their communities and what their long-term needs are in anticipation of climate change impacts. The feedback we received is influencing our decisions on collaboration opportunities with partners and community leaders to help communities build climate-related resilience, in addition to helping us jointly determine where additional expertise or support may be needed to advance community resilience.

Aiding communities in adapting involves supporting their efforts to enhance their climate resilience and increase their ability to withstand events such as droughts and floods.

We also launched The Resilience Initiative, an effort to facilitate deeper dialogue among various community stakeholders to help identify threats to community resilience and the near-, mid- and long-term actions that may help to address them. The Resilience Initiative was piloted in the areas of our Climax, Chino and Tyrone mines in 2022 and launched in the areas of our Safford and Morenci mines in early 2023, with areas in our other U.S. operating communities to follow later in 2023 and into 2024. While a range of threats to community resilience were identified and prioritized, climate was among the top five for each community. We have plans underway and we are cultivating partnerships with community leaders to start to address the climate-related threats and possible action items identified through the process.

Although these efforts were focused on our North America sites, we engage in many projects that are linked to climate at our international sites, some of which are described on the following page. Outside North America, we conduct a similar process of engagement and dialogue to inform collaborative efforts to evaluate and plan for specific climate-related resilience projects with stakeholders. We aim to continue to identify gaps in our climate knowledge and resources to address our community resilience efforts in 2023 and 2024. For more information on our community engagement programs, please see our [2022 Annual Report on Sustainability](#).



Emergency Response, Relief & Prevention

- In early 2023, wildfires strengthened by extreme heat conditions destroyed approximately 2,000 homes in predominantly Indigenous communities in Southern Chile. The fires affected 500,000 hectares of land and resulted in 25 fatalities. Through Consejo Minero, El Abra donated \$100,000 to a joint effort by local mining companies and the regional government in Araucanía, Chile to rebuild 50 homes. These private donations allowed the regional government to direct funds toward the launch of two parallel resilience initiatives, which included building “firewalls” to prevent fires from reaching area homes and infrastructure, and reforestation of the area with 750,000 native trees.

Education & Capacity Building

- Over the past decade, FCX has driven innovation through its support of the annual WERC Environmental Design Contest at New Mexico State University. The contest encourages practical learning by providing opportunities for college students to solve real-world challenges, including those related to environmental restoration, natural resource conservation, pollution prevention and climate change. The annual competition allows students to present their research and fully operational bench-scale models to judges.

Water & Land Resource Management

- At our Sierrita operations, we support the Altar Valley Conservation Alliance's Elkhorn/Las Delicias Watershed Demonstration Project, which showcases planning, installation and monitoring practices of watershed restoration in the area of the Altar Valley. The project seeks to enhance and develop watershed restoration knowledge among range management professionals, ranchers, students and non-profit organizations in the area. Building on the 10 years of data gathered at the site, in 2022, FCX further invested in efforts to support field education and data analysis. FCX then engaged in discussions with partners and community members on the lessons learned and opportunities to further apply learnings to address drought and soil health.
- Since 2002, PT-FI has implemented a mangrove colonization program at new tailings deposition areas in the Ajkwa Estuary. The mangrove ecosystem plays an important role in the carbon cycle, and PT-FI actively works to create and establish mangrove habitats where possible. In particular, the Ajkwa and Waii Islands in the Ajkwa Estuary in the Lowlands have seen accelerated mangrove colonization resulting from approximately 399 hectares of total mangrove planting since mining operations began, including 82 hectares in 2022.
- At Cerro Verde, we are committed to the recovery of the Queñuas forest, one of the most important ecosystems in the Arequipa area. In 2022, we coordinated with the National Service of Protected Natural Areas, the Forestry and Wildlife Service and other civic organizations to plant more than 11,000 queñua trees produced by Cerro Verde's biotechnology laboratory.



We work to support communities in their efforts to enhance their climate resilience.





CONTRIBUTION

Copper is a critical enabler for the technologies that will support the energy transition, from electrifying vehicles to solar and wind energy. As the world transitions to a low-carbon economy, demand for copper is expected to increase. We believe that supplying growing copper demand should be met sustainably.

As one of the world's largest copper producers, our role in supplying responsibly produced copper to support global decarbonization is crucial, and we are committed to doing our part. We believe that we can, and we must, manage our impacts and positively contribute within and beyond our operational boundaries as we work to meet the world's needs for our products.

We are uniquely positioned to manage and work towards mitigating the GHG emissions associated with our copper and molybdenum products because of the vertical integration of our production sites and processing facilities. By comparison, for many other producers, processing facilities are downstream in their value chain and outside of their direct control.

We also seek to collaborate with our industry partners, customers and other stakeholders to drive positive change across many areas including in responsible production certifications, developing carbon footprint models and advancing constructive climate positions aimed at meeting the goals of the Paris Agreement.

COPPER'S ROLE IN THE ENERGY TRANSITION¹

Copper is a critical metal for electrification and is therefore expected to play an essential role in facilitating the transition to a low-carbon economy. Copper is a key component in highly electrified technologies, including solar, wind, nuclear and hydropower energy, electric vehicles (EVs) and other energy efficient technologies. Copper's durability, reliability, superior conductivity and recyclability are some of the unique properties that can benefit batteries, wiring, electrical equipment and supporting infrastructure – such as transformers, generators, inverters and cooling systems. As a result of these unique properties, copper is a necessary material for clean energy generation, transmission and storage.

On average, renewable energy generation technologies use four to five times more copper than fossil fuel power generation. CRU Group projects that global copper consumption from renewables will increase from 700,000 metric tons per year in 2020 to 1.8 metric megatons per year in 2030.²

Sales of EVs are rapidly growing in most major markets. EVs are expected to be a long-term driver of demand for copper globally. Wood Mackenzie estimates that copper demand from the transportation sector will increase by approximately 377 thousand metric tons between 2022 and 2035.³ Expanding electricity grids alone are expected to double the annual demand for copper by 2040, according to an International Energy Agency (IEA) study.⁴

Overall copper demand is projected by S&P Global to increase by approximately 25 million metric tons from 2022 to 2035. As a truly circular material, copper can be reused repeatedly with no loss to its physical properties. The International Copper Association (ICA) estimates that since 1900, two-thirds of the 550 million metric tons of previously mined copper is still in productive use. Because copper does not lose its intrinsic properties during recycling, it can be reused with the same expected performance. Nine million metric tons of copper are recycled every year. Secondary copper requires up to 85% less energy to produce than primary production of copper. According to the ICA, recycling copper saves 40 million metric tons of CO₂ annually, which is the equivalent of eliminating 16 million cars from the road.⁵

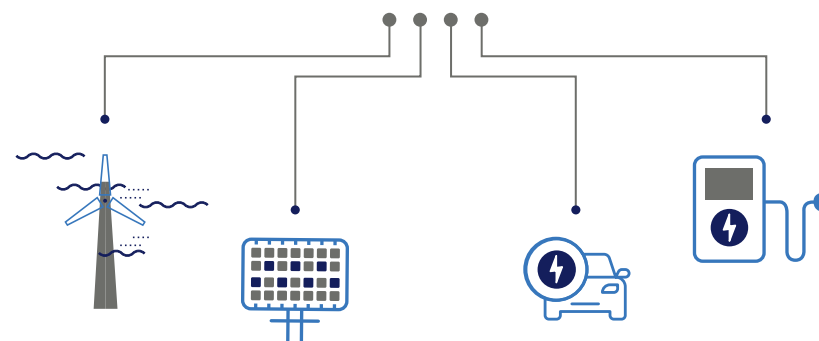
1. Throughout this section, we reference information provided by the following S&P Global report: The Future of Copper – Will the looming supply gap short-circuit the energy transition? | S&P Global | July 2022.
2. Electric vehicles, renewables, and Covid-19: what next for base metals demand? | CRU (crugroup.com) | June 16, 2021.
3. Global copper strategic planning outlook - Q1 2023 | Wood Mackenzie.
4. The Role of Critical Minerals in Clean Energy Transitions | IEA | May 2021.
5. Copper and Recycling 2017 infographic | International Copper Association: Copper Alliance.

PROJECT CIRCULAR - INCREASING E-WASTE RECYCLING CAPACITY

Through Project CirCular, Atlantic Copper is developing capacity to recycle end of life electronic waste (e-waste) into its existing smelting and refining facilities. The project, which is expected to begin operation in 2025, includes the addition of a melting furnace for the e-waste and associated equipment to recycle 60,000 tons per year. This will enable Atlantic Copper to recover copper, gold, silver, palladium, tin, nickel and platinum from this material, increasing the recycled content of its copper cathode as well as creating new revenue streams.

THE POWER OF COPPER

IN THE ENERGY TRANSITION





THE VALUE OF VERTICAL INTEGRATION IN DECARBONIZATION

FCX's vertically integrated copper portfolio (from earth to cathode) in the Americas and Europe enables the company to directly manage and mitigate GHG emissions that would typically be Scope 3 downstream processing emissions for other producers. This enables us to control more emissions directly, potentially decarbonizing our operations faster. Approximately 45% of FCX's overall copper concentrate production is vertically integrated. Our Miami smelter and Morenci Concentrate Leach Plant, both located in Arizona, and our Atlantic Copper smelter & refinery in Spain, collectively process approximately 1.3 million metric tons of internally produced copper concentrate per year.

In addition to the copper concentrate produced by FCX's operations, Atlantic Copper also purchases and processes approximately 65% of its copper concentrate annually from unaffiliated third parties. In addition to copper concentrate, our El Paso refinery in Texas and our Atlantic Copper smelter & refinery in Spain operate to upgrade copper anode to 99.99% copper cathode. At our Miami (Arizona) and El Paso (Texas) rod plants, we manufacture copper rod products for electrical markets. Our rod mills process approximately 65% of our North American cathode production, which enables us to provide our customers with a secure and efficient supply of rod while managing and reducing our GHG emissions from earth to rod.

