

# **ELECTRIFYING** THE FUTURE

2021 Climate Report







#### ABOUT FREEPORT-MCMORAN

Freeport-McMoRan Inc. (Freeport-McMoRan, Freeport or 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 reserves of copper, gold and molybdenum. FCX is one of the world's largest publicly traded copper producers. FCX's portfolio of assets includes the Grasberg minerals district in Indonesia (PT Freeport Indonesia or PT-FI), one of the world's largest copper and gold deposits, and significant mining operations in North America and South America (Freeport Minerals Corporation or FMC), including the large-scale Morenci minerals district in Arizona and the Cerro Verde operation in Peru.

For purposes of this report only, references to (1) FMC Mining includes all mining operations in North America and South America (the Americas), (2) Downstream Processing (Downstream Processing) includes all operations downstream of mining in the Americas and Europe, (3) Americas Copper includes all copper mining operations in the Americas plus the Miami Smelter and El Paso Refinery and (4) PT Freeport Indonesia or PT-FI includes our operations in Papua, Indonesia.



Copper is critical to support global decarbonization.



Cover Photo: Earlier this year, we established an absolute GHG reduction target for our primary molybdenum sites committing to reduce their Scope 1 and 2 GHG emissions by 35% by 2030, from a 2018 baseline. This target includes our Climax and Henderson primary molybdenum mines located in Colorado, U.S, and our three molybdenum processing facilities located in the U.S., U.K. and the Netherlands (Fort Madison, Stowmarket and Rotterdam, respectively).





#### **OUR APPROACH**

- 6 Strategy
- 7 Governance
- 10 Risk Management

#### REDUCTION

- 14 Performance
- 16 Climate Reduction Targets
- 22 Decarbonization Roadmap
- 34 Scope 3

#### RESILIENCE

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

#### CONTRIBUTION

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

#### **ABOUT THIS REPORT**

- 64 GHG Verification Statement
- 67 Assurance Statement

#### **PERFORMANCE DATA**

#### TCFD INDEX



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

#### DEAR STAKEHOLDERS,

I am pleased to report that Freeport is advancing important initiatives to reduce our greenhouse gas (GHG) emissions, improve energy efficiency, evaluate and integrate the use of lower carbon and renewable energy and enhance our resilience to future climate-related risks.

The copper we produce is essential to new and existing technologies that will support global efforts to transition to lower-carbon energy sources. As an industry leader, we are committed to measurable progress in advancing our climate goals.

We communicate frequently with our stakeholders to convey the thoughtfulness and substance of our climate-transition related opportunities and challenges and to seek feedback and insights that help to inform our approach. With this report, I am pleased to share several significant steps towards advancing our climate strategy.

Since our last climate report, we have established two additional 2030 GHG reduction targets: one for our Atlantic Copper smelter and refinery in Spain and one for our primary molybdenum sites in Colorado. These targets are both on an absolute basis and seek to reduce the GHG emissions of Atlantic Copper by 50% and of our primary molybdenum sites by 35%, both by 2030 versus a 2018 baseline year. With these new targets and our existing Americas Copper and PT-FI targets, nearly 100% of our global business now have 2030 GHG reduction targets in place.

We announced plans last year to submit our 2030 GHG emissions reduction targets to the Science Based Target initiative (SBTi), a collaboration between CDP, the World Resources Institute, the World Wildlife Fund, and the United Nations Global Compact. We have signed a letter of commitment to validate our 2030 targets in alignment with SBTi's 1.5° Celsius approach and we are preparing to formally submit our targets to SBTi.

We continue to make meaningful progress in advancing efforts to decarbonize our electricity supply. In mid-2021, we commenced a scoping study to assess the viability of replacing PT-FI's coal-fired power plant with a gas-fired combined cycle facility fueled by liquified natural gas (LNG). The preliminary scoping study, which was completed earlier this year, shows LNG has the potential to be an especially durable, lower-carbon energy source for our remote and complex operations in Indonesia. While we recognize that LNG is not a renewable energy source, we are encouraged by the potential to achieve a meaningful reduction in emissions at PT-FI where solar and wind are challenged to become reliable, stable, single-energy solutions to powering one of the world's largest copper and gold mining operations.

We are proceeding with a comprehensive feasibility study and permit engineering, which we expect to complete by the end of 2023. Our preliminary studies indicate that a new power plant fueled by LNG could contribute to an approximate 60% reduction in PT-FI's GHG emissions intensity versus its 2018 baseline – double the reduction set out by PT-FI's current 2030 target.

STORES AND A DECEMBER OF

#### 2020

- Published inaugural climate report and formalized climate strategy
- Established 2030 Americas Copper GHG emissions reduction
- Committed to Task Force on Climate-related Financial Disclosures alignment

#### 2021

- Announced 2050 net zero aspiration
- Established 2030 PT-FI GHG emissions target
- Enhanced governance by adding climate expertise to the Board
- Incorporated climate performance into 2021 annual executive compensation

- Completed first global climate scenario analysis
- Pledged as a patron supporter of the Charge on Innovation Challenge
- Committed to the Science Based Target initiative (SBTi)

We also continue to advance our "Copper Skies" initiative focused on increasing renewable energy power for our Americas operations. We are currently collaborating with new and existing energy partners to progress phase one of this program which aims to integrate up to 450MW of solar and wind sources into our power supply in Arizona and New Mexico.

Our focus on responsibly transitioning our energy supply is part of our broader effort to further refine our decarbonization roadmap to achieve our goals – today and for the future. To that end, in early 2022, we developed abatement curves at four of our operating sites representing approximately 50% of our total Scope 1 and 2 GHG emissions. We plan to continue this work at additional operating sites in the future.

We cannot achieve our climate objectives alone. New technological solutions and innovations will continue to be required – many of which will be driven by industry and value chain collaboration. Freeport embraces this opportunity and is actively engaged in exploring viable solutions.

In 2022, we committed to formal collaboration programs with Caterpillar's Early Learner program and Komatsu's GHG Alliance, both of which are focused on the development and advancement of zero-emissions mining trucks and supporting technologies and infrastructure. Earlier this year we also commissioned seven 400-ton diesel-electric haul trucks at our Cerro Verde operations in Peru as part of a two-year trial. We believe these trucks will enable us to mine more efficiently today and offer future optionality once viable supporting electric technology is available. A core pillar of our climate strategy is focused on enhancing resilience – for our operations, our host communities and our stakeholders. Following the results of our first global climate scenario analysis which we reported on last year, we conducted additional third-party studies to further our understanding of how potential physical climate-related impacts could materialize at the local level. We plan to continue this work and focus on the cascading impacts of climate on water and biodiversity, and potential resultant human rights risks.

Our 2021 Annual Report on Sustainability provides details on our strategy to **Accelerate the Future, Responsibly**. As the global energy system continues to evolve, we play a vital role in progressing a low-carbon future.

We will continue to be responsible stewards across our global operations to produce the copper required to support the global energy transition. This includes advancing our climate strategy, demonstrating momentum toward our goals and innovating in order to take practical, responsible steps towards an eventual net zero mining future.

Richard C. Adkerson





PJ.

0



In early 2022, we developed site-level abatement cost curves to help us assess and prioritize our potential decarbonization projects at four of our sites, including at Bagdad, where this operator is pictured.

# **OUR APPROACH**

Freeport is a leading responsible copper producer – supplying nearly 9.5% of the world's mined copper. As the world transitions to a low-carbon economy, demand for copper is expected to increase. We believe increased demand should be met responsibly. That is why our environmental, social and governance (ESG) commitments seek to support and enhance responsible production practices at our sites around the world.

Over the course of 2021 and continuing into 2022, we have evolved our sustainability strategy, formalized its integration throughout the company and clarified our ambition: **Accelerate the Future, Responsibly.** 

Our ambition serves as a north star, guiding us to responsibly deliver on our company's business strategy – being **Foremost in Copper.** It informs our stakeholders on what we stand for and is a frame that guides our decisions.

Our ambition recognizes the critical role our products play in global progress – including the low-carbon energy transition – and underlies our commitment to continue to advance the responsible production of our products. We seek not only to responsibly accelerate the future of copper and responsible 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 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 and molybdenum 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 Paris Agreement's goals.

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:

#### REDUCTION

We strive to reduce, manage and mitigate our GHG emissions where possible. We established our first GHG reduction target for our Americas copper business in 2020, followed by our PT Freeport Indonesia (PT-FI) GHG reduction target in 2021. With this report, we announce two additional 2030 GHG reduction targets established in 2022: one for our Atlantic Copper smelter & refinery in Spain and one for our primary molybdenum sites. Collectively, our 2030 GHG emissions reduction targets now cover nearly 100% of our global Scope 1 and 2 GHG emissions.

#### RESILIENCE

CONTRIBUTION

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

2

We strive to be a positive contributor beyond our operational boundaries by responsibly producing the copper and molybdenum 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.

Freeport aspires to participate in – and positively contribute to – a 2050 net zero economy.

## Governance

Sustainability is embedded in Freeport's values and business strategy. Governance and oversight of sustainability ultimately resides with the Board of Directors (Board), with day-to-day oversight by the executive leadership and site-level management teams. Good governance requires focused and consistent leadership to ensure Freeport's values and sustainability strategy are integrated into everyday operations and business decisions. We have the structure and processes in place to facilitate effective decisionmaking and advance our stakeholders' long-term interests. 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 our business strategy and monitors the development and management of risks that impact our 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 we face, 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 our governance framework. Our Corporate Governance Guidelines, along with the charters of our four standing Board committees, provide our 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.

#### THE BOARD'S CORPORATE RESPONSIBILITY COMMITTEE

The Corporate Responsibility Committee (CRC) of the Board is responsible for oversight of our environmental and social policies and implementation programs and related matters. The CRC reviews the effectiveness of our strategies, programs, and policy implementation with respect to safety and health, 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 2021, the CRC had three regularly scheduled meetings and one special meeting. Starting in 2022, the Board added a fourth regularly scheduled CRC meeting to continue to support the Board's increased oversight on ESG-related topics. In 2021, the Board appointed two new directors, Messrs. Dudley and Lance, to the CRC, both of whom have expertise in sustainability matters, including climate.

The CRC engages formally with management on climate strategy, climaterelated initiatives and climate performance. Climate-related matters were discussed during regularly scheduled CRC meetings in 2021 and to date in 2022. Topics discussed during these meetings included advancement of our climate strategy, our 2030 GHG emissions reduction targets and performance against those targets, a summary of findings from our global scenario analysis, feedback from ESG shareholder engagement on our climate strategy and related disclosures, and an update on other climaterelated strategic initiatives.

To learn more about our Board, the CRC or our Governance approach, please refer to our **2022 Proxy Statement** and our **2021 Annual Report on Sustainability**.