Our vertically integrated position is expected to increase beyond the Americas and Europe to our operations in Indonesia in the near term when we complete the construction of the new Manyar smelter project. In 2022, PT-FI concentrate was smelted and refined by PTS and third-party smelters/refineries whose emissions are currently accounted for as our Scope 3 emissions. However, the new Manyar smelter will be owned and operated by PT-FI and, once operational, will have the capacity to process approximately 1.7 million metric tons of copper concentrate per year. PT-FI estimates construction of the Manyar smelter will be complete in mid-2024, with a ramp-up schedule through year-end 2024. Additionally, expansion of PT Smelting's capacity by 30% to 1.3 million metric tons of copper concentrate per year is expected to be completed by the end of 2023. Upon completion of these projects, we plan to review the GHG emissions categorizations for these operations. Certain of these emissions may be reclassified from Scope 3 to Scopes 1 or 2.

TRANSITION PATHWAY INITIATIVE 1.5°C ASSESSMENT

FCX is dedicated to contributing responsibly produced copper to the global energy transition. This includes managing and mitigating our own GHG emissions intensity, even as production increases in the future. We are committed to meeting the goals of the Paris Agreement and contributing positively to a 1.5°C future.

The Transition Pathway Initiative (TPI) is a global asset owner-led initiative that aims to assess companies' preparedness for the transition to a low-carbon economy. As of May 2023, TPI was supported by 136 global investors and service providers representing over \$50 trillion in assets under management and advice. TPI's assessment framework seeks to measure two dimensions of a company's climate performance based on publicly available information and in line with the recommendations of the TCFD: (1) Management Quality and (2) Carbon Performance.

In TPI's most recent assessment of management quality in April 2022, TPI advanced FCX to the highest level: Level 4 "Strategic Assessment." We believe this change reflects our continued progress in advancing our climate strategy and related disclosures.

TPI's most recent assessment of carbon performance, in May 2022, reaffirmed that we are aligned with TPI's 1.5°C scenario for the short-term (2025) and the medium-term (2035) and we are currently aligned with TPI's below 2°C scenario in 2050, at an estimated 4 metric tons CO₂ equivalent per ton of copper produced. This is partly due to the fact that the primary product we produce — copper — requires less energy per ton to produce and partly because refining copper produces fewer downstream Scope 3 emissions compared to competing or other mined materials.

To learn more, visit transitionpathwayinitiative.org.



TPI assessed FCX as aligned with its 1.5°C scenario in the short- and medium-term and its below 2°C scenario in the long-term.



ADVANCING RESPONSIBLY PRODUCED COPPER

CLIMATE & INDUSTRY ASSOCIATIONS

FCX is a member of various industry and business associations that provide a platform for advancing sustainability. Industry and business associations can be an important vehicle for furthering industry contributions at the global, national, regional and local levels. We recognize the importance of collaboration with thought leaders to help drive progress, which is why we offer expertise to, and partner with, various external organizations and industry associations committed to our industry and to advancing sustainability.

In 2022, we conducted an evaluation of our memberships in various industry and business associations globally with the aim of analyzing the extent of alignment between our climate-related commitments and aspirations and the positions and commitments of those associations. For our assessment, we conducted a desktop evaluation of the industry and business association memberships that advocate for policies on mining, business issues and good industry practices, which we determined to be relevant and to which FCX contributes more than \$100,000 annually. Our evaluation considered whether the association has a public position on climate, which we believe supports the goals of the Paris Agreement and is aligned with FCX's current climate position. Where significant misalignment has been identified or the association has no public position on climate change, we aim to engage with the association, as appropriate, to address gaps with FCX's climate position, including our commitment to support the goals of the Paris Agreement.

We recognize the importance of collaboration with thought leaders to help drive progress, which is why we offer expertise to, and partner with, various external organizations and industry associations committed to our industry and to advancing sustainability.

For example, in 2022, we continued working with the National Mining Association's (NMA) ESG Task Force, playing a leading role in advancing the organization's position and activities with regard to climate and other sustainability matters. We will continue to work with NMA with the aim of developing a more advanced position in support of the Paris Agreement.

If identified gaps are not addressed by an association, we aim to conduct an internal evaluation to determine if we should remain a member of that association. In some instances, there may be a compelling rationale for our continued membership in an association despite misalignment with our current climate position. For example, an association may play an important role in advancing health and safety standards or other environmental or social issues that we support, but not yet align with the goals of the Paris Agreement.

In addition to efforts aimed at addressing gaps, in 2022 we continued working with our peers at ICA to advance our collective efforts in line with the Paris Accord. This work was focused on completing the development of a Global Copper Decarbonization Roadmap (GCDR) to Net Zero by 2050.



The table below lists industry and business associations that advocate for policies on mining, business issues and good industry practices, which we determined to be relevant and to which FCX contributed more than \$100,000 in 2022. The list does not include some organizations that we determined do not engage in public policy advocacy or other work that could influence climate policy. We are continuing to monitor our industry and business associations for alignment with FCX's current climate position and engage as needed. We may expand our evaluation and engagement efforts in the future as we deem appropriate.

2022 SELECTED INDUSTRY & BUSINESS ASSOCIATION MEMBERSHIPS EVALUATION¹

	ORGANIZATION	LEADERSHIP ROLE	2022 MEMBERSHIP FEES (USD)	PUBLIC CLIMATE POSITION THAT SUPPORTS THE PARIS AGREEMENT	ALIGNMENT WITH FCX'S CLIMATE POSITION
Global	International Copper Association (ICA)	Chair*	\$500k+	Yes	Aligned
	International Council on Mining & Metals (ICMM)	Chair*	\$100-499k	Yes	Aligned
	The International Molybdenum Association (IMOA)	N/A	\$500k+	Yes	Aligned
Chile	Consejo Minero	Board Member*	\$100-499k	Yes	Aligned
E.U.	EIT RAWMATERIALS E.V.	Executive Board Member	\$100-499k	Yes	Aligned
Peru	Sociedad Nacional de Minería, Petróleo y Energía	Board Member	\$100-499k	Yes	Aligned
U.S.	Business Roundtable	N/A	\$100-499k	Yes	Aligned
	National Mining Association	Board Member	\$500k+	No	Partially Aligned
	U.S. Chamber of Commerce	N/A	\$100-499k	Yes	Aligned

1. An internal desktop review was conducted based on publicly available information contained on association websites as well as information gathered through our involvement with the associations for the period from January 1, 2022 through December 31, 2022. The evaluation did not include any FCX-affiliated political action committees, or PACs. Any reference to FCX's alignment with a third-party association does not constitute or imply an endorsement by FCX of any or all of the positions or activities of such organization.

*Term ended in 2022.

ALIGNMENT DEFINITIONS:

- 1. Aligned** – based on our review of publicly-available information, we believe that the association's publicly-stated position is generally aligned with FCX's support for the Paris Agreement and the implementation of the agreement's climate-related goals
- 2. Partially Aligned** – based on our review of publicly-available information, we believe that the association's publicly-stated position is generally supportive of the commitments or goals in the Paris Agreement, but FCX's position is more explicit on some commitments or goals in the Paris Agreement
- 3. Not Aligned** – based on our review of publicly-available information, we believe that the association has no position on the Paris Agreement and the implementation of the agreement's goals

THE COPPER MARK

The Copper Mark is a comprehensive assurance framework that promotes responsible production practices. It is the first and only framework developed specifically for the copper industry. The Copper Mark was initiated by the ICA, of which FCX is a member, in conjunction with various stakeholders including financial institutions, commodities exchanges, NGOs, OEMs and copper fabricators. The Copper Mark is now a separate entity from ICA and governed by an independent board, which includes NGO participation and a multi-stakeholder advisory council. To achieve the Copper Mark, sites are committed to adhering to internationally recognized responsible operating practices and specifically to a detailed framework covering 32 issues across five ESG categories developed by the Responsible Minerals Initiative's Risk Readiness Assessment. The Copper Mark requires an independent external assurance process to assess conformance across the 32 issues at each site. Awarded sites are required to be revalidated by the Copper Mark every three years and communicate routinely with the organization on action plans to meet any "partially meets" criteria.

FCX has achieved the Copper Mark at all 12 of its copper producing sites globally, including most recently at PT-FI in February 2023. In addition, following the extension of the Copper Mark framework to molybdenum producers in 2022, our two primary molybdenum mines and our four copper mines that produce by-product molybdenum were awarded the Molybdenum Mark.

FCX played a leading role in the development of the Copper Mark by actively participating in the organization's multi-stakeholder processes to further develop and work toward achieving its short- and long-term goals for growth. We continue to encourage our stakeholders, peers, customers and downstream users to join, collaborate and promote uptake of the Copper Mark validation process globally, with the ultimate goal of transparently demonstrating responsible production all the way to the end user. Learn more about the Copper Mark on our [website](#) and view our site-level assessment reports at coppermark.org.



We have achieved the Copper Mark at all 12 of our copper producing sites globally.

COPPER'S CARBON FOOTPRINT

Life Cycle Assessments (LCAs) provide an overview of environmental impacts across a product's life cycle to enable producers to identify improvement opportunities and trade-offs. Globally, governments are increasingly using LCAs as impact assessments in circular economy frameworks and for carbon and water footprint comparisons.

In 2022, ICA completed an update to its previous global LCA profile for copper concentrate and copper cathode. FCX played a key role in this work, providing data from our mining, smelting and refining facilities. ICA also released guidance for producers to enable a more consistent calculation of the carbon footprint of copper production across the industry. This best practice guidance provides a harmonized and consistent approach to determining the carbon footprint of copper operations and the products they produce. The Copper Development Association (the partner organization to ICA in North America) also reinitiated a project to conduct an LCA of copper rod used for electrical applications. Work on this project has continued in 2023.

In 2022, FCX contributed significantly to the development of the ICA GCDR, which was launched globally in 2023. The GCDR included setting a baseline for Scope 1, 2 and 3 GHG emissions for the industry and assessing the associated abatement potential of various decarbonization pathways to 2030 and 2050. We believe this will enable participants across the value chain (from earth to semi-fabricated copper) to develop and contextualize their own decarbonization roadmaps in relation to their place in the value chain. FCX is using the results to further inform our climate strategy, drive continuous improvement and, as appropriate, to provide FCX-specific results to customers and other value-chain participants.

FCX is also focused on our own carbon footprint, and in particular, on reducing our Scope 1 and 2 GHG emissions. Our four 2030 GHG emissions (Scope 1 and 2) reduction targets collectively cover nearly 100% of our global Scope 1 and 2 GHG emissions and are critical to reducing the carbon footprint of our products. In 2022, we published a significant update to our Scope 3 GHG emissions inventory globally and we are working to continue to refine and improve our Scope 3 GHG emissions inventory. We are also advancing our LCA efforts to develop carbon footprint datasets for each of our products to support our downstream customers and OEMs to better estimate their own GHG emissions.

We are using the results of various LCAs to further inform our climate strategy, drive continuous improvement and, as appropriate, to provide FCX-specific results to customers and other value-chain participants.

ENGAGING CUSTOMERS ON OUR CLIMATE STRATEGY

In an effort to drive collaboration and better understand customer needs, FCX began engaging key customers on our climate strategy and Copper Mark implementation in 2020. In 2022 and through June 2023, we engaged with more than 50% of our refined copper (i.e., cathode and rod) customers responsible for approximately 75% of 2022 sales by volume in the Americas. This group of customers purchases the majority of the refined copper we produce, and as a result, have a direct connection to the primary markets into which our copper is delivered. The engagements have helped to educate our customers on our processes and the emissions we generate, as well as our current and planned efforts around each of our decarbonization levers. This education enables them to have more direct conversations with their customers regarding the potential pace of decarbonization in primary copper production. Some engagements have led to face-to-face workshops or meetings with our customers, which have allowed us to identify collaborative dialogues across our value chain. Additionally, several of our customers have joined the Copper Mark (as participants or partners) as a result of our dialogue with them and we have supported their efforts to work towards achieving the Copper Mark. We have also entered into "Chain of Custody" trials with two key customers, enabling both parties to establish a system for transferring the Copper Mark certification from production through to fabrication on a lot-by-lot basis. The objective is that eventually this Chain of Custody system will enable transference of product-related data such as carbon footprint.



ABOUT THIS REPORT

We aim to communicate regularly and transparently with our stakeholders about the risks and opportunities climate change poses to our operational and financial performance. Our Climate Report provides information on how we approach climate change. We are committed to aligning our climate-related disclosures with the current recommendations of the TCFD; please refer to our [TCFD Index](#) for additional information.

This report focuses primarily on the activities of our most significant subsidiaries, including our 48.76% owned subsidiary PT Freeport Indonesia (PT-FI), and Freeport Minerals Corporation (FMC) and Atlantic Copper, S.L.U. (Atlantic Copper), each a wholly owned subsidiary, for the year ended December 31, 2022 (unless otherwise indicated). Data is as of December 31, 2022 and other statements are made as of the date of this report (unless otherwise indicated). For additional information, please see our [2022 Annual Report on Sustainability](#) and visit our website at [fcx.com](#).

EXTERNAL ASSURANCE

Third-party verification of the 2022 GHG emissions inventory was conducted by GHD Limited (GHD). GHD verified the GHG Scope 1, 2 and 3 emissions of FCX's global operations for the year ended December 31, 2022, in accordance with ISO 14064 (Specifications 1 and 3) to a reasonable level of assurance. In addition, limited third-party assurance of this report was obtained from Ernst & Young LLP. A copy of both statements are included in this report and available in the Sustainability section of our [website](#).

QUALITY IMPROVEMENTS

In 2022, we continued work to improve our GHG Scope 3 emissions estimates, including by working to gather emission factors for significant suppliers through third-party sources and assigning LCA-based factors for certain data sets where available.

CAUTIONARY STATEMENT

This report contains forward-looking statements in which we discuss our potential future performance. Forward-looking statements are all statements other than statements of historical facts, such as plans, projections, expectations, targets, objectives, strategies or goals relating to environmental performance, including expectations regarding execution of our energy and climate strategies, and the underlying assumptions and estimated impacts on our business and stakeholders related thereto; our approach to lower carbon and reduced emissions; our plans and expectations in relation to our future clean energy transition, including targeted reductions of GHG emissions, implementation of technologies and emissions reduction projects, achievement of our 2030 climate targets and our 2050 net zero aspiration; our operational resiliency and climate scenarios; our expectations regarding climate-related risks and future risk mitigation; and our commitment to deliver responsibly produced copper and molybdenum, including plans to implement, validate and maintain validation of our operating sites under specific frameworks. The words "anticipates," "may," "can," "commitments," "plans," "pursues," "believes," "estimates," "expects," "endeavors," "efforts," "initiatives," "seeks," "goal," "predicts," "strategy," "objective," "projects," "targets," "intends," "aspires," "likely," "will," "should," "could," "to be," "potential," "opportunities," "assumptions," "guidance," "forecasts," "future" and any similar expressions are intended to identify those assertions as forward-looking statements. We caution readers that forward-looking statements are not guarantees of future performance and actual results may differ materially from those anticipated, expected, projected or assumed in the forward-looking statements. Important factors that can cause our actual results to differ materially from those anticipated in the forward-looking statements include, but are not limited to, the factors described under the heading "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2022, filed with the U.S. Securities and Exchange Commission (SEC), as updated by our subsequent filings with the SEC, and available on our website at fcx.com.

Many of the assumptions upon which our forward-looking statements are based are likely to change after the forward-looking statements are made. Further, we may make changes to our business plans that could affect our results. We caution investors that we undertake no obligation to update any forward-looking statements, which speak only as of the date made, notwithstanding any changes in our assumptions, changes in business plans, actual experience or other changes.

This report contains statements based on hypothetical scenarios and assumptions, and these statements should not be viewed as representative of current risks or forecasts of expected risks. Third-party scenarios discussed in this report reflect the modeling assumptions and outputs of their respective authors, and their use or inclusion herein is not an endorsement of their underlying assumptions, likelihood or probability. While certain matters discussed in this report may be significant and relevant to our investors, any significance should not be read as rising to the level of materiality for purposes of complying with the U.S. federal securities laws and regulations or the disclosure requirements of the SEC. The goals and projects described in this report are aspirational; as such, no guarantees or promises are made that these goals and projects will be met or successfully executed. Further, the data, statistics and metrics included in this report are non-audited estimates (with the exception of certain financial information and the GHG Scope 1, 2 and 3 emissions data, which have been third-party verified in accordance with ISO 14064 (Specifications 1 and 3) to a reasonable level of assurance), not prepared in accordance with U.S. generally accepted accounting principles, continue to evolve and may be based on assumptions believed to be reasonable at the time of preparation, but should not be considered guarantees and are subject to future revision.

GHG VERIFICATION STATEMENT

1. INTRODUCTION

Freeport-McMoRan Inc. (Freeport) retained GHD Limited (GHD) to conduct a verification of the 2022 greenhouse gas (GHG) emissions inventory (Emissions Inventory) for Freeport's global operations. The Emissions Inventory is a component of Freeport's annual Climate Report and its Sustainability Report. These reports are published annually on Freeport's website for stakeholders and investors, as part of Freeport's long-term sustainability and climate change mitigation policies. A verification statement, prepared by an accredited Verification Body (VB), is included as part of the Climate Report. GHD has prepared this Verification Opinion in accordance with ISO Standard *ISO 14064 Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions*, April 2019 (ISO 14064-3).

2. VERIFICATION OBJECTIVE, STANDARDS AND CRITERIA

The objective of the verification was for GHD to provide Freeport with an opinion on whether the Emissions Inventory contained no material discrepancies and was prepared in general accordance with ISO 14064-3. GHD applied the following criteria for this verification:

- ISO 14064 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals, ISO, December 2018 (ISO 14064-1)
- ISO 14064 Greenhouse gases - Part 3: Specification with guidance for the greenhouse gas assertions, ISO, April 2019 (ISO 14064-3 Specification)
- The Greenhouse Gas Protocol – A Corporate Accounting and Reporting Standard, World Resources Institute/World Business Council for Sustainable Development (the GHG Protocol)
- *Corporate Value Chain (Scope 3) Accounting and Reporting Standard: Supplement to the GHG Protocol Corporate Accounting and Reporting Standard*, World Resources Institute/World Business Council for Sustainable Development (Scope 3 Standard)

The verification was conducted to a reasonable level of assurance.

The quantitative materiality for this verification is set at plus or minus five percent of the reported 2022 emissions as per general industry practice and recommended by the GHG Protocol. In addition, a series of discrete errors, omissions or misrepresentations or individual or a series of qualitative factors, when aggregated may be considered material.

3. GHD ACCREDITATION

GHD is accredited by the ANSI National Accreditation Board (ANAB) under ISO 14065 as a Greenhouse Gas Validation and Verification Body. Our ANAB accreditation can be viewed at the ANAB GHG Accreditation Services website. (<https://anabpd.ansi.org/Accreditation/environmental/greenhouse-gas-validation-verification/AllDirectoryDetails?&prgID=200&OrgId=1735&statusID=4>)

4. VERIFICATION SCOPE

The verification included emissions from Scope 1, 2, & 3 across Freeport's global operations.