#### **EXECUTIVE & SUSTAINABILITY LEADERSHIP**

Our Chairman and CEO has responsibility for our sustainability performance, with active oversight from the Board. Our cross-functional Sustainability Leadership Team (SLT) includes members of the management team 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 Senior Vice President and 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 2021 and to date in 2022, the SLT has met nearly monthly 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 Board's CRC on key ESG matters, including climate, and periodically report to the full Board.

#### **CLIMATE TEAM**

In 2020, we established a cross-functional climate team to focus on climaterelated risks and opportunities, coordinate and implement our climate strategy, and support 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 climate strategy implementation progress.

The climate team met quarterly in 2021. To date in 2022, the team has focused on topics including updates on emerging climate-related regulations, progress against our GHG reduction targets including new potential decarbonization projects, updates on our global climate scenario analysis findings and follow-on work, and the implementation of our internal shadow cost of carbon into our planning processes.

#### **CLIMATE & EXECUTIVE COMPENSATION**

Executive officers are held accountable for our sustainability performance through our performance-based annual incentive program (AIP). In 2021, ESG metrics collectively accounted for 25% of the AIP (15% safety and 10% sustainability). Beginning in 2021, climate performance was integrated into executive compensation, contributing to the sustainability component of the AIP. In February 2022, the Board's Compensation Committee established target performance goals for the 2022 AIP in the same three categories (financial, operational and ESG) and with the same weightings used in 2021. With respect to the ESG category and climate specifically, the committee further modified the climate metrics to include the development of 2030 GHG emissions reduction targets for PT-FI and our Americas copper business, as well as meaningful progress toward our commitment to significantly advance the verification process for our 2030 GHG emissions reduction targets with the Science Based Targets initiative (SBTi).





# **Risk Management**

Freeport has several processes in place to identify and assess climaterelated risks, including our climate scenario analyses, our sustainability risk register process (risk register) and Enterprise Risk Management (ERM) program. We are currently working to integrate our climate change related physical and transition risks to the business into both our sustainability risk register and ERM program.

#### **CLIMATE SCENARIO ANALYSIS**

Freeport 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. We plan to update this analysis over time to ensure the findings remain relevant and significant risks are identified. To learn more about our climate scenario analysis work, please refer to the **Resilience** section of this report and to our **2020 Climate Report**.

#### **RISK REGISTER**

To translate our responsible production commitments to our everyday work, we use our sustainability risk register process (risk register) to identify, prioritize, manage and track sustainability risks and actions at the corporateand site-level. Defined in a global standard operating procedure, the process uses a risk assessment matrix to classify risks by both their likelihood and consequence, based on customized impact definitions by functional area to drive appropriate action. All risks require annual monitoring, and detailed action plans are required for those rated as actionable.

The risks included in the sustainability 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 is the focal point of our internal and external assurance processes which are required to validate these commitments.

Specific to climate, ICMM member companies are required, among other things, to implement processes for governance, engagement and disclosure, advance site-level adaptation and mitigation solutions, engage with host communities and others in the value chain, and monitor and disclose Scope 1, 2 and 3 GHG emissions. In October 2021, Freeport contributed to the development of and signed the ICMM Net Zero 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.

Our risk register supports our teams to identify and prioritize the most significant risks to our business and our stakeholders across sustainability areas. It also ultimately elevates the most meaningful actions beyond climate, such as health and safety, human rights, environmental management, community development and engagement, and economic impact. We work cross-functionally to implement our various commitments, and our risk register enables site-level management teams to focus on their site-specific priorities while promoting globally consistent implementation across our operations.

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 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

Our ERM program seeks to identify and track risks and opportunities that could impact our business-wide strategic objectives. We have integrated potential climate-related physical and transition risks into our ERM program.

Our ERM committee, comprised of senior executives with responsibility across operations and core business functions, is responsible for providing input and oversight to the ERM program. In providing oversight, the committee considers its executive membership's views on risk management as well as external inputs, including feedback from the company's various stakeholders.

The program focuses on current and emerging issues, both within and outside our operational boundaries, which could jeopardize or enhance our strategic position. Our ERM program seeks to link our global operations and supporting business functions in order to (1) identify enterprise risks and opportunities, (2) analyze and prioritize risks (including vulnerability, impact and root causes), (3) review risk control environments and determine additional management actions, and (4) monitor and periodically report progress.

Using an impact and vulnerability assessment, the ERM Committee has prioritized embedding climate change physical and transition risks and opportunities within the company's program. The risks associated with climate change are a key focus in this process and to date it has included development of climate risk descriptions, core drivers and causes, current and planned mitigation measures known to date, identified risk interdependencies within the broader ERM program, as well as indicators for progress monitoring.

# Bagdad mine, Arizona.

#### **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 also has been adopted in jurisdictions where we operate, including Indonesia, and we expect that such carbon taxes and other carbon pricing mechanisms will increase over time. The Indonesia government is also considering other carbon pricing initiatives. 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, Freeport has established internal carbon shadow prices that include \$50, \$100, and \$150 per metric ton of CO, equivalent, reflecting the results and inputs from our three scenarios – Current State (~4.0°C), Moderate Climate Action (~2.5°C) and Aggressive Climate Action (1.5°C) – evaluated in our alobal climate scenario analysis completed in 2021.

We believe that this price range will provide a key input to our decisionmaking for both existing operations as well as future projects. We are working to integrate this 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 the carbon shadow price range into our internal life-ofmine plans. As a next step, we plan to integrate further the shadow pricing into the evaluation and approval process for 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 pricing scale periodically so that the range is appropriate and relevant as part of our decision-making factors.

Despite being one of the most energy efficient smelters in the world, we recently established a new absolute reduction target for our Atlantic Copper Smelter & Refinery, committing to reduce its GHG emissions (Scope 1 and 2) by 50% by 2030 from a 2018 baseline.

137

0

100

60

bure

an ATLIN

Callin

# 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 our Indonesian operations. 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. We discuss our two new GHG reduction targets in more detail in the following section. Collectively, these four reduction targets cover nearly 100% of our global Scope 1 and 2 GHG emissions.

We have signed our letter of commitment to submit our 2030 GHG emissions reduction targets to the Science Based Target initiative (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.

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 roadmap to achieve our 2030 GHG emissions reduction targets and beyond. We provide an update on our progress across these initiatives in this section.

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 considerable progress in improving our Scope 3 emissions estimates, please refer to the **Scope 3** section of this report.

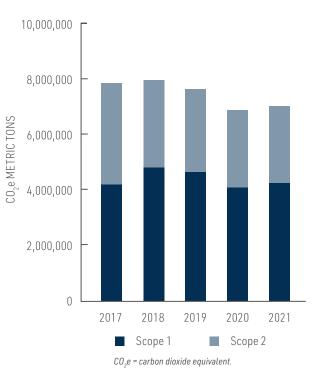
## Performance

Our global absolute GHG emissions (Scope 1 and 2) range between 7 to 8 million metric tons per year. Of this, approximately 70% comes from our FMC Mining operations in the Americas and Downstream Processing in the Americas and Europe, and 30% comes from our PT-FI operations in Indonesia. Over half of our FMC Mining and Downstream Processing GHG emissions are Scope 2 from purchased electricity; whereas PT-FI's GHG emissions currently are all Scope 1 resulting from our coal-fired power plant (approximately 70%) that is used to generate reliable electricity for our remote operations in the eastern province of Papua, Indonesia, and the remaining (approximately 30%) from diesel used to generate power and for mobile equipment.

In 2021, our global absolute Scope 1 and 2 emissions increased by 1.4% to 7.2 million metric tons from approximately 7.1 million metric tons the prior year. Absolute emissions increased in conjunction with mining rates at PT-FI, which were higher following the completion of its transition to underground mining. In addition, increases in production rates at Cerro Verde, Chino and El Abra, following temporary production suspensions or reductions related to COVID-19 contributed. Despite this small increase, our absolute Scope 1 and 2 GHG emissions in 2021 were 12% lower than 2018 levels (our target baseline year), due to significant improvements in energy efficiency and grid decarbonization.

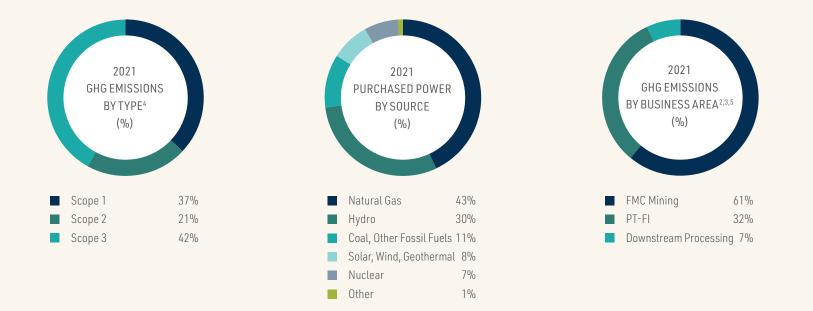
Scope 3 emissions occur both upstream and downstream from our operations within the value chain. Upstream Scope 3 emissions result from production of materials and fuels that we use in our processing such as lime, explosives, chemical reagents and diesel, and downstream emissions result from transport, and further refining or transforming of our copper into useable products, such as wire or sheets. While we have estimated select Scope 3 emissions categories for many years, in 2020 and 2021, we worked to enhance and expand our Scope 3 emissions calculations to include additional categories in line with the WRI / WBCSD Greenhouse Gas Protocol (GHG Protocol). Our 2021 revised Scope 3 emissions estimates are 42% of Scope 1, 2 and 3 combined emissions. Please refer to the **Scope 3** section to learn more.

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



#### FCX GLOBAL GHG EMISSIONS SUMMARY

(CO <sub>2</sub> e METRIC TONS)	2017	2018	2019	2020	2021		
Scope 1 + 2 <sup>1</sup>	Scope 1 + 2 <sup>1</sup>						
FMC Mining <sup>2</sup>	5,113,226	4,824,714	4,950,131	4,468,291	4,365,377		
Downstream Processing <sup>3</sup>	585,688	686,062	627,132	587,200	539,869		
PT-FI (Grasberg)	2,257,149	2,651,587	2,212,265	2,034,939	2,284,467		
Scope 1 + 2 Total - FCX Global	7,956,062	8,162,363	7,789,529	7,090,429	7,189,714		
Scope 3 <sup>4</sup>							
Scope 3 Total - FCX Global	706,214	750,332	692,336	1,729,251	5,179,522		



- 1 2017 Scope 2 emissions were calculated using a location-based method; since 2018, Scope 2 emissions have been calculated using a market-based method, where available. For more detail on our Scope 2 GHG emissions, please see page 72 of this report. The market-based calculation of Scope 2 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.
- 2 FMC Mining includes Bagdad, Cerro Verde, Chino (including Cobre), Climax, El Abra, Henderson, Morenci, Safford (including Lone Star), Sierrita and Tyrone.
- 3 Downstream Processing includes Atlantic Copper Smelter & Refinery, Bayway Rod & Wire, Fort Madison, Kokkola Cobalt Refinery, Miami Smelter & Rod, Norwich Rod, Rotterdam, Stowmarket and El Paso Refinery & Rod.
- 4 Our 2021 Scope 3 figure differs from the number reported in our 2021 Annual Report on Sustainability due to our updated Scope 3 emissions estimates, as described in the Scope 3 section.
- 5 Scope 1 and 2 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 on pages 64 through 66 of this report. In September 2021, FCX completed the sale of its remaining cobalt business based in Kokkola, Finland, and in 2020, FCX closed and decommissioned its Bayway Rod & Wire and Norwich Rod facilities.

# **Climate Reduction Targets**

Freeport now has four 2030 GHG emissions (Scope 1 and 2) reduction targets, which help us to manage relevant, climate-related risks and support the decarbonization of our business globally. The first target, established in 2020, seeks to reduce the GHG emissions intensity of our Americas copper operations by 15% by 2030 from our 2018 baseline. The second, established in 2021, seeks to reduce the GHG emissions intensity of our PT-FI operations by 30% from our 2018 baseline. The third and fourth targets, established in 2022, are both on an absolute basis and seek to reduce the GHG emissions of our Atlantic Copper smelter & refinery by 50% and of our primary molybdenum sites by 35%, both by 2030 from our 2018 baseline year. These four 2030 GHG reduction targets, which are detailed in the below table and following pages, collectively cover nearly 100% of our global Scope 1 and 2 GHG emissions.

We have signed a commitment letter to begin the validation process for our 2030 GHG emissions reductions targets with the Science Based Targets initiative (SBTi), a widely accepted standard for GHG emissions reduction goals. Validating our Scope 1 and 2 GHG emissions reduction targets against the SBTi criteria is critical to understanding if our targets are consistent with the level of decarbonization required to keep global temperature increase to 1.5°C compared to preindustrial temperatures. The SBTi validation process also will provide us with an independent third-party review of our plans, which will contribute to our own decision-making as we continue to advance our climate strategy. We acknowledge that future adjustments to our existing targets may be required as a result of the SBTi validation process, and we plan to provide an update on our progress with SBTi in future reporting.

### We established two GHG targets in 2022 for Atlantic Copper and our primary molybdenum sites.

#### 2030 GHG EMISSIONS REDUCTION TARGETS

	GHG Target	2018 Baseline Year	2030 Target Year	
Intensity Reduction Targets <sup>1</sup>				
Americas Copper <sup>2</sup>	15% intensity reduction	3.72	3.17	
PT-FI (Grasberg) <sup>3</sup>	30% intensity reduction	4.76	3.34	

Absolute Reduction Targets <sup>4</sup>				
Atlantic Copper Smelter & Refinery	50% absolute reduction	176,865	88,432	
Primary Molybdenum Sites⁵	35% absolute reduction	308,136	200,288	

1 Intensity reduction targets (CO<sub>2</sub>e metric tons / metric ton copper) include total (Scope 1 and 2) GHG emissions and do not include by-products in the denominator. Baseline and target are calculated and therefore may differ due to rounding.

2 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 downstream processing at the Miami Smelter and El Paso Refinery. This target includes all payable copper, including payable copper in concentrate and cathode, but excludes rod.

3 Our PT-FI intensity reduction target is based on payable copper produced in concentrate. PT-FI concentrate is currently 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. Upon completion of the PTS expansion after which PT-FI will have majority ownership and the construction of the greenfield smelter at Gresik, GHG emissions for smelting and refining are expected to shift from Scope 3 to Scopes 1 and / or 2, and we will adjust our target and baseline in line with the GHG Protocol at such time.

4 Absolute targets include total (Scope 1 and 2) GHG emissions.

5 Primary Molybdenum Sites include Climax and Henderson mines located in Colorado, U.S., and downstream molybdenum processing facilities at Fort Madison, Rotterdam and Stowmarket.

#### 2030 GHG EMISSIONS REDUCTION TARGET PERFORMANCE

	Baseline Year 2018	2019	2020	2021	Target Year 2030
Intensity Reduction Targets <sup>1</sup>					
Americas Copper <sup>2</sup> - 15% intensity reduction	3.72	3.70	3.81	3.59	3.17
PT-FI (Grasberg) <sup>3</sup> - 30% intensity reduction	4.76	7.73	5.40	3.71	3.34

Absolute Reduction Targets <sup>4</sup>					
Atlantic Copper Smelter & Refinery - 50% absolute reduction	176,865	146,044	126,103	112,671	88,432
Primary Molybdenum Sites <sup>5</sup> - 35% absolute reduction	308,136	325,591	263,023	232,317	200,288

1 Intensity reduction targets (CO<sub>2</sub>e 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.

2 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.

3 Our PT-FI intensity reduction target is based on payable copper produced in concentrate. PT-FI concentrate is currently 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. Upon completion of the PTS expansion after which PT-FI expects to have majority ownership and the construction of the greenfield smelter at Gresik, GHG emissions for smelting and refining are expected to shift from Scope 3 to Scopes 1 and / or 2, and we will adjust our target and baseline in line with the GHG Protocol at such time.

4 Absolute targets include total (Scope 1 and 2) emissions.

5 Primary Molybdenum Sites include Climax and Henderson mines located in Colorado, U.S., and downstream molybdenum processing facilities at Fort Madison, Rotterdam and Stowmarket.

#### **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**

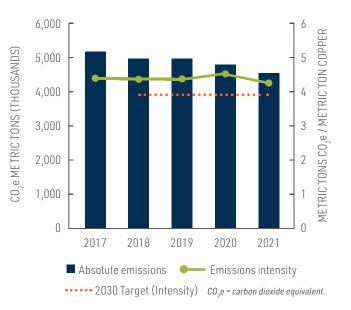
Our Americas Copper GHG emissions reduction target, established in 2020, evaluates the performance of the copper producing mines and refining facilities of our Americas operations. Our Americas target includes byproduct molybdenum produced at our primary copper mines. We continue to pursue our target to reduce our GHG emissions intensity in the Americas by 15% per metric ton of copper cathode by 2030 from our 2018 baseline.

To the right, we illustrate the absolute emissions and production intensity performance of our Americas copper operations through 2021. On an absolute basis, we have reduced our GHG emissions to approximately 4.5 million metric tons, which is 9% lower than 2018 emissions (target baseline year) and 3% lower than 2020.

Performance against our 2030 intensity target is shown with the green line. In 2021, performance against our Americas Copper target improved by 5.8% compared to 2020 and 3.7% since 2018. In late 2019, a large 3000MW coal power station in Arizona (the Navajo Generating Station) was permanently shut down. This has had a positive impact on the carbon intensity of the energy delivered to our Morenci mine, which is a significant contributor to our overall GHG emissions inventory. Because of the lag time in emissions factor updates, the improvement was not realized until 2021. In addition, our Miami smelter is now receiving 6% renewables from a 9.3MW contract with Saint Solar. Further, increased production at Chino, Safford and Cerro Verde contributed positively to our intensity performance.

In 2021, performance against our Americas Copper target improved by 5.8% compared to the previous year.







#### INDONESIA

PT-FI's operations generate approximately 30% of our global absolute GHG emissions and approximately 50% 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.

In 2021, on an absolute basis, we have reduced our emissions to approximately 2.3 million metric tons, which is 14% 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 2021, a significant improvement was made against our intensity reduction target – a 22% improvement since 2018 – largely driven by completion of the underground transition at the Grasberg minerals district. As a result of the transition to fully underground operations we have seen a reduction in emissions intensity in 2021. This is driven by a combination of changes in the mining process (e.g., electric train haulage and autonomous equipment) as well as increased recovery and production rates. Looking ahead, we expect to see variance in our emissions intensity performance through our 2030 target year as a result of ore body characteristics, and the resulting grades and recovery rates we can achieve.

As a result of the changing ore body, energy requirements at PT-FI are expected to increase due to ventilation needs and more intensive processing requirements. To support this, PT-FI is developing a new 129MW dual-fuel power plant (DFPP) at our port facility which is currently expected to be commissioned and permitted in late 2022 using biodiesel. We also continue to evaluate our transition away from coal generated energy and discuss these initiatives in more detail in the following section.

#### INDONESIA GHG EMISSIONS PERFORMANCE<sup>1,2</sup>



- 1 PT-FI does not 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.
- 2 Our PT-FI intensity reduction target is based on payable copper produced in concentrate. PT-FI concentrate is currently smelted and refined by PTS and third-party smelters / refineries, which are currently accounted for in our Scope 3 emissions estimates (not included in the target). Upon completion of the PTS expansion after which PT-FI expects to have majority ownership and the construction of the new greenfield smelter at Gresik, GHG emissions for smelting and refining are expected to shift from Scope 3 to Scopes 1 and / or 2, and we will adjust our target and baseline in line with the GHG Protocol at such time.

#### **ATLANTIC COPPER SMELTER & REFINERY**

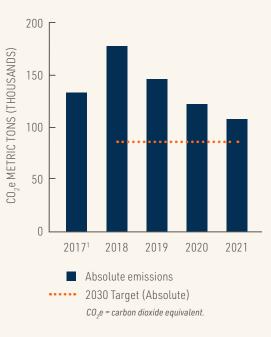
According to a 2007 Wood Mackenzie study, our Atlantic Copper smelter & refinery in Huelva, Spain, was benchmarked as one of the most energy efficient smelters in the world, despite being built in the 1970s. A more recent 2021 benchmarking study by Skarn Associates reinforced these findings, ranking Atlantic Copper among the top 5% most energy efficient smelters in the world. Atlantic Copper was the first copper smelter globally to be certified to ISO 50001 Energy Management System and currently consumes approximately 31% of its electricity from renewable sources or onsite, high-efficiency cogeneration.

In part due to its high efficiency, 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. Despite this, we believe we have an opportunity to reduce further its GHG emissions. In 2022, we established an absolute GHG emissions reduction target for Atlantic Copper which strives to further reduce its absolute Scope 1 and 2 emissions by 50% by 2030, from a 2018 baseline.

In developing this target, we considered the site-specific context of Atlantic Copper including more stringent European regulations and market expectations and its downstream position in the copper value chain. Unlike our Americas copper and PT-FI operations where we elected to establish intensity-based targets to allow flexibility for future production growth to support anticipated increased copper demand, Atlantic Copper smelter & refinery is better suited for an absolute reduction target. Atlantic Copper's smelter has a design capacity of approximately 300,000 metric tons of anode copper per year, and the refinery has a capacity of approximately 286,000 metric tons of cathode copper per year. These standalone downstream production facilities are not likely to be expanded significantly to increase output in the same way a mine might, and therefore an absolute target is not currently expected to constrain Atlantic Copper's growth.