Scope 1:

- Stationary Combustion – Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O)
- On-Site Transportation – CO₂, CH₄, N₂O
- Industrial Process Emissions – CO₂, CH₄, N₂O
- Fugitive Emissions – Sulfur hexafluoride (SF₆), Fluorinated gases

Scope 2:

- Purchased Electricity – CO₂, CH₄, N₂O

Scope 3:

- Category 1: Purchased Goods and Services (including Category 2: Capital Goods) - CO₂, CH₄, N₂O
- Category 3: Fuel and Energy-Related Activities - CO₂, CH₄, N₂O
- Category 4: Upstream Transportation and Distribution - CO₂, CH₄, N₂O
- Category 5: Waste Generated in Operations - CO₂, CH₄, N₂O
- Category 6: Business Travel - CO₂, CH₄, N₂O
- Category 7: Employee Commuting - CO₂, CH₄, N₂O
- Category 9: Downstream Transportation and Distribution - CO₂, CH₄, N₂O
- Category 10: Processing of Sold Products - CO₂, CH₄, N₂O

Due to use of US EPA EEIO (Environmentally-Extended Input Output) emission factors for Categories 1, 3, 4, 5 and 7, reported emissions may also include a combination of the following greenhouse gases:

- Carbon tetrafluoride, Hexafluoroethane, HFC-125, HFC-134a, HFC-143a, HFC-23, HFC-236fa, HFC 32, Nitrogen trifluoride, Perfluorocyclobutane, Perfluoropropane and Sulfur hexafluoride.

The verification included emission sources from the facilities listed below.

FACILITY	LOCATION	OPERATIONS
North America		
Morenci	Arizona, USA	Open-pit copper mine
Bagdad	Arizona, USA	Open-pit copper mine
Safford	Arizona, USA	Open-pit copper mine
Sierrita	Arizona, USA	Open-pit copper mine
Miami	Arizona, USA	Copper smelter, rod mill, and open-pit copper mine
Chino	New Mexico, USA	Open-pit copper mine
Tyrone	New Mexico, USA	Open-pit copper mine
Henderson	Colorado, USA	Underground molybdenum mine
Climax	Colorado, USA	Open-pit molybdenum mine
Fort Madison	Iowa, USA	Molybdenum chemical plant
El Paso	Texas, USA	Copper refinery and rod mill
South America		
Cerro Verde	Peru	Open-pit copper mine
El Abra	Chile	Open-pit copper mine
Asia		
Grasberg/PT-FI	Papua, Indonesia	Underground copper and gold mine
Europe		
Atlantic Copper	Spain	Copper smelter
Rotterdam	The Netherlands	Molybdenum chemical plant
Stowmarket	United Kingdom	Ferromolybdenum plant

The reporting period is between January 1, 2022 and December 31, 2022.

5. VERIFICATION PROCEDURES

GHD used the verification procedures detailed in the Verification Plan to assess the following:

1. Accuracy and completeness of annual GHG emissions
2. Uncertainty of external data sources used
3. Emission assumptions
4. Accuracy of emission calculations
5. Potential magnitude of errors and omissions

To sustain a risk-based assessment, the GHD Project Team identified and determined risks related to annual GHG emissions during both the desk reviews and the follow-up interviews. The GHD Project Team particularly focused on the accuracy and completeness of provided information. The components of the document review and follow-up interviews were:

Document Review:

- Review of data and information to confirm the correctness and completeness of presented information.
- Cross-checks between information provided in the Emissions Inventory and information from independent background investigations.
- Determine sensitivity and magnitude analysis for parameters that may be the largest sources of error.
- Comparison of emissions from 2022 with emissions from previous reporting year(s).

Follow-up Interviews:

- In-person/Remote Assessment
- Via telephone
- Via email

Through the document review GHD established to what degree the presented Emissions Inventory documentation met the verification standards and criteria.

The GHD Project Team's document review during the review process comprised an evaluation of whether or not:

- The documentation is complete and comprehensive and follows the structure and criteria given in ISO 14064 and/or other supporting guidance.
- The methodologies are justified and appropriate.
- The assumptions behind the inventory are conservative and appropriate.
- The GHG emission calculations are appropriate and use conservative assumptions for estimating GHG emissions.
- GHG information system and its controls are sufficiently robust to minimize the potential for errors, omissions, or misrepresentations.

The GHD Project Team interviewed Facility personnel to:

- Cross-check information provided
- Test the correctness of critical formulae and calculations
- Review data management and recording procedures

6. SITE ASSESSMENTS

GHD completed on-site verification activities both virtually and in-person. Using a risk-based approach, GHD conducted site assessments at the following facilities:

- El Abra (virtual)
- Safford (in-person)
- Sierrita (in-person)

7. VERIFICATION FINDINGS

Emissions Boundary & Year-over-Year Check

Based on GHD's review the organizational boundary for the Emissions Inventory is appropriate and includes all relevant Scope 1 and Scope 2 emissions. The Scope 3 emissions boundary includes all emission sources for which data was available for the 2022 reporting year. GHD determined the change in emissions from the previous reporting period are consistent with changes in operations and calculation methodologies.

Scope 1, Scope 2, Scope 3 Emissions

GHD reviewed reported Scope 1, 2, and 3 emissions for the reporting period. GHD completed a detailed review of the reported emissions from PTFI, El Abra, Safford and Sierrita as well as reviewing sample data and calculation methodologies from all other Sites. GHD verified that the methodologies used for calculating emissions are reasonable and appropriate and were determined to be reasonable and accurate. GHD did not identify any errors, omissions, or discrepancies that exceeded the materiality threshold. Based on GHD's review the reported emissions are materially correct.

8. STATEMENT OF VERIFICATION

Freeport reported the following as their emissions assertion for the 2022 reporting year:

- Scope 1 Emissions: 4,927,823 tonnes carbon dioxide equivalent (CO₂e)
- Scope 2 Emissions: 2,757,463 tonnes CO₂e
- Scope 3 Emissions: 5,892,373 tonnes CO₂e

Based on the procedures undertaken, it is our opinion that the Freeport 2022 Emissions Inventory is supported by appropriate underlying evidence and is free of material misstatements.

All of Which is Respectfully Submitted,



Sean Williams, P. Eng.

Co-Lead Verifier

CARB Accredited Lead Verifier (H2-20-093)

Jess Cassidy, P. Eng.

Co-Lead Verifier

Gordon Reusing, M.Sc., P.E., P. Eng.

Peer Reviewer

GHD Principal – Greenhouse Gas Assurance Services

INDEPENDENT ACCOUNTANTS' REVIEW REPORT

Management of Freeport-McMoRan Inc.

We have reviewed certain disclosures in Freeport-McMoRan Inc's ("Freeport") 2022 Climate Report ("Report"), inclusive of International Council on Mining and Metals ("ICMM") Subjects Matters 1-5 (the "Subject Matter") as of and for the year ended December 31, 2022, in accordance with the mandatory requirements set out in the ICMM Climate Change Position Statement and related Performance Expectation 6.5 (the "Criteria"). Freeport's management is responsible for selecting the Criteria and for presenting the Subject Matter in accordance with the Criteria. Our responsibility is to express a conclusion on the Subject Matter based on our review.

Other than as described in the preceding paragraph, which sets out the scope of our engagement, we did not perform a review over the disclosures related to the 2022 energy consumption and associated greenhouse gas (GHG) emissions ("Emissions Inventory"), including emissions from Scope 1, 2, and 3. Accordingly, we do not express a conclusion on this information.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants (AICPA) AT-C section 105, *Concepts Common to All Attestation Engagements*, and AT-C section 210, *Review Engagements*, and standards established by the International Auditing and Assurance Standards Board (IAASB) in *International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* ("ISAE 3000"). Those standards require that we plan and perform our review to obtain limited assurance about whether any material modifications should be made to the Subject Matter in order for it to be in accordance with the Criteria, and to issue a report. The procedures performed in a review vary in nature and timing from and are substantially less in extent than, an examination, the objective of which is to obtain reasonable assurance about whether the Subject Matter is in accordance with the Criteria, in all material respects, in order to express an opinion. Accordingly, we do not express such an opinion. Because of the limited nature of the engagement, the level of assurance obtained in a review is substantially lower than the assurance that would have been obtained had an examination been performed. As such, a review does not provide assurance that we became aware of all significant matters that would be

disclosed in an examination. We believe that the review evidence obtained is sufficient and appropriate to provide a reasonable basis for our conclusion.

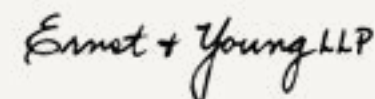
We are required to be independent of Freeport and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements related to our review engagement. Additionally, we have complied with the other ethical requirements set forth in the Code of Professional Conduct and applied the Statements on Quality Control Standards established by the AICPA, as well as the International Standard on Quality Control 1, *Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements*.

The procedures we performed were based on our professional judgment. Our review consisted principally of applying analytical procedures, making inquiries of persons responsible for the subject matter, obtaining an understanding of the data management systems and processes used to generate, aggregate and report the Subject Matter and performing such other procedures as we considered necessary in the circumstances.

The preparation of the Subject Matter requires management to establish and/or interpret the criteria, make determinations as to the relevancy of information to be included, and make estimates and assumptions that affect reported information. Measurement of certain amounts and disclosures includes estimates and assumptions that are subject to substantial inherent measurement uncertainty resulting, for example, from the accuracy and precision of data collection techniques and the process to measure and report information. Obtaining sufficient, appropriate review evidence to support our conclusion does not reduce the inherent uncertainty in the amounts and disclosures. The selection by management of different but acceptable measurement techniques, input data, estimates, or assumptions may have resulted in materially different amounts or disclosures being reported.