In support of our reduction target, we have identified specific opportunities for reducing Atlantic Copper's Scope 1 and 2 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



1 2017 emissions for Atlantic Copper are artificially low because in 2022 we adjusted 2018, 2019 and 2020 emissions data at Atlantic Copper to reflect improvements in our reporting and calculation process to a market-based method and to align with EU ETS reporting expectations. 2017 emissions were not included in this update. These changes have been validated by GHD Limited, FCX's third-party GHG emissions inventory verifier.

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, we plan to update our target as appropriate in accordance with the GHG Protocol guidelines.

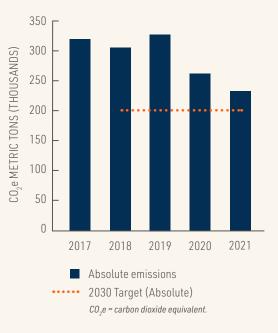
#### **PRIMARY MOLYBDENUM SITES**

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

While we established intensity-based targets for our Americas copper and PT-FI sites to support anticipated future growth in copper demand, we have elected to establish an absolute target for our primary molybdenum sites. This is in part due to a more stable projected production profile for molybdenum versus copper and our current life of mine plans for each of our primary molybdenum sites. Like copper, molybdenum plays a critical role in renewable technologies such as wind turbines, thin-film solar panels, catalysts and stainless steel that will support the global energy transition. Freeport plans to continue to support the expected growth in molybdenum demand in part through by-product molybdenum production from our copper mines (which is accounted for in our Americas Copper intensity target).

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 Climax and Henderson mines located in Colorado, U.S., and downstream molybdenum processing facilities at Fort Madison, Rotterdam and Stowmarket.



# **Decarbonization Roadmap**

Multiple GHG emissions reduction initiatives are either already in process or are under evaluation across our global business and are summarized in the table on the following page. Collectively, we believe these initiatives are the foundation that will help us develop and further define our roadmap to achieve our current 2030 GHG emissions reduction targets and eventually achieve our net zero aspiration. These initiatives fall into four primary levers:

Decarbonizing electricity supply Equipment electrification

**Energy and asset efficiency** 

Process innovation

Our decarbonization roadmap includes initiatives across four primary levers.

#### SUMMARY OF DECARBONIZATION INITIATIVES BY LEVER

LEVER	DETAILS	POTENTIAL PROJECTS IN PROCESS AND/OR UNDER EVALUATION
1 Decarbonizing Electricity Supply	Purchased electricity generates approximately 50% of the GHG emissions of our Americas copper operations. Renewable energy projects and PPAs in the southwestern U.S., Chile and Peru are under evaluation and 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 70% of our current GHG emissions generated result from our coal-fired power plant.	<ul> <li>Progressing the first phase of Copper Skies to integrate up to 450MW in renewable power projects (wind / solar / battery storage) and PPAs in the southwestern U.S.</li> <li>Evaluating opportunities in Peru and Chile to incorporate more renewable content</li> <li>Constructing new dual-fuel power plant at PT-FI, which will be commissioned using biodiesel and evaluating feasibility to transition to LNG</li> <li>Atlantic Copper contracted new PPAs and constructed a new heat recovery boiler</li> <li>Joined Caterpillar's Early Learner program and Komatsu's GHG Alliance</li> </ul>
2 Equipment Electrification	critical to decreasing our Scope 1 GHG emissions across our global operations. Today, there is not yet 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.	<ul> <li>Joined Caterplitar's Early Learner program and Komatsu's one Attrance</li> <li>Designed, built and currently operating an autonomous electric train at PT-FI underground; evaluating autonomous haulage solutions in the Americas</li> <li>Active 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</li> <li>Evaluating in pit crushing and conveying and assessing potential for trolley assist routes at Cerro Verde</li> <li>Evaluating and testing various options for electrifying ancillary and light duty equipment</li> <li>Actively involved in industry groups to create pathways to further decarbonize, such as the Charge on Challenge (electrification) and H2 Chile &amp; Peru</li> </ul>
3 Energy & Asset Efficiency	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. Freeport 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 tied to carbon emissions reductions.	<ul> <li>Digital twin technology</li> <li>Energy management systems</li> <li>Several mill recovery improvement projects underway, including trials of new technology related to flotation</li> <li>Improvements to high pressure grinding mill circuits</li> <li>Haul Truck cycle-time improvements; Digital Haul Truck Operator Scorecards (HTOS)</li> <li>Haul truck rebuild program to extend equipment life</li> <li>Shovel optimization to increase efficiency and reduce energy use</li> </ul>
4 Process Innovation	Through process innovations, we seek to identify and implement new leach technologies that enable us to advance operations technologically, often leading to reduced energy and GHG emissions. Our concentrate leach plant (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, rather than shipping overseas for processing. In both cases, CLP can potentially reduce associated energy and emissions.	<ul> <li>CLPs at Morenci and Bagdad are operational</li> <li>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</li> <li>In R&amp;D phase and conducting in-field trials at existing leach stockpiles and future opportunities to recover copper from below mill cut-off grade material</li> </ul>

#### DECARBONIZING ELECTRICITY SUPPLY

#### Americas

Purchased electricity generates approximately half of our GHG emissions at our Americas operations, making this a critical focus area for our decarbonization efforts in the next decade.

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 Freeport 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. Freeport delivers approximately 70% of our own electrical energy needs in North America through wholesale contracts and has 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 in Arizona and New Mexico 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 within the next five years or as quickly as market conditions will allow. In 2021, we engaged with a third-party advisor, Edison Energy, to help us advance phase one of the initiative by engaging with the renewable energy development market in the southwestern U.S., including pursuing targeted renewable projects that would bring renewable assets to the grid through 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 from various non-renewable and renewable sources (including natural gas and hydroelectric) through two PPAs. The PPA that receives energy from hydroelectric resources is due for renewal in 2029, and the PPA that receives energy primarily from natural gas-based generation is due for renewal in 2025. We are currently planning for the 2025 PPA renewal and we are evaluating opportunities to incorporate additional renewable energy sources into this contract.

At our El Abra operations in Chile, we have one PPA, primarily supplied from natural gas fueled generation, in effect through 2029. The electricity grid in Chile has significantly reduced its carbon intensity in recent years, and we are currently evaluating how we can best accelerate our energy supply to include more renewable energy sources within our existing PPA.

With support from the Rocky Mountain Institute in 2018-2019, we developed a solar power project evaluation tool to help us effectively assess the feasibility of potential new solar projects across our global portfolio. To date, we have used the tool to evaluate opportunities related to our Copper Skies effort in the Americas and at PT-FI.

#### Indonesia

PT-FI's operations are located in the Grasberg minerals district, one of the world's largest copper and gold deposits, in the province of Papua, Indonesia. The operating area is accessible from our Amamapare port facility at the Arafura Sea and the city of Timika's local airport. PT-FI's underground ore bodies range in elevation between 2,590 and 3,110 meters above sea level and include a 70-mile service road from the port facility in the Lowlands to the mill complex in the Highlands. The high elevation and remote location 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 as the underground operations rampup to full capacity, PT-FI identified an opportunity to integrate a lower-carbon power source at our operations with the development of a new 129MW dual-fuel power plant (DFPP). PT-FI currently expects to complete construction of the new DFPP in early 2023 and, once permitted and operational, it is expected to provide the additional power necessary for our operations. It will also 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 will initially be commissioned using domestically produced biodiesel, as mandated by the government of Indonesia. However, it was designed to use high-efficiency dual-fuel reciprocating engines on a flexible platform that can operate on either diesel fuel or natural gas, providing PT-FI optionality to adjust the fuel type and increase plant capacity in the future.

PT-FI is actively studying the feasibility of switching the fuel supply to liquified natural gas (LNG), 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: LNG & RENEWABLE ENERGY EVALUATION**

In late 2021 and early 2022, PT-FI conducted a scoping study to evaluate the potential to retrofit its existing coal-fired power plant to accept LNG for power generation as well as the potential for a full replacement of the coal-fired power plant with a new high-efficiency, combined-cycle gas turbine power plant (CCGT).

The scoping study was completed in June 2022. PT-FI has approved the next phase of the project and engaged third-party specialized consultants to conduct the feasibility study, which is currently on-going, with anticipated completion in 2023.

Building on the scoping study, the feasibility study is evaluating the full replacement of the existing coal fired power plant with a new CCGT and the potential to provide a supply of LNG for both the DFPP and a new CCGT. The 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. As part of the feasibility study, we are undertaking our project development sustainability review process which integrates sustainability into project planning from the start. This process enables us to identify the various risks and opportunities that a project could have, such as biodiversity or cultural resource considerations in the area and develop and implement appropriate actions plans to prevent or mitigate those risks.

While we acknowledge that LNG is not a renewable energy source, a new CCGT fueled by LNG does have the potential to significantly reduce PT-FI's GHG emissions intensity compared to the existing coal fired power plant. Early project estimates show a potentially significant reduction in GHG emissions of approximately 1.1 million metric tons  $CO_2$  equivalent per year or approximately 60% reduction in PT-FI's carbon emissions intensity versus 2018 baseline.

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 Papua; however, due to the high capital costs and long development times, we do not currently believe this option is viable in part due to PT-FI's current mining license which is expected through 2041. In addition to the ongoing LNG feasibility study, the PT-FI team continues to investigate renewable energy generation options to determine viability at both small and large scale.

#### PT-FI ALTERNATIVE ENERGY EVALUATION CONSIDERATIONS

<b>RENEWABLE TYPE</b>	OPPORTUNITIES	CHALLENGES
Hydro Power	<ul> <li>Large-scale run of river hydro power has potential to provide a significant percentage of PT-FI's energy requirements</li> <li>Could also be potential opportunity to support energy requirements for local communities</li> <li>Higher availability than other renewable resources</li> </ul>	<ul> <li>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</li> <li>Would require significant deforestation and potential impact to remote communities</li> <li>Presents engineering challenges (e.g., tunneling)</li> <li>Extended project development timeline (likely 8+ years) and would require clarity on operating permits (IUPK) post-2041</li> <li>Project size and scale would likely require partner(s)</li> </ul>
Solar Power	<ul> <li>Smaller-scale utility projects could potentially be economically viable to support incremental power needs</li> <li>Potential to complement existing thermal generation by displacing some energy needs during hours that solar generation is available</li> <li>Potential opportunity to support community power requirements</li> </ul>	<ul> <li>Photovoltaic power potential is low given significant cloud cover and climate in Papua (one of the world's wettest places)</li> <li>Suitable land in our area of operations is extremely limited for meaningful scale</li> <li>Would require significant deforestation to clear land and potential impact to communities</li> <li>Physical security and maintenance of solar installation would need to be carefully managed</li> </ul>
Wind Power	► N/A	<ul> <li>Wind resources in our operations area are well below the threshold required for viable wind power generation projects</li> <li>Scale and reliability not practical given energy requirements</li> </ul>

# 2

#### EQUIPMENT ELECTRIFICATION

Freeport is committed to working collaboratively in order 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 2022, Freeport committed to formal collaboration programs, including Caterpillar's Early Learner program and to 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 significant portion of our Scope 1 emissions. The programs are designed to support Freeport and other mining companies learn and prepare as electrified equipment and supporting electrical infrastructure and technologies are deployed at our sites, while simultaneously accelerating the development of viable solutions with a priority focus on safety, cost, production and decarbonization.

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. The Challenge also aimed to demonstrate an emerging market for charging solutions in mining, accelerate commercialization of solutions and integrate innovations from other industries into the mining sector.

The Challenge received interest from over 350 companies across 19 industries, with over 80 companies submitting expressions of interest. Over 20 companies were then invited to present to the patrons. The final eight were chosen after a detailed review by the patrons and are now

collaborating with interested mining companies, OEMs and investors to accelerate the technology development to support the future roll-out of zero-emissions fleets. Freeport recognizes the innovation potential that could be created from these innovators, and we have initiated discussions with innovators on selected concepts.

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

Freeport has also joined two consortiums 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. Our El Abra team participates in H2-Chile, which currently has more than 100 members across different industries, and is committed to the analysis, study and development of the hydrogen ecosystem in the country. H2-Peru has more than 50 members to date and our Cerro Verde and corporate teams have participated over the last year to support the development hydrogen technology and interest in Peru.





#### 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.

As part of our evaluation process, we have commissioned seven 400ton class diesel-electric trucks – four from Caterpillar and three from Komatsu – for use at our Cerro Verde operations in Peru. These trucks use an electric drive versus a traditional mechanical drive. All of the trucks were operational by July 2022 and have been deployed as part of a two-year trial, with an objective to better understand performance and quantify the value potential.

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 provide direct customer feedback on their equipment performance at the mine. These trials will help inform future models, drive continued innovation and may enable an interim step change in our GHG emissions reduction efforts not only for ourselves but also the industry.

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. When diesel-electric trucks are coupled with these technologies, we estimate fuel consumption could be reduced by 20% to 30%, which is significantly lower than mechanical-drive trucks and could meaningfully support a decrease in GHG emissions.



Working from surface control rooms, PT-FI's remote operators safely and efficiently operate some of the most advanced haulage technology in our mines hundreds of feet below ground.

#### Indonesia

At PT-FI, we incorporate autonomous and remote-operated equipment to reduce workforce exposure to ground failure, wet muck spills and air contaminants, and support reduced emissions. 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 Grasberg Block Cave mine is planned to be the largest block caving operation in the world with a sustained peak capacity of approximately 130,000 metric tons per day. The Grasberg Block Cave was designed and built with an electrified rail haulage system. This ultimately will consist of just over 14 miles of underground track, an overhead catenary system (OCS) and pantographs mounted on the locomotives. The locomotives also have onboard batteries that are used in locations where the OCS cannot be deployed. The batteries recharge when the locomotive reconnects to the OCS system.

Each train consists of one, 30 metric ton locomotive and 11 ore cars. There are currently 10 trains operating with a plan for 14 at peak production. Each train can carry around 300 metric tons of ore per trip, which is the equivalent of a surface haul truck. The trains are fully autonomous and drive themselves to and from the loading chutes and unloading stations. The ore cars are loaded remotely by operators at a surface control room. This is a highly efficient method of gathering the mined ore and transporting it to the crushers, and this method greatly reduces the ventilation loading that would have been present with a fleet of 50-60 metric ton diesel underground trucks performing the same task. Finally, from a carbon perspective, this results in an approximately 80,000 metric ton net reduction in  $CO_2$  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**

Freeport 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, 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 Freeport 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 is the first full year of the program. So far, the HTOS program 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.

In 2021, we launched our Haul Truck Operator Scorecard program, which enables operators to better identify opportunities to improve safety and optimize haulage efficiency, which will support reduced diesel consumption and lower GHG emissions.

## 4

#### **PROCESS INNOVATION**

Our earliest successes in processing innovation were in the development of large-scale copper leaching and recovery through solvent extraction / electrowinning (SX / EW) in the 1980s. SX / EW produces copper cathode without milling or smelting of concentrates, saving approximately 30% in energy consumption per ton of copper produced, with a similar reduction in GHG emissions. This innovative process has revolutionized copper mining, extending the lives of mines that would have been deemed too uneconomic for investment. In 2021, approximately 55% of our copper cathode production in the Americas was produced through the SX / EW process.

Where SX / EW is not an option, we have invested in innovative grinding technologies to enable our mill expansion projects to significantly improve energy efficiency. These technologies use high-pressure grinding technology to reduce ore rock size as opposed to traditional ball mills. Currently, 60% of the copper milled at our Americas operations annually is processed using this newer technology. Because of these investments, we expect to realize energy and carbon savings for years to come.

Similarly, we have applied our electrowinning processing expertise to our sulfide concentrates. By using an innovative concentrate leach process for our sulfide concentrates, we avoid the need for smelting our copper and roasting our molybdenum concentrates. We are one of only a few copper mining companies to use this technology, and we own intellectual property rights for processing molybdenum in this way. This concentrate leach process is lower in cost and energy, helping to reduce our carbon footprint. Data analytics that we have utilized in the milling process are now being applied in leaching. Emerging leaching technology provides substantial opportunities for added growth across our portfolio of global resources. Investments in these new leaching technologies could increase ore recoveries over time.



#### PROCESS INNOVATION: LEACH TO THE LAST DROP PROGRAM

Conventional leaching requires less energy than smelting by using chemicals to remove copper from ore. Conventional leaching applied to oxidized copper ores typically recovers between approximately 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.

Freeport 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. Because this copper is already contained within our stockpiles, it does not require additional mining. By further refining our leaching approach, we believe we may be able to extract copper from stockpiles that were previously considered either uneconomic and / or unrecoverable. If successful, this effort could potentially provide additional copper production with a lower carbon and water-intensity footprint.



To address this opportunity, we recently initiated a new program – 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 utilize existing stockpiles and could be applied more broadly across our global operations. It also has the potential to enable elimination of the milling step in traditional chalcopyrite processing, which could reduce tailings produced and water and energy consumption.

We are also conducting trials to evaluate the use of heat to improve the copper recovery in our existing stockpiles. To do this, we are covering our stockpiles with a film or thermoplastic cover to reduce heat loss from the surface of the stockpile. Early indications show the potential to recover an additional 10% of copper from our stockpiles when heat is retained. Notably, covering our stockpiles may also reduce the amount of water consumed in the leaching process.

If successful, we believe that the Leach to the Last Drop program could support additional production at a reduced GHG emissions and water-intensity profile.

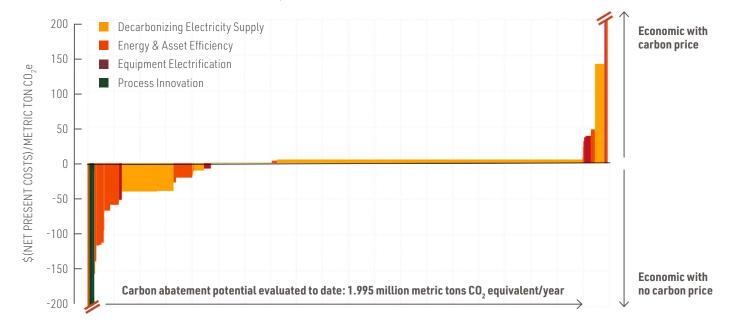
#### ABATEMENT CURVE DEVELOPMENT

In late 2021 and early 2022, Freeport engaged Partners in Performance, a global management consulting firm, to help further refine our decarbonization roadmap for achieving our 2030 climate targets and contribute to setting the foundation for our 2050 net zero aspiration.

This effort included the development of conceptual site-level abatement curves at four of our sites: PT-FI in Indonesia, Cerro Verde in Peru, Bagdad in the U.S. and Atlantic Copper in Spain. Collectively, these four sites currently comprise approximately 50% of our total Scope 1 and 2 GHG emissions and provide what we believe is a diverse view of potential decarbonization projects across different types of operations and jurisdictions.

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 (in net present value or costs 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 GHG emissions reduction on an annual basis by project. Abatement curves, however, necessarily are based on projections, plans, estimates, forecasts and assumptions, which may ultimately not prove to be realized.

To develop each site-level abatement curve, we 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, energy and asset efficiency, equipment electrification and process innovation). For each potential project identified, we gathered traditional cost, engineering and timing data as well as potential savings 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 these four sites and demonstrates their estimated potential contribution to our decarbonization roadmap between now and 2030. In 2023, we aim to complete abatement curves for our remaining significant operations.



# 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, and downstream emissions result from transport, further refining or transforming of our copper into useable products.

Overall, Scope 3 emissions for copper are low compared to many other metals because the downstream production of copper requires comparatively less energy, given the relatively minimal downstream processing required to transform copper concentrate into cathode and cathode into various forms, such as wire for electrical cables. For some metals, Scope 3 emissions can be multiple times their combined Scope 1 and 2 emissions. Because Scope 3 emissions are generated by other parties (i.e., they are other companies' Scope 1 and 2 emissions) they are more difficult to estimate accurately. The majority of Freeport'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.

While the GHG Protocol provides standardization of Scope 3 emissions into 15 categories and provides methodological guidance for organizations, it does not provide specific guidance for the mining and metals industry on how to best estimate GHG emissions. Freeport is currently participating in projects with both the International Copper Association (ICA) and ICMM to support the development of industry-specific guidance that can drive a consistent approach for companies in the mining and metals industry to estimate and improve their Scope 3 inventories. We anticipate that these guidelines will be released later in 2022 or early 2023, and alignment with them may have an impact on how we calculate emissions, leading to future adjustments.



#### UNDERSTANDING OUR FOOTPRINT

Freeport has estimated select Scope 3 emissions categories for many years. In 2020, we initiated a multi-year process to improve our estimates and add additional unreported categories, in line with the GHG Protocol. To accomplish this, Freeport worked closely with industry partners and associations and with a third-party consultant to complete our review in two phases:

- Phase 1: focused on initial approach for purchased goods and services (Category 1) and fuel- and energy-related activities (Category 3), business travel (Category 6), transport of our commercial products to our customers (Category 9) and downstream processing of sold copper concentrates and anodes (Category 10). To learn more about our Phase 1 review, please refer to pages 23-24 of our 2020 Climate Report.
- Phase 2: focused on remainder of purchased goods and services (Category 1), capital goods (Category 2), and fuel- and energy-related activities (Category 3), upstream transportation and distribution (Category 4), waste generated in operations (Category 5) and employee commuting (Category 7), as well as some general reviews and updates to other categories.