Based on our review, we are not aware of any material modifications that should be made to the disclosures in the 2022 Climate Report as of and for the year ended December 31, 2022, in order for it to be in accordance with the Criteria.

September 13, 2023





PERFORMANCE DATA

Unless noted otherwise, the data in this report cover climate matters related to our material operating sites including the following locations: Atlantic Copper, Bagdad, Cerro Verde, Chino (including Cobre), Climax, El Abra, El Paso, Fort Madison, Henderson, Kokkola, Miami, Morenci, PT Freeport Indonesia, Rotterdam, Safford (including Lone Star), Sierrita, Stowmarket and Tyrone.

As a result of methodology changes, corrections, or ongoing improvements to our data collection processes and quality, prior year data may be adjusted in future years. For more information on quality improvements, please see the [About This Report](#) section. Non-financial data contained in this report have not been prepared in conformity with U.S. generally accepted accounting principles and have not been audited. Our Scope 1, 2 and 3 greenhouse gas (GHG) emissions data have been third-party verified in accordance with ISO 14064 Specifications 1 and 3) to a reasonable level of assurance. Data herein have been assured in accordance with the International Standard on Assurance ISEA3000 (revised). Historical results are not necessarily indicative of future performance. All financial figures are quoted in U.S. dollars, unless otherwise noted. Due to rounding, some figures and percentages may not add up to the total figure or 100%. Data presented cover our performance for the years ending on December 31st, which corresponds to our fiscal year.

Additional information about our financial performance is available on our website at [fcx.com](https://www.fcx.com).

GHG EMISSIONS

SCOPE 1 + 2 ¹ (CO ₂ e METRIC TONS)	2018	2019	2020	2021	2022
Copper Mining	7,210,910	6,884,622	6,281,624	6,452,531	6,866,853
Molybdenum Mining	265,391	277,775	221,605	197,314	236,324
Smelting & Refining	643,317	579,316	545,782	504,866	542,969
Other	42,745	47,816	41,417	35,003	39,140
Scope 1 + 2¹ Total - FCX Global	8,162,363	7,789,529	7,090,429	7,189,714	7,685,286
SCOPE 3 (CO ₂ e METRIC TONS)					
Scope 3 Total - FCX Global²	750,332	692,336	1,729,251	5,179,522	5,892,373

- Scope 2 emissions have been calculated using a market-based method, where available. The market-based calculation of Scope 2 emissions utilizes emission factors that are available at the time of inventory close. Emission factors are determined by each market according to their reporting schedule. Therefore, certain emission factors used in market-based calculations may be up to one year in arrears due to lag time. As required by the GHG Protocol, FCX's location-based 2023 Scope 2 emissions are reported on the "Dual Reporting" tab. PT-FI generates its own electricity. As a result, there are no Scope 2 emissions associated with PT-FI operations.
- 2022 Scope 3 data has been revised since the publication of the 2022 Annual Sustainability Report in April 2023. At that time, Categories 1 to 8 (excluding Category 6) were based on spend data from the 2021 Climate Report, published in September 2022. We have since been able to update the data based on 2022 spend data.

Note: GHG emissions data have been prepared in accordance with the GHG Protocol. FCX reports GHG emissions on a 100% operational basis. FCX's GHG emissions verification statement is available in this report and on the Sustainability section of FCX's [website](#).

2030 GHG EMISSIONS INTENSITY REDUCTION TARGETS¹

	Baseline Year 2018	2019	2020	2021	2022	Target Year 2030
Intensity Reduction Targets¹ (metric tons CO ₂ e/metric tons production)						
Americas Copper ² - 15% intensity reduction	3.72	3.70	3.81	3.59	3.63	3.17
PT-FI (Grasberg) ³ - 30% intensity reduction	4.76	7.73	5.40	3.71	3.52	3.34
Absolute Reduction Targets⁴ (total annual metric tons CO ₂ e)						
Atlantic Copper Smelter & Refinery - 50% absolute reduction	176,865	146,044	126,103	112,671	89,435	88,432
Primary Molybdenum Sites ⁵ - 35% absolute reduction	308,136	325,591	263,023	232,317	275,464	200,288

- Intensity reduction targets (CO₂e metric tons / metric ton copper) include total (Scope 1 and 2) emissions and do not include by-products in the denominator. Baseline and target are calculated and therefore may differ due to rounding.
- Americas copper (for target) includes Bagdad, Cerro Verde, Chino (including Cobre), El Abra, Morenci, Safford (including Lone Star), Sierrita and Tyrone mines as well as the Miami smelter and El Paso refinery. This target includes all payable copper, including payable copper in concentrate and cathode, but excludes rod and wire; GHG emissions associated with the production of by-product molybdenum are also included.
- Our PT-FI (Grasberg) intensity reduction target is based on payable copper produced in concentrate. In 2022, PT-FI concentrate was smelted and refined by PTS and third-party smelters/refineries whose emissions are currently accounted for as our Scope 3 emissions and therefore not included in this target. Completion of the PTS expansion and Manyar smelter project is currently anticipated to occur in mid-2024 with ramp-up completion scheduled through the end of 2024. Upon completion, we plan to review the GHG emissions categorizations for these operations. Certain of these emissions may be reclassified from Scope 3 to Scopes 1 or 2. Following this review, we may adjust our PT-FI target and baseline in line with the GHG Protocol.
- Absolute targets include total (Scope 1 and 2) emissions.
- Primary molybdenum sites target includes Climax and Henderson mines located in the U.S., and downstream molybdenum processing facilities located in the U.S., U.K. and the Netherlands (Fort Madison, Stowmarket and Rotterdam, respectively).

GHG EMISSIONS

SCOPE 1 (CO ₂ e METRIC TONS)		2018	2019	2020	2021	2022
COPPER MINING	North America					
	Bagdad	148,112	160,559	162,715	163,182	179,776
	Chino/Cobre	167,047	148,576	53,111	100,331	87,190
	Morenci	615,256	677,159	627,797	620,636	656,640
	Safford/Lone Star	177,236	217,855	225,197	185,084	202,373
	Sierrita	133,627	151,818	119,190	154,978	145,309
	Tyrone	35,826	37,227	41,910	40,622	46,535
	South America					
	Cerro Verde	578,103	638,972	564,127	644,126	664,044
	El Abra	133,703	141,452	80,540	61,937	84,379
	Indonesia					
	PT-FI (Grasberg)	2,651,587	2,212,265	2,034,939	2,284,467	2,504,660
Total Copper Mining	4,640,498	4,385,885	3,909,526	4,255,365	4,570,905	
MOLYBDENUM MINING	North America					
	Climax	41,950	51,414	34,558	29,591	57,480
	Henderson	18,860	19,966	17,232	17,817	17,159
Total Molybdenum Mining	60,810	71,380	51,790	47,408	74,639	
SMELTING & REFINING	North America					
	Bayway Rod & Wire ¹	1,116	916	-	-	-
	El Paso Refinery & Rod	60,473	71,105	85,613	100,043	110,204
	Miami Smelter & Rod	99,752	93,840	98,602	93,234	97,114
	Norwich Rod ¹	18,463	17,735	-	-	-
	Europe					
	Atlantic Copper Smelter & Refinery	57,767	59,299	60,149	53,427	47,266
Kokkola Cobalt Refinery ¹	4,693	4,277	3,184	-	-	
Total Smelting & Refining	242,263	247,172	247,549	246,704	254,584	
OTHER	Other					
	Fort Madison Moly Special Products	14,111	16,709	17,107	16,610	19,856
	Rotterdam	6,925	8,404	8,238	9,365	7,752
	Stowmarket	113	119	88	107	86
Total Other	21,149	25,232	25,433	26,082	27,694	
Scope 1 Total - FCX Global		4,964,720	4,729,669	4,234,298	4,575,559	4,927,823

1. In 2020, FCX closed and decommissioned its Bayway rod & wire and Norwich rod facilities, and in September 2021, FCX completed the sale of its remaining cobalt business based in Kokkola, Finland.

Note: GHG emissions data have been prepared in accordance with the GHG Protocol. FCX reports GHG emissions on a 100% operational basis. FCX's GHG emissions verification statement is available in this report and on the Sustainability section of FCX's [website](#).

GHG EMISSIONS

SCOPE 2 (CO ₂ e METRIC TONS)		2018	2019	2020	2021	2022
COPPER MINING	North America					
	Bagdad	254,016	231,111	239,608	160,233	159,923
	Chino/Cobre	228,615	226,323	100,720	130,793	145,538
	Morenci	985,533	970,178	949,081	763,267	815,734
	Safford/Lone Star	88,718	98,252	138,629	156,798	156,530
	Sierrita	389,041	352,222	408,617	356,594	331,758
	Tyrone	100,009	106,392	80,071	91,194	91,193
	South America					
	Cerro Verde	264,778	275,539	231,339	315,557	405,710
	El Abra	259,703	238,720	224,033	222,730	189,561
	Indonesia					
PT-FI (Grasberg) ²	0	0	0	0	0	
Total Copper Mining	2,570,413	2,498,737	2,372,098	2,197,166	2,295,947	
MOLYBDENUM MINING	North America					
	Climax	98,909	96,278	66,231	62,348	74,891
	Henderson	105,672	110,116	103,584	87,557	86,794
Total Molybdenum Mining	204,581	206,395	169,815	149,905	161,685	
SMELTING & REFINING	North America					
	Bayway Rod & Wire ¹	764	773	-	-	-
	El Paso Refinery & Rod	18,843	13,078	18,293	15,493	18,670
	Miami Smelter & Rod	235,059	204,128	207,312	183,425	227,545
	Norwich Rod ¹	5,449	4,907	-	-	-
	Europe					
	Atlantic Copper Smelter & Refinery ³	119,098	86,745	65,954	59,244	42,169
Kokkola Cobalt Refinery ¹	21,840	22,513	6,675	-	-	
Total Smelting & Refining	401,054	332,144	298,233	258,162	288,384	
OTHER	Other					
	Fort Madison Moly Special Products	21,088	22,136	15,698	8,606	11,146
	Rotterdam ³	0	0	0	0	0
	Stowmarket	508	447	286	315	300
Total Other	21,596	22,584	15,984	8,921	11,446	
Scope 2² Total - FCX Global	3,197,643	3,059,859	2,856,131	2,614,155	2,757,463	

1. In 2020, FCX closed and decommissioned its Bayway Rod & Wire and Norwich Rod facilities, and in September 2021, FCX completed the sale of its remaining cobalt business based in Kokkola, Finland.

2. Scope 2 emissions have been calculated using a market-based method, where available. The market-based calculation of Scope 2 emissions utilizes emission factors that are available at the time of inventory close. Emission factors are determined by each market according to their reporting schedule. Therefore, certain emission factors used in market-based calculations may be up to one year in arrears due to lag time. As required by the GHG Protocol, FCX's location-based 2023 Scope 2 emissions are reported on the "Dual Reporting" tab. PT-FI generates its own electricity. As a result, there are no Scope 2 emissions associated with PT-FI operations.

3. At our Rotterdam processing facility, we purchase renewable energy certificates (RECs) for all electricity. Since 2020, at our Atlantic Copper smelter & refinery, we have purchased RECs for a portion of our electricity.

Note: Note: GHG emissions data have been prepared in accordance with the GHG Protocol. FCX reports GHG emissions on a 100% operational basis. FCX's GHG emissions verification statement is available in this report and on the Sustainability section of FCX's [website](#).

2022 GHG EMISSIONS - SCOPE 2 DUAL REPORTING

SCOPE 2 (CO ₂ e METRIC TONS)		Location-Based ¹	Market-Based ²
COPPER MINING	North America		
	Bagdad	171,875	159,923
	Chino/Cobre	176,394	145,538
	Morenci	771,091	815,734
	Safford/Lone Star	147,994	156,530
	Sierrita	211,029	331,758
	Tyrone	110,453	91,193
	South America		
	Cerro Verde	626,393	405,710
	El Abra	189,561	189,561
	Indonesia		
	PT-FI (Grasberg) ³	0	0
Total Copper Mining	2,404,791	2,295,947	
MOLYBDENUM MINING	North America		
	Climax	88,436	74,891
	Henderson	102,492	86,794
Total Molybdenum Mining	190,928	161,685	
SMELTING & REFINING	North America		
	El Paso Refinery & Rod	31,065	18,670
	Miami Smelter & Rod	168,738	227,545
	Europe		
	Atlantic Copper Smelter & Refinery	69,379	42,169
Total Smelting & Refining	269,183	288,384	
OTHER	Other		
	Fort Madison Moly Special Products	11,146	11,146
	Rotterdam	5,058	0
	Stowmarket	300	300
	Total Other	16,503	11,446
Scope 2 Total - FCX Global		2,881,405	2,757,463

1. Location-based emission factors are sourced from publicly available regulatory or similar reports from regions where FCX operates.

2. Market-based emission factors were not applicable or available for certain markets where we operate, and therefore, location-based emission factors have been used in accordance with GHG Protocol - Scope 2 Guidance. The market-based calculation of Scope 2 emissions utilizes emission factors that are available at the time of inventory close. Emission factors are determined by each market according to their reporting schedule. Therefore, certain emission factors used in market-based calculations may be up to one year in arrears due to lag time.

3. PT-FI generates its own electricity. As a result, there are no Scope 2 emissions associated with PT-FI operations.

Note: GHG emissions data have been prepared in accordance with the GHG Protocol. FCX reports GHG emissions on a 100% operational basis. FCX's GHG emissions verification statement is available in this report and on the Sustainability section of FCX's [website](#).

SCOPE 3 EMISSIONS INVENTORY DEVELOPMENT

(CO ₂ e METRIC TONS)			
	INVENTORY REVIEW		
	Estimated FY 2020 Emissions	Estimated FY 2021 Emissions	Estimated FY 2022 Emissions
	<i>As of 2020 Climate Report</i>	<i>As of 2021 Climate Report</i>	<i>As of 2022 Climate Report¹</i>
Upstream			
Category 1: Purchased goods and services	323,012	2,849,703	3,087,916
Category 2: Capital goods	To be calculated	Included above	Included above
Category 3: Fuel and energy-related activities	225,358	551,616	938,832
Category 4: Upstream transportation and distribution	To be calculated	426,360	331,996
Category 5: Waste generated in operations	Minor Impact	8,665	6,254
Category 6: Business travel	1,684	1,315	4,667
Category 7: Employee commuting	Minor Impact	14,485	12,764
Category 8: Upstream leased assets	Not applicable	Not applicable	Not applicable
Downstream			
Category 9: Downstream transportation and distribution	336,159	442,010	399,201
Category 10: Processing of sold products	843,038	885,367	1,110,743
Category 11: Use of sold products	Minor Impact	Minor Impact	Minor Impact
Category 12: End-of-life treatment of sold products	Minor Impact	Minor Impact	Minor Impact
Category 13: Downstream leased assets	Not applicable	Not applicable	Not applicable
Category 14: Franchises	Not applicable	Not applicable	Not applicable
Category 15: Investments	Not applicable	Not applicable	Not applicable
Total Scope 3 Emissions	1,729,251	5,179,522	5,892,373

1. 2022 Scope 3 data has been revised since the publication of the 2022 Annual Sustainability Report in April 2023. At that time, Categories 1 to 8 (excluding Category 6) were based on spend data from the 2021 Climate Report, published in September 2022. We have since been able to update the data based on 2022 spend data.

Note: GHG emissions data have been prepared in accordance with the GHG Protocol, and we have expanded our Scope 3 emissions calculations to include additional categories. A majority of Category 1 emissions data were calculated using environmentally extended input-output (EEIO) analysis, using purchasing data and the U.S. Environmental Protection Agency's emission factors. Emissions estimates for Category 1 and Category 3 include emissions associated with lime, chemicals, reagents, tires, explosives, and all remaining mining supplies and emissions associated with extraction, refining and transportation of raw fuels sourced to FCX sites and third parties used in the generation of electricity (natural gas, gasoline, coal, and other fuels) prior to combustion, respectively. FCX reports GHG emissions on a 100% operational basis. FCX's GHG emissions verification statement is available in this report and on the Sustainability section of FCX's [website](#).

SCOPE 3 CALCULATION METHODOLOGY

Scope 3 estimates by nature are imprecise; they are generated by other companies in often complex supply chains. To estimate these emissions (with exception of Categories 9 & 10), FCX uses a hybrid financial spend-based method for goods, services and other Scope 3 activities. This method uses best available emission factors – process-based Life Cycle Assessment (LCA) factors for inputs where the relationship between spend and materials are easily understood (e.g., copper concentrate or sulfuric acid) and EEIO emission factors for financial spend that is more difficult to model. This method was employed for the following Scope 3 categories:

1. **Category 1:** Purchased goods and services (including **Category 2:** Capital Goods);
2. **Category 3:** Fuel- and energy-related activities;
3. **Category 4:** Upstream transportation;
4. **Category 5:** Waste generated in operations; and
5. **Category 7:** Employee commuting

Categories 9 and 10 are calculated using activity data such as distance or mass in conjunction with industry-average emission factors. Categories 8, 11, 12, 13, 14 and 15 are either not applicable or have a minor impact, in line with the GHG Protocol. As described by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard Guidance, "EEIO models are derived by allocating national GHG emissions to groups of finished products based on economic flows between industry sectors." Spend data for specific categories are mapped to corresponding industry sectors and then multiplied by cradle-to-gate emission factors for the sector to provide estimated carbon emissions. As a result of this approach, while these emission factors are indicative in nature, the results could significantly over (or in some cases under) estimate emissions. However, they provide a first estimate which can be complemented over time with process-based LCA emission factors or actual data provided by suppliers.

For copper purchases (e.g., cathode, concentrate and scrap), rather than EEIO factors, we assigned an LCA based emission factor from third-party databases. This supports a higher quality dataset for what makes up approximately 20% or more of Category 1 emissions. Most of this sub-set is due to externally purchased copper concentrates at Atlantic Copper.