As a result of our multi-year review process, our updated Scope 3 emissions estimate for 2021 is approximately 5 million tons of GHG emissions, representing approximately 42% of our total combined Scope 1, 2 and 3 emissions in 2021. We had originally estimated our Scope 3 would represent a smaller proportion of our total emissions (approximately 30%); however, Phase 2 of this process identified significant Category 1 drivers which have increased our inventory, as described on the following pages.

As we continue to make progress against 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 represents of our Scope 1, 2 and 3 emissions profile. In addition, as certain operational changes occur over time, certain emissions estimates are expected to shift into, or out of, our Scope 3 estimates in line with the GHG Protocol. For example, should PT-FI become majority owner of PT Smelting, those emissions will move from our Scope 3 estimates into Scope 1 and 2.

Scope 3 emissions are generated by other parties and are difficult to estimate accurately; our revised 2021 Scope 3 emissions calculations reflect the culmination of a multi-year review. A summary of our revised 2021 Scope 3 emissions estimates is provided in the table below. These data have been reviewed by our third-party verifier, GHD, and their assurance statement is available in the **About this Report** section and on our website at **fcx.com/sustainability**.

#### SCOPE 3 EMISSIONS INVENTORY DEVELOPMENT

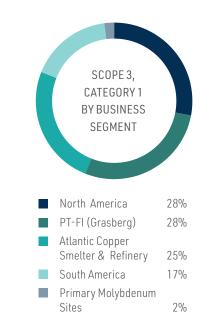
(CO <sub>2</sub> e METRIC TONS)	PHASE 1 OF INVEN	TORY REVIEW	PHASE 2 OF INVENTORY REVIEW Estimated FY 2021 Emissions		
	Estimated FY 202	20 Emissions			
	As of 2020 Annual Report on Sustainability	As of 2020 Climate Report	As of 2021 Annual Report on Sustainability	As of 2021 Climate Report	
Upstream			· · · · ·		
Category 1: Purchased goods and services	323,012	323,012	368,718	2,849,703	
Category 2: Capital goods	To be calculated	To be calculated	To be calculated	Included above	
Category 3: Fuel- and energy-related activities	To be calculated	225,358	299,313	551,616	
Category 4: Upstream transportation and distribution	To be calculated	To be calculated	To be calculated	426,360	
Category 5: Waste generated in operations	Minor impact	Minor impact	Minor impact	8,665	
Category 6: Business travel	1,684	1,684	1,315	1,315	
Category 7: Employee commuting	Minor impact	Minor impact	Minor impact	14,485	
Category 8: Upstream leased assets	Not applicable	Not applicable	Not applicable	Not applicable	
Downstream					
Category 9: Downstream transportation and distribution	To be calculated	336,159	442,010	442,010	
Category 10: Processing of sold products	275,848	843,038	885,367	885,367	
Category 11: Use of sold products	Minor impact	Minor impact	Minor impact	Minor impact	
Category 12: End-of-life treatment of sold products	Minor impact	Minor impact	Minor impact	Minor impact	
Category 13: Downstream leased assets	Not applicable	Not applicable	Not applicable	Not applicable	
Category 14: Franchises	Not applicable	Not applicable	Not applicable	Not applicable	
Category 15: Investments	Not applicable	Not applicable	Not applicable	Not applicable	
Total Scope 3 Emissions	600,544	1,729,251	1,996,723	5,179,522	

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 have been updated to 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 on FCX's website at fcx.com/sustainability.

Our revised 2021 Scope 3 emissions calculations reflect the culmination of our multi-year review effort and include the following adjustments from Phase 2:

- Category 1, Purchased goods and services (includes Category 2 capital goods): This category includes goods and services purchased or acquired by Freeport in the reporting year. Previously, this estimation included only our purchases of lime, and was therefore significantly underestimating the total, which has resulted in a revised estimate of 2,849,703 metric tons of CO<sub>2</sub> equivalent. Two operations contributed more than half of our global Category 1 emissions in 2021: (1) 28% from PT-FI, which is one of the largest, most remote mining operations in the world and has a workforce of approximately 28,000 people, and (2) 25% from Atlantic Copper's purchased copper concentrates. We expect our Category 1 estimates to be further refined in the future.
- Category 3, Fuel- and Energy-related activities: This category includes extraction, production and transportation of fuels (natural gas, gasoline, diesel, coal and other fuels) consumed by Freeport in operations, and of fuels used in the generation of electricity purchased and consumed by Freeport. The update to this category resulted in an increase of emissions to 551,616 metric tons of CO<sub>2</sub> equivalent for 2021.
- Category 4, Upstream transportation and distribution: This category includes transportation of products purchased by Freeport, between the company's tier 1 suppliers and its own operations (in vehicles not owned or controlled by the company) or third-party transportation and distribution services purchased by the company. The spend-based estimate for this category is 426,360 metric tons of CO<sub>2</sub> equivalent for 2021.
- Category 5, Waste generated in operations: This category includes third-party disposal and treatment of waste by our operations and results in an estimated 8,665 metric tons of CO<sub>2</sub> equivalent.
- Category 7, Employee commuting: We have added an estimate of emissions related to employee commuting, which results in 14,485 metric tons of CO<sub>2</sub> equivalent.

Throughout this process, we also have reconfirmed that Categories 8, 11, 12, 13, 14 and 15 are either not applicable or have a minor impact, in line with the GHG Protocol.



Over 55% of our 2021 Scope 3 emissions are from Category 1: Purchased Goods and Services (including capital goods).



Australian Pelicans, *Pelecanus conspicillatus*, congregate in the estuary area of our PT-FI operations in Indonesia, where we are focus on managing and mitigating our impacts and supporting long-term ecosystem resilience.

1 - AF - E

And Many Contraction of the

# RESILIENCE

Freeport operates in extreme climates, ranging 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 Papua, Indonesia). To date, 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 change 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, 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. We provide more detail on this work in the **Translating Global Scenario Analysis into Action** section.

# 2021 Global Climate Scenario Analysis Summary

In 2021, we completed our first global climate scenario analysis considering both physical risks and transition risks and opportunities across three different climate scenarios: Current State (i.e., mostly unconstrained GHG emissions), Moderate Climate Action (i.e., moderately constrained GHG emissions) and Aggressive Climate Action (i.e., action in line with reducing GHG emissions to net zero by 2050). In general, the results of the analysis demonstrated that physical risks are highest for Freeport in the Current State scenario and lowest in the Aggressive Climate Action scenario. Conversely, transition risks are highest in the Aggressive Climate Action scenario and lowest in the Current State Scenario. Our global scenario analysis covered our operational and non-operational assets as well as our supply chain.

The table on the following page summarizes the scenarios selected and models utilized and provides an overview of the primary physical risks and transition risks and opportunities identified in our analysis. For more detailed information on our global climate scenario analysis, please refer to our **2020 Climate Report**. 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 climaterelated 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.

#### AGGRESSIVE CLIMATE ACTION (1.5°C)

Global collaboration to reduce GHG emissions to meet Paris Agreement goals and reduce emissions to net zero by 2050

#### MODERATE CLIMATE ACTION (~2.5°C)

Uncoordinated response based on announced policy commitments is insufficient to meet the Paris Agreement goals

#### CURRENT STATE (~4.0°C)

GHG emissions continue to increase with no changes to current policies leading to significant physical risks

Lower GHG emissions, increasing transition risks and opportunities

Higher GHG emissions, increasing physical risk

#### 2021 GLOBAL SCENARIO ANALYSIS SUMMARY

	AGGRESSIVE CLIMATE ACTION (1.5°C)	MODERATE CLIMATE ACTION (~2.5°C)	CURRENT STATE (~4°C)
Scenario Description	Characterized by global collaboration to reduce GHG emissions in alignment with Paris Agreement goals for net zero and limiting global temperature increase by the year 2100 to around 1.5°C.	Characterized by a curb in global GHG emissions based on existing policies and Nationally Determined Contributions with disorderly progress, falling short of Paris Agreement targets, limiting the global temperature increase by the year 2100 to around 2.5°C.	Characterized by governments and markets making no changes to their existing policies or low carbon investments, failing to meet Nationally Determined Contributions. Under this scenario, the global temperature increases by the year 2100 to around 4.0°C.
Reference Scenarios	<ul> <li>IEA Net Zero Emissions by 2050</li> <li>IPCC RCP 2.6</li> </ul>	<ul> <li>IEA Stated Policies Scenario</li> <li>IPCC RCP 4.5</li> </ul>	<ul> <li>IEA Current Policies Scenario</li> <li>IPCC RCP 8.5</li> </ul>
Primary Physical Risks	<ul> <li>Potential physical risks are lowest in this scenario, given the limitation of warming to 1.5°C. However, some impacts would be expected at our operations, supply chain, workforce and local communities.</li> </ul>	<ul> <li>Although less than in the Current State scenario, potential risks associated with the physical impacts of climate change would be expected at our operations, supply chain, workforce and local communities.</li> </ul>	<ul> <li>Due to inaction, physical risks are greatest in this scenario and would be expected to impact our operations, supply chain, workforce and local communities. These risks are expanded upon in the Physical Risks section below.</li> </ul>
	<ul> <li>Technology Risks: Our operations are dependent on the use of heavy equipment for which low-carbon alternatives are not currently readily available and/or commercially viable (e.g., haul trucks).</li> </ul>	<ul> <li>Policy Risks: Carbon pricing policies would remain limited, but carbon prices would likely increase in some regions we operate, increasing our cost exposure.</li> </ul>	<ul> <li>Risks remain minimal in this scenario as carbon pricing and the energy transition would remain slow, with decarbonization technologies either unavailable or cost prohibitive.</li> </ul>
Primary Transition Risks	<ul> <li>Policy Risks: Rapidly changing regulations may limit our ability to respond to anticipated increased costs effectively.</li> <li>Market Risks: Potential sulfur market volatility and/ or supply disruptions due to sharp decline of oil and gas production.</li> </ul>	<ul> <li>Market Risks: Under this scenario, it is possible that we may have to manage changes in sources of sulfur supply, due to declines in oil and gas demand and production.</li> </ul>	
Primary Transition Opportunities	<ul> <li>Lower energy prices are expected overall due to rapid grid transition.</li> <li>Copper and molybdenum are anticipated to experience significant demand growth, leading to increased prices, likely resulting in increased production.</li> </ul>	<ul> <li>Renewable energy uptake could lead to lower prices for energy and increased availability of these technologies at our operations.</li> <li>Copper and molybdenum are expected to experience increased demand, leading to increased prices and potential for increased production.</li> </ul>	<ul> <li>Copper and molybdenum demand is expected to grow under this scenario, resulting from existing growth trajectories in the use of renewable energy technologies, albeit at lower rates than our other two scenarios.</li> </ul>

Note: The International Energy Agency (IEA) and Intergovernmental Panel on Climate Change (IPCC) have issued reports containing data and projections on the future impacts of climate change, which we used to evaluate the risks and opportunities to our operations. IPCC's Fifth Assessment Report contains projections based on Representative Concentration Pathways (RCPs) that describe four different trajectories of GHG emissions and atmospheric concentrations, air emissions and land use.