ENERGY CONSUMPTION - FCX GLOBAL

TOTAL ENERGY (TERAJOULES)	2018	2019	2020	2021	2022
Copper Mining	86,537	83,268	75,699	81,148	86,319
Molybdenum Mining	2,236	2,463	2,012	1,893	2,333
Smelting & Refining	8,089	7,863	7,840	7,493	7,705
Other	640	721	698	677	715
Total - FCX Global	97,502	94,315	86,249	91,212	97,072

ENERGY CONSUMPTION BY SITE

DIRECT ENERGY (TERAJOULES)		2018	2019	2020	2021	2022
COPPER MINING	North America					
	Bagdad	1,873	2,031	2,077	2,024	2,235
	Chino/Cobre	2,131	1,803	706	1,474	1,108
	Morenci	7,938	8,749	8,088	7,975	8,295
	Safford/Lone Star	1,262	1,667	2,008	2,244	2,491
	Sierrita	1,699	1,924	1,513	1,955	1,850
	Tyrone	443	456	515	502	571
	South America					
	Cerro Verde	7,193	7,946	7,093	7,981	8,339
	El Abra ¹	1,676	1,767	1,031	757	1,031
	Indonesia					
PT-FI (Grasberg)	31,357	26,066	24,217	26,422	28,854	
Total Copper Mining	55,572	52,409	47,248	51,334	54,774	
MOLYBDENUM MINING	North America					
	Climax	584	694	497	424	779
	Henderson	319	324	325	333	319
Total Molybdenum Mining	903	1,018	822	757	1,098	
SMELTING & REFINING	North America					
	Bayway Rod & Wire	22	18	-	-	-
	El Paso Refinery & Rod	1,197	1,408	1,694	1,981	2,184
	Miami Smelter & Rod	1,921	1,795	1,910	1,790	1,869
	Norwich Rod	366	351	-	-	-
	Europe					
	Atlantic Copper Smelter & Refinery	846	874	895	800	725
Kokkola Cobalt Refinery	78	71	53	-	-	
Total Smelting & Refining	4,430	4,517	4,552	4,572	4,778	
OTHER	Other					
	Fort Madison Moly Special Products	276	325	339	327	393
	Rotterdam	137	164	163	185	153
	Stowmarket	2	2	1	2	1
Total Other	415	491	503	514	547	
Direct Energy Total - FCX Global		61,318	58,436	53,127	57,177	61,197

1. El Abra has a regenerative downhill conveyor system that is 20km in length that generates approximately 31 TJ of electricity for use on site as it transports material for processing. This was included in Direct Energy in 2018-2020 but has not been included in 2021 or 2022 to align with the GRI definition of total energy consumption.

Note: In 2020, FCX closed and decommissioned its Bayway rod & wire and Norwich rod facilities, and in September 2021, FCX completed the sale of its remaining cobalt business based in Kokkola, Finland.

ENERGY CONSUMPTION BY SITE

INDIRECT ENERGY (TERAJOULES)		2018	2019	2020	2021	2022
COPPER MINING	North America					
	Bagdad	2,072	2,080	2,088	1,853	1,871
	Chino/Cobre	1,724	1,641	886	1,068	1,225
	Morenci	8,608	8,521	8,251	7,844	8,393
	Safford/Lone Star	775	863	1,203	1,611	1,611
	Sierrita	2,067	1,996	2,315	2,179	2,297
	Tyrone	755	771	715	750	767
	South America					
	Cerro Verde	12,731	12,868	11,005	12,458	13,111
	El Abra ¹	2,233	2,119	1,988	2,052	2,270
	Indonesia					
PT-FI (Grasberg) ²	0	0	0	0	0	
Total Copper Mining	30,965	30,859	28,451	29,814	31,545	
MOLYBDENUM MINING	North America					
	Climax	644	674	464	473	572
	Henderson	689	771	726	664	663
Total Molybdenum Mining	1,333	1,445	1,190	1,136	1,235	
SMELTING & REFINING	North America					
	Bayway Rod & Wire	12	12	-	-	-
	El Paso Refinery & Rod	278	191	269	240	286
	Miami Smelter & Rod	1,917	1,729	1,889	1,665	1,837
	Norwich Rod	85	76	-	-	-
	Europe					
	Atlantic Copper Smelter & Refinery	1,046	1,007	1,032	1,016	804
	Kokkola Cobalt Refinery	321	331	98	-	-
Total Smelting & Refining	3,659	3,346	3,288	2,921	2,927	
OTHER	Other					
	Fort Madison Moly Special Products	155	163	145	111	114
	Rotterdam	64	61	46	47	49
	Stowmarket	6	6	4	5	5
Total Other	225	230	195	163	168	
Indirect Energy Total - FCX Global		36,182	35,881	33,125	34,035	35,875

1. El Abra has a regenerative downhill conveyor system that is 20km in length that generates approximately 31 TJ of electricity for use on site as it transports material for processing. This was included in Direct Energy in 2018-2020 but has not been included in 2021 or 2022 to align with the GRI definition of total energy consumption.

2. PT-FI generates its own electricity; as a result, there are no indirect energy entries in this table.

Note: In 2020, FCX closed and decommissioned its Bayway rod & wire and Norwich rod facilities, and in September 2021, FCX completed the sale of its remaining cobalt business based in Kokkola, Finland.

2022 ENERGY CONSUMPTION BY TYPE

(TERAJOULES, EXCEPT PERCENTAGES)	DIRECT ENERGY			INDIRECT ENERGY			TOTAL ENERGY			% RENEWABLE	
	RENEWABLE	NONRENEWABLE	TOTAL	RENEWABLE	NONRENEWABLE	TOTAL	RENEWABLE	NONRENEWABLE	TOTAL		
COPPER MINING	North America										
	Bagdad	0	2,235	2,235	450	1,421	1,871	450	3,655	4,105	11%
	Chino/Cobre	0	1,108	1,108	73	1,152	1,225	73	2,260	2,333	3%
	Morenci	0	8,295	8,295	992	7,401	8,393	992	15,697	16,689	6%
	Safford/Lone Star	0	2,491	2,491	191	1,420	1,611	191	3,911	4,102	5%
	Sierrita	0	1,850	1,850	128	2,169	2,297	128	4,019	4,147	3%
	Tyrone	0	571	571	46	721	767	46	1,292	1,338	3%
	South America										
	Cerro Verde	416	7,924	8,340	9,516	3,595	13,111	9,931	11,519	21,450	46%
	El Abra	0	1,031	1,031	1,249	1,022	2,271	1,249	2,052	3,301	38%
	Indonesia										
	PT-FI (Grasberg)	129	28,725	28,854	0	0		129	28,725	28,854	0%
Total Copper Mining	545	54,230	54,775	12,645	18,901	31,546	13,189	73,130	86,319	15%	
MOLYBDENUM MINING	North America										
	Climax	0	779	779	223	349	572	223	1,128	1,351	17%
	Henderson	11	307	318	259	404	663	270	711	981	28%
Total Molybdenum Mining	11	1,086	1,097	482	753	1,235	493	1,839	2,332	21%	
SMELTING & REFINING	North America										
	El Paso Refinery & Rod	0	2,184	2,184	8	278	286	8	2,462	2,470	0%
	Miami Smelter & Rod	0	1,869	1,869	290	1,547	1,837	290	3,416	3,706	8%
	Europe										
	Atlantic Copper Smelter & Refinery	0	725	725	363	441	804	363	1,167	1,530	24%
Total Smelting & Refining	0	4,778	4,778	661	2,266	2,927	661	7,045	7,706	9%	
OTHER	Other										
	Fort Madison Moly Special Products	0	393	393	65	49	114	65	442	507	13%
	Rotterdam	0	153	153	49	0	49	49	153	202	24%
	Stowmarket	0	1	1	2	3	5	2	5	7	29%
Total Other	0	547	547	116	52	168	116	600	716	16%	
Total - FCX Global	556	60,641	61,197	13,904	21,972	35,876	14,459	82,614	97,072	15%	

2022 INDIRECT ENERGY CONSUMED BY SOURCE

(TERAJOULES)	GEO-THER-MAL	SOLAR	WIND	NUCLEAR	HYDRO	BIOMASS	OTHER FOSSIL	GAS	OIL	COAL/ COKE	OTHER	
COPPER MINING	North America											
	Bagdad	59.2	104.5	90.5	327.3	189.2	6.9	0.0	814.7	278.6	0.0	0.0
	Chino/Cobre	13.5	23.8	20.7	74.7	13.5	1.6	0.0	1,013.1	63.6	0.4	0.0
	Morenci	183.2	323.4	280.3	1,013.2	183.2	21.6	0.0	5,525.9	862.3	0.0	0.0
	Safford/Lone Star	35.3	62.2	53.9	194.9	35.3	4.1	0.0	1,059.4	165.8	0.0	0.0
	Sierrita	0.0	98.8	29.2	0.0	0.0	0.0	0.0	1,114.1	855.2	0.0	199.8
	Tyrone	8.5	15.0	13.0	47.1	8.5	1.0	0.0	633.5	40.1	0.0	0.0
	South America											
	Cerro Verde	0.0	81.3	61.6	0.0	9,375.4	18.4	0.0	3,423.2	44.6	106.2	0.0
	El Abra	22.7	385.9	249.7	0.0	544.9	45.4	22.7	431.3	522.2	45.4	0.0
	Indonesia											
PT-FI (Grasberg) ¹	-	-	-	-	-	-	-	-	-	-	-	
Total Copper Mining	322.4	1,094.9	798.9	1,657.2	10,349.9	99.0	22.7	14,015.3	2,832.3	152.0	199.8	
MOLYBDENUM MINING	North America											
	Climax	0.0	28.6	194.5	0.0	0.0	0.0	0.0	165.9	183.0	0.0	0.0
	Henderson	0.0	33.1	225.4	0.0	0.0	0.0	0.0	192.2	212.1	0.0	0.0
Total Molybdenum Mining	0.0	61.7	419.9	0.0	0.0	0.0	0.0	358.1	395.2	0.0	0.0	
SMELTING & REFINING	North America											
	El Paso Refinery & Rod	0.0	7.7	0.0	125.0	0.0	0.0	0.0	121.0	0.0	0.0	32.3
	Miami Smelter & Rod	57.1	169.5	12.5	302.5	44.6	6.1	0.0	777.1	398.0	0.0	69.2
	Europe											
	Atlantic Copper Smelter & Refinery ²	0.0	12.9	276.6	186.6	15.3	57.9	41.8	155.2	30.6	8.0	19.3
Total Smelting & Refining	57.1	190.1	289.1	614.0	59.9	64.0	41.8	1,053.3	428.6	8.0	120.9	
OTHER	Other											
	Fort Madison Moly Special Products	0.0	0.3	62.9	0.0	1.6	0.3	0.0	10.9	37.6	0.2	0.0
	Rotterdam ²	0.0	0.0	0.0	0.0	0.0	49.5	0.0	0.0	0.0	0.0	0.0
	Stowmarket	0.0	0.1	1.2	0.4	0.1	0.2	0.0	2.7	0.2	0.0	0.2
Total Other	0.0	0.4	64.1	0.4	1.7	50.0	0.0	13.6	37.8	0.2	0.2	
Total - FCX Global	379.5	1,347.2	1,571.9	2,271.6	10,411.5	213.0	64.5	15,440.3	3,693.9	160.3	320.9	

1. PT-FI generates its own electricity; as a result, there are no indirect energy entries in this table.

2. At our Rotterdam processing facility, we purchase renewable energy certificates for all electricity. Since 2020, at our Atlantic Copper smelter & refinery, we have purchased RECs for a portion of our electricity.