### **TRANSITION RISKS**

From a transition risk perspective, our global scenario analysis indicated that 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.

#### 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, Freeport 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 order to better understand and quantify this potential risk, in 2022, Freeport began working with industry peers to initiate 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 may also help inform the development of alternative plans and sourcing opportunities should they be required.

Our global scenario analysis indicated that our transition risks are highest in the Aggressive Climate Action (1.5°C) scenario and lowest in the Current State (~4.0°C) scenario.

#### **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 Freeport's commodities. Existing and proposed new governmental conventions, laws, regulations and standards (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, and require more resources to comply and remediate in response to them.

As part of our global climate scenario analysis, we evaluated potential costs associated with future potential regulations and associated carbon pricing. Using Freeport's historical energy consumption and estimated GHG emissions data between 2010 and 2020 in addition to IEA source data and certain of our climate scenario analysis assumptions, a third-party consultant developed a model to estimate Freeport's projected fuel and purchased electricity and corresponding carbon price. While any outcome cannot be reasonably predicted due to the wide range of uncertainties, the analysis estimated carbon pricing ranges based on our current operations for 2030 across three climate scenarios, which are described on page 40 of this report: a No Climate Action (~4.0°C) scenario, a Moderate Climate Action (~2.5°C) scenario and an Aggressive Climate Action (1.5°C) scenario. The model did not project data to 2050 because the IEA source data did not present the granularity required through this time horizon.

Based on our analysis, we believe the estimated carbon price from the Moderate Climate Action (~2.5°C) scenario to be the most likely outcome in the nearer term (2030), and do not currently expect any of the projected carbon prices to result in prohibitively large costs to our business. We anticipate the projected carbon pricing exposure to decrease as our operations decarbonize. To help us better prepare for this potential transition risk, we have integrated a shadow price of carbon range of \$50 to \$150 into some of our decision-making processes. For more information, please see the **Risk Management** section above.

#### **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; impacts anticipated to increase in the future

**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

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 people and equipment; 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:** Certain of our ports and operations may be exposed to rising sea levels with projected risk of extreme events linked to sea level rise.

# INDONESIA

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

**Sea level rise:** Our ports in Papua and East Java are projected to experience potential impacts due to sea level rise

#### PERU

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



# 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. To address this concern in our global scenario analysis, we followed best practice by using ten different global models to enable a more representative picture of potential future risks.

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 and granularity they can provide. Global climate model grids are generally based on a scale of approximately 200 kilometers by 200 kilometers. 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 square kilometer 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 kilometers x 200 kilometers shows the Grasberg open pit, which is approximately 4,000 meters above sea level, in the same model grid cell as our lowlands facilities, which is 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 kilometers and 25 kilometers), which enable them to better account for and incorporate the effects of changing topographic features. The graphic below illustrates the difference in grid cell resolution between global climate models and regional climate models. The orange shapes show the hydrologic catchments we use for planning purposes, and the white dot is the Grasberg open pit.



#### PT-FI GLOBAL AND REGIONAL CLIMATE MODEL RESOLUTION

#### DOWNSCALING OUR GLOBAL CLIMATE PROJECTIONS FOR EFFECTIVE DECISION-MAKING

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 a third-party consultant, in late 2021 and early 2022, we identified and selected appropriate downscaled regional climate models (using six to ten models per region) 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. The table below provides a summary overview of the data collected associated with the potential physical hazards and corresponding climate metrics derived from this work.

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. The dashboard is interactive, allowing users to select a Freeport site or location, a climate metric (e.g., hottest temperature), a time horizon (e.g., 2030), an emission reference scenario (e.g., RCP4.5) and model type (e.g., regional climate model). The data are displayed in box plots, which allow for quick visualization of the climate metrics, including individual and ensemble model projections, which indicates to the user whether the models agree, and the ensemble mean and median. This directly informs our engineers and scientists on climate models' predictions at our locations and enables them to evaluate existing and future conditions and risks, as well as potential projects that could be affected by climate change impacts in the locations where we operate.

REGIONAL C	CLIMATE	MODEL	DASHBOARD
------------	---------	-------	-----------

PRIMARY PHYSICAL Risk theme	PHYSICAL HAZARD	CLIMATE METRIC	DEFINITION	CURRENT STATE UNIT	FUTURE Change unit
Wet Extremes	Wet and Windy	Max One-day Rainfall	Maximum amount of rainfall in a single day for a year	mm	°/ <sub>0</sub>
Wet Extremes	Water	Total Annual Rainfall	The total precipitation (rainfall + runoff + snow) per year	mm	٥/٥
Water Stress	Water	Longest Dry Spell	Longest number of consecutive days in a year where rainfall is less than one mm (i.e., no rain)	days	٥/٥
Heat Extremes	Extreme Heat	Hottest Temperature	Annual average of the maximum value of daily maximum temperature	°C	°C
Heat Extremes	Extreme Heat	Long Heatwaves	Annual count of days with at least six consecutive days when daily maximum temperature is greater than the 90th percentile	days	days

### **USING CLIMATE MODELS FOR SITE WATER MANAGEMENT**

Our regional climate model evaluation work not only updated the climate metrics described, but also provided a rich database that was used to perform detailed trend and statistical frequency analysis. In late 2021, we initiated a project with Applied Weather Associates (AWA) – a specialist hydrometeorological consulting firm with detailed knowledge of extreme precipitation at our sites - to analyze the primary regional climate model outputs. AWA used several different methods to test for trends and shifts in extreme storm events, including trend analysis on historical data collected from regional precipitation stations as well as model projections over different durations (i.e., one-day, three-day and annual). Upon completion of these analyses, site-level workshops are held with AWA and a cross-functional team including members of our tailings, water management, and environmental groups to review sitespecific regional model analysis results. The aim of these workshops is to educate and provide a basis for decision making to site-level teams when they are faced with water management decisions. We have completed the detailed projection analysis at four of our sites and the process is underway for the remainder of our operating sites through the end of 2022 and into 2023.

Subsequent to this work we plan to perform sensitivity evaluations of our facilities using the detailed projection analysis. If a significant increase in precipitation magnitude is found in the one-day or three-day maximums, site teams will examine the potential effects of increased storm precipitation and consider the need for changes to the overall design of the facility or associated infrastructure. We will initially focus this analysis on our tailings facilities and plan to expand this work to cover other infrastructure in the future.

Our project development sustainability review process enables us to identify and prevent or mitigate climate-related risks at the earliest stages.

# RESPONSIBLE, INTEGRATED DECISION-MAKING AT OUR GREENFIELD SMELTER PROJECT

We have an internal risk review process to specifically consider sustainability issues during the evaluation, and implementation of, potential expansion and development projects. Similar to our risk register process for our operating sites, our project development sustainability review process integrates sustainability into project planning by helping teams identify risks and opportunities associated with expansions or development projects.

We are currently undertaking this process for the design and construction of our greenfield smelter and precious metals refinery in Indonesia. During the planning stages for the projects, the process was initiated through a cross-functional team that identified a number of actionable risks and opportunities that the project and corporate teams are now working to address. A key climate-related risk identified through our global climate scenario analysis was the potential for future water stress in the area of the greenfield smelter. We had initially planned to utilize a local water source to supply the greenfield smelter. However, we recognized through our analysis that our host communities may need to rely on this water source in the future for their needs. In order to address this issue, the project team is instead evaluating an alternative source of water supply to be supplied by building a new desalinization plant supported by the greenfield smelter's proximity to the ocean.



#### 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 coastal flooding at our Atlantic Copper site in Huelva, Spain, our greenfield smelter at our Gresik facility on East Java, Indonesia, and our Amamapare port in Papua, Indonesia.

Given the complex nature of coastal flooding, as well as the inherent uncertainty in global climate models noted above, in late 2021, Freeport engaged DHI Group (DHI) – a global water management consultancy firm – to conduct an in-depth analysis in order to estimate the potential coastal flood impacts to these facilities as a result of climate change. This analysis has been carried out using a combination of site-specific measurements to characterize historic and existing conditions as well as regional trends. This work was further supplemented by the results of downscaled climate models, such as those developed by the European Union's Copernicus Marine Service (CMEMS), to quantify the potential effect of future climate change impacts.

#### Atlantic Copper - Huelva, Spain

At Atlantic Copper, our global scenario analysis identified a potentially accelerating rate of sea level rise, which could present a risk to those operations. As part of the detailed site-specific analysis to explore this risk further, DHI evaluated both storm surge and tidal data using downscaled projections from the recently released CMEMS models for RCP's 4.5 and 8.5. Based on this analysis, the Atlantic Copper site is not anticipated to experience future coastal flood conditions caused by climate change that exceeds what the facility can handle today. This combination of sitespecific data and downscaled model projections were analyzed alongside tidal predictions and the existing platform elevation of the Huelva facility. It was found that there is negligible credible risk of coastal flooding at the Atlantic Copper site through 2050 and for a considerable period beyond that timeframe given the infrastructure currently in place. This conclusion is in line with official flood risk publications covering the facility, which are sanctioned by the Andalusia government. We have therefore removed our Atlantic Copper site from our list of sites at potential risk of sea level rise.

#### Greenfield Smelter - East Java, Indonesia

A similar analysis was undertaken for our greenfield smelter at our Gresik facility, which is presently under construction. Following good industry practices during the engineering design phase in 2017, the platform level balanced the risk of coastal flooding against the benefits of raising the platform height. Based on the analysis results and our concern about coastal flooding, we adopted a platform level which had a very low probability of inundation through 2050, and further elevated critical infrastructure to be at least 0.6 meters above the platform height, placing this infrastructure well above the coastal flood risk level. An updated analysis was conducted in 2022 using two recently released RCP 8.5 downscaled climate models for which coastal surge data is available from CMEMS. The result of this analysis was that coastal flooding beyond elevations established during the 2017 design process remains a highly improbable event at the greenfield smelter. Even if coastal flooding does occur, critical infrastructure is adequately raised above all credible coastal flood levels through 2050. We believe, therefore, that any risk from sea level rise is mitigated.