2022 DIRECT ENERGY CONSUMED BY SOURCE

(TERAJOULES)	COAL/ COKE	DIESEL	B5 BIODIESEL	B20 BIODIESEL	B30 BIODIESEL	GASOLINE	NATURAL GAS	PROPANE /LPG	AVIATION FUEL	USED OIL	OTHER	
COPPER MINING	North America											
	Bagdad	0.0	2,115.4	0.0	0.0	0.0	31.5	86.8	1.1	0.0	0.0	0.0
	Chino/Cobre	0.0	953.6	0.0	0.0	0.0	26.8	124.5	3.4	0.0	0.0	0.0
	Morenci	0.0	7,386.8	0.0	0.0	0.0	192.2	715.2	1.3	0.0	0.0	0.0
	Safford/Lone Star	0.0	2,411.7	0.0	0.0	0.0	59.6	0.0	19.9	0.0	0.0	0.0
	Sierrita	0.0	1,636.5	0.0	0.0	0.0	38.4	168.7	6.7	0.0	0.0	0.0
	Tyrone	0.0	530.1	0.0	0.9	0.0	16.4	21.2	2.5	0.0	0.0	0.0
	South America											
	Cerro Verde	0.0	0.0	8,314.3	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0
	El Abra ¹	0.0	1,011.7	0.0	0.0	0.0	14.6	0.0	4.5	0.0	0.0	39.1
	Indonesia											
PT-FI (Grasberg)	17,602.2	10,406.2	0.0	0.0	429.6	31.4	0.0	0.0	226.6	158.1	0.0	
Total Copper Mining	17,602.2	26,452.0	8,314.3	0.9	429.6	435.9	1,116.4	39.4	226.6	158.1	39.1	
MOLYBDENUM MINING	North America											
	Climax	0.0	567.2	0.0	0.0	0.0	10.5	200.6	1.0	0.0	0.0	0.0
	Henderson	0.0	13.7	0.0	0.0	38.2	4.1	260.6	1.9	0.0	0.0	0.0
Total Molybdenum Mining	0.0	580.9	0.0	0.0	38.2	14.6	461.2	2.9	0.0	0.0	0.0	
SMELTING & REFINING	North America											
	El Paso Refinery & Rod	0.0	5.5	0.0	0.0	0.0	0.3	2,168.3	9.5	0.0	0.0	0.0
	Miami Smelter & Rod	0.0	51.4	0.0	0.0	0.0	12.0	1,802.7	2.7	0.0	0.0	0.0
	Europe											
	Atlantic Copper Smelter & Refinery	42.0	174.1	0.0	0.0	0.0	0.0	509.1	0.0	0.0	0.0	0.0
Total Smelting & Refining	42.0	231.0	0.0	0.0	0.0	12.3	4,480.1	12.2	0.0	0.0	0.0	
OTHER	Other											
	Fort Madison Moly Special Products	0.0	0.3	0.0	0.0	0.0	0.1	390.5	1.8	0.0	0.0	0.0
	Rotterdam	0.0	0.2	0.0	0.0	0.0	0.0	153.2	0.0	0.0	0.0	0.0
	Stowmarket	0.0	0.8	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Total Other	0.0	1.3	0.0	0.0	0.0	0.1	544.2	1.8	0.0	0.0	0.0	
Total - FCX Global	17,644.2	27,265.2	8,314.3	0.9	467.8	462.9	6,601.9	56.3	226.6	158.1	39.1	

1. El Abra has a regenerative downhill conveyor system that is 20km in length that generates electricity for use on site as it transports material for processing.

TCFD INDEX

The Financial Stability Board established the Task Force on Climate-related Financial Disclosures (TCFD) to develop recommendations for more effective climate-related disclosures. In 2017, the TCFD released climate-related financial disclosure recommendations designed to help companies provide better information to support informed decision-making. Additionally, FCX aligns to the TCFD's 2021 supplemental disclosures for the Materials and Buildings section (including mining and metals). The TCFD's recommendations are structured around four thematic areas: governance, strategy, risk management, and metrics and targets. FCX is committed to continuing to work towards aligning our climate-related disclosures with the current recommendations of the TCFD.



TCFD THEMES	RECOMMENDATION	REFERENCES
<p>GOVERNANCE:</p> <p>Disclose the organization's governance around climate-related risks and opportunities</p>	(a) Describe the board's oversight of climate-related risks and opportunities	<p>(1) 2023 Proxy Statement: ESG/Sustainability</p> <p>(2) 2022 Climate Report: Governance</p> <p>(3) 2022 Annual Report on Sustainability: Our Approach</p> <p>(4) Charter of the Corporate Responsibility Committee of the Board of Directors</p>
	(b) Describe management's role in assessing and managing climate-related risks and opportunities	<p>(1) 2023 Proxy Statement: ESG/Sustainability</p> <p>(2) 2022 Climate Report: Governance</p> <p>(3) 2022 Annual Report on Sustainability: Our Approach</p> <p>(4) 2022 Annual Report on Sustainability: Climate</p>
<p>STRATEGY:</p> <p>Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material</p>	(a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	(1) 2022 Climate Report: Resilience
	<p>(b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning</p> <p>Materials and Buildings supplemental non-financial disclosures: How climate-related risks and opportunities are integrated into (1) current decision making and (2) strategy formulation.</p>	<p>(1) 2022 Climate Report: Resilience</p> <p>(2) 2022 Climate Report: Risk Management, Internal Carbon Pricing</p> <p>(3) 2022 Climate Report: Reduction</p> <p>(4) 2022 Climate Report: Governance</p>
	<p>(c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario</p> <p>Materials and Buildings supplemental non-financial disclosures: Conducting more robust scenario analysis to assess the resilience of their strategies against a range of climate-related scenarios</p>	<p>(1) 2022 Climate Report: Resilience</p> <p>(2) 2022 Climate Report: Contribution</p>
<p>RISK MANAGEMENT:</p> <p>Disclose how the organization identifies, assesses and manages climate-related risks</p>	(a) Describe the organization's processes for identifying and assessing climate-related risks	<p>(1) 2022 Climate Report: Governance</p> <p>(2) 2022 Climate Report: Resilience</p> <p>(3) 2023 Proxy Statement: ESG/Sustainability</p> <p>(4) 2022 Annual Report on Sustainability: Our Strategy in Action: Responsible Production</p>
	(b) Describe the organization's processes for managing climate-related risks	<p>(1) 2022 Climate Report: Governance</p> <p>(2) 2023 Proxy Statement: ESG/Sustainability</p> <p>(3) 2022 Annual Report on Sustainability: Our Strategy in Action: Responsible Production</p>
	(c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	<p>(1) 2022 Climate Report: Reduction</p> <p>(2) 2022 Climate Report: Contribution</p> <p>(3) 2022 Climate Report: Risk Management, Internal Carbon Pricing</p> <p>(4) Sustainability > Tailings Management Program on fcx.com</p> <p>(5) 2022 Annual Report on Sustainability: Water Stewardship</p> <p>(6) 2022 Annual Report on Sustainability: Communities & Indigenous Peoples</p> <p>(7) ESG Performance Data on fcx.com</p>
<p>METRICS & TARGETS:</p> <p>Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material</p>	<p>(a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process</p> <p>Materials and Buildings supplemental non-financial disclosures: Key metrics related to the implications of GHG emissions, energy and water on the financial aspects related to revenue, costs, assets and financing costs.</p>	<p>(1) 2022 Climate Report: Reduction</p> <p>(2) 2022 Climate Report: Contribution</p> <p>(3) 2022 Climate Report: Risk Management, Internal Carbon Pricing</p> <p>(4) Sustainability > Tailings Management Program on fcx.com</p> <p>(5) 2022 Annual Report on Sustainability: Water Stewardship</p> <p>(6) 2022 Annual Report on Sustainability: Communities & Indigenous Peoples</p> <p>(7) ESG Performance Data on fcx.com</p>
	(b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks	<p>(1) 2022 Climate Report: Reduction</p> <p>(2) 2022 Climate Report: Contribution</p>
	(c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	<p>(3) ESG Performance Data on fcx.com</p>

We Welcome Your Feedback

We would love to hear from you. Please contact us at ir@fmi.com or sustainability@fmi.com to ask questions and provide input to our company.



333 North Central Avenue
Phoenix, Arizona 85004
602.366.8100 | fcx.com
#ForemostInCopper

 [FM_FCX](https://twitter.com/FM_FCX)
 [Freeport-McMoRan](https://www.linkedin.com/company/freeport-mcmoran)
 [FreeportFCX](https://www.facebook.com/FreeportFCX)
 [FreeportFCX](https://www.instagram.com/FreeportFCX)