#### Amamapare Port - Papua, Indonesia

A similar analysis is ongoing for our Amamapare port facility which was also identified to be at potential risk for coastal flooding based on our initial global climate scenario analysis. This is a complex site with both older and newer facilities at differing elevations. A more comprehensive analysis evaluating the potential impacts of climate change on coastal flood risk is therefore being undertaken and is expected to be completed in 2023.

# 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> <li>Production curtailment or increased costs from damage to, or inaccessibility to, operational and reclaimed facilities</li> <li>Compliance risks from increased soil erosion and off-site releases</li> </ul>	<ul> <li>Health and safety risks and property or infrastructure damage</li> </ul>	<ul> <li>Supply disruption from supplier property damage or flooding of critical infrastructure</li> <li>Increased trucking costs due to increased demand for trucks for disaster relief and reconstruction</li> </ul>
Extreme Heat	<ul> <li>Increased cooling costs, overheating of processing equipment, and increased energy prices or potential power curtailment</li> </ul>	<ul> <li>Decreased productivity and increased health and safety risks</li> <li>Exacerbated social unrest in regions with poor local governance or social support systems</li> </ul>	<ul> <li>Increased energy / cooling costs at supplier sites</li> </ul>
Water Stress	<ul> <li>Production curtailment from limits on water allowances and availability</li> <li>Increased power prices or outage from hydropower plants water shortage</li> </ul>	<ul> <li>Increased competition, pressure on local resources, and food and water insecurity in regions where Freeport operates</li> <li>Community displacement / migration</li> </ul>	<ul> <li>Limits to water allowances and availability for suppliers</li> </ul>
Extreme Cold	<ul> <li>Disruption to energy supply from freezing gas pipelines and increased heating demands</li> <li>Increased natural gas and electricity prices</li> </ul>	<ul> <li>Increased heating demands and costs</li> </ul>	<ul> <li>Supply delays or increased prices of critical supplies from power outages at supplier locations and frozen roads and/or rail tracks</li> </ul>
Wildfire	<ul> <li>Production disruption and reduced access</li> </ul>	<ul> <li>Evacuations, injuries, fatalities, and respiratory diseases due to poor air quality</li> </ul>	<ul> <li>Supply delays from property damage, power outage or limited site access at supplier locations and logistics networks</li> </ul>
Sea Level Rise	<ul> <li>Disrupted operations at our coastal sites, e.g., Amamapare port and greenfield smelter in Indonesia</li> </ul>	<ul> <li>Health and safety risks and community displacement</li> </ul>	<ul> <li>Supply delays from flooding of ports, airports or railroads and roads</li> </ul>

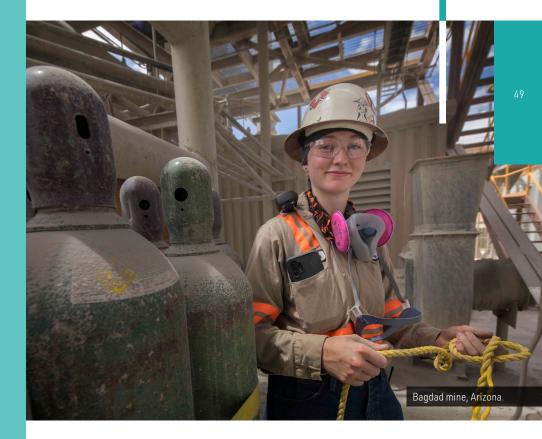
### TURNING UP THE HEAT ON EMPLOYEE SAFETY

We recognize that heat-related illnesses could increase as the global climate continues to change. To help address this, in early 2022, our health and safety team formalized and socialized new heat-stress guidelines for our global workforce. Our heat-stress guidelines, together with our other health and safety policies and procedures, are intended to help our workforce more effectively prevent heat-related illnesses.

As part of our socialization of the new guidance, our health and safety teams have held various discussions with our site teams to help identify the types of jobs that may be more susceptible to heat stress and the potential tools that may help prevent heat-related illnesses from occurring. Our guidelines outline practical methods in line with best practices like increasing workloads at a gradual pace (acclimatization), offering frequent breaks as employees acclimatize to ambient conditions, providing shaded or cool areas, keeping employees hydrated and stopping work when an employee exhibits signs of a heat-related illness.

In addition, we are encouraging the use of phone applications such as the OSHA-NIOSH Heat Safety Tool to support quick, in-the-field identification of certain heat-related risks. These tools can provide data for multiple factors such as humidity, wind speed, radiant heat, and ambient temperature and can help us monitor the level of risk of a particular operating site at different times.

We recognize that heat-related illnesses could increase as the global climate continues to change. To help address this, we recently formalized new heat-stress guidelines for our global workforce.



### 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 Current State (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 late 2021, we began conversations with our CPPs on climate change to better understand their needs. From this, we learned that many of our community members recognize that climate change has impacted their communities by way of drought, changing weather patterns, decreasing water supplies, extreme heat, fires, and changing temperatures, and the vast majority believe climate change is an important issue for their future.

Based on this outcome, in early 2022 we decided to re-engage in a deeper 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 Freeport's overall climate strategy and the results of our first global climate scenario analysis, which included physical risks and how they might impact their communities. Following the presentation, community members responded to polling questions about how Freeport 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.

Although this effort was focused on our North America sites, we engage in many projects that are linked to climate at our international sites, some of which are listed below. We plan to evaluate and plan for specific climate related resilience conversations with stakeholders outside North America in 2023.



Aiding our communities in adapting to climate change involves supporting their efforts to enhance their climate resilience and increase their ability to withstand events such as droughts and floods. A summary of recent community resilience initiatives is provided below. For more information on our community engagement programs, please see our **2021 Annual Report on Sustainability**.

#### **Emergency Response, Relief & Prevention**

- A wildfire spread across our workforce community in Bagdad, Arizona in May of 2021 and impacted 150 acres. The wildfire decimated twelve company-owned houses and damaged many others. Freeport committed \$4.5 million to rebuild the homes and started to meet regularly with local authorities and community members to develop an action plan to reduce fire threats. The action plan included: (1) removing fuels such as debris and dry brush; (2) clearing brush and trash; and (3) converting areas used for fire management into a multiuse trails for community members and emergency response teams should they need to battle another fire in the future.
- In response to a landslide in the Colca valley in the district of Achoma, which is approximately 200 kilometers (by road) away from our Cerro Verde operations, we partnered with the regional government and the Autonomous Authority of Majes to supply motor pumps to protect 300 residential homes in the districts of Yanque, Coporaque, Achoma and Ichupampa. To help prepare our communities for risks associated with rainy seasons, every year, our Cerro Verde operation hosts a series of risk prevention training sessions on first response and using protective equipment.

#### Water & Land Resource Management

At our Safford operations, we partnered with the Aravaipa Watershed Conservation Alliance (AWCA) on a large-scale land management plan, with the goal to restore function to the watershed, by correcting sediment, controlling pollutants and invasive plants, and increasing water percolation. The plan includes the creation of open spaces for sustainable agriculture, wildlife and outdoor activities, while increasing public safety by reducing flooding during extreme rain events. PT-FI has implemented a mangrove colonization program at new deposition areas in the Ajkwa Estuary since 2002. 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 selected areas created by sediment at the Modified Ajkwa Deposition Area by cultivating seeds of mangrove trees for two to three years and then propagating them. We have planted mangrove trees on approximately 471 hectares of land since mining operations began.

#### **Agricultural Preservation & Food Security**

- We support many agricultural projects near our Cerro Verde operations to promote food security and protect lands. Each year, we assist local farmers by cleaning the Chili riverbed to help maintain the irrigation systems that protect agricultural land in the districts of Uchumayo and Tiabaya. Throughout the region of Arequipa, we have coordinated with the regional government's Agriculture Management office to import more than 700 tons of "Guano de Isla" from the province of Pisco. This natural fertilizer has improved the quality of the soil in the region and the different agricultural areas now produce healthier products for domestic and international consumption.
- The COVID-19 pandemic triggered extreme food insecurity and the collapse of the emergency food system in Ajo, Arizona, significantly exposing issues of hunger, poverty and lack of resilience in the area. We worked in partnership with the Ajo Center for Sustainable Agriculture, a Native American-governed 501c3 nonprofit to address the emergency food need for 1,200 families in the area during the pandemic. A second phase of the project now underway includes planning for a new emergency food system for the area which will draw on existing resources and partners to address the post-pandemic needs of the community as well as other threats to food security such as climate change impacts.



是林杨斯和

And and a second

a Alar Bik

At our copper mine-for-leach operation at Safford, Arizona, we are using data analytics to help us learn and explore opportunities to drive additional value from our leach stockpiles. Our Lone Star open pit at Safford has oxide and sulfide resource opportunities.

# **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, Freeport's 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 objectives of the Paris Agreement.

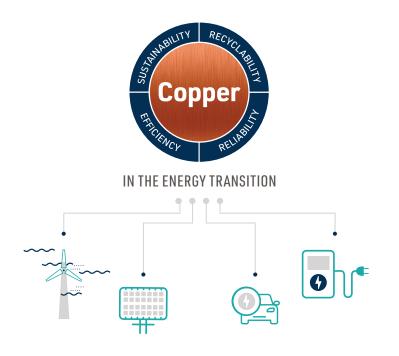
# Copper's Role in the Energy Transition<sup>1</sup>

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 (CRU) 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.<sup>2</sup>

Sales of EVs are also rapidly growing in most major markets. EVs require up to four times the amount of copper by weight compared to vehicles of similar sizes with internal combustion engines. EVs are expected to be a long-term driver of demand for copper globally. Wood Mackenzie estimates that by 2030, the world could have over 20 million EV charging points, consuming 205% more copper than in 2019, and by 2040, 38% of global vehicle sales are estimated to be EVs or hybrids.<sup>3</sup>

S&P Global reported that copper demand is projected to grow from 25 million metric tons today to about 50 million metrics tons by 2035, a recordhigh level that will be sustained and continue to grow to 53 million metric tons by 2050. Notably, supply from existing copper mines and projects under construction are only estimated to meet half of the projected copper needs by 2030 in a scenario that meets the Paris Agreement goals according to a 2021 International Energy Agency (IEA) study.<sup>4</sup> As a truly circular material, copper can be reused repeatedly with no loss to its physical properties. The ICA estimates that since 1900, two-thirds of the 550 million metric tons of previously mined copper is still in productive use. On average, copper products contain 35% recycled content, which significantly reduces copper's carbon footprint. Because copper does not lose its intrinsic properties during recycling, it can be reused with the same expectations of performance. Nine million metric tons of copper are recycled every year. Recycled copper requires up to 85% less energy than primary production of copper. According to the ICA, recycling copper saves 40 million metric tons of CO<sub>2</sub> annually, which is the equivalent of eliminating 16 million cars from the road.<sup>5</sup>



<sup>1</sup> We reference information provided by the following S&P Global report throughout this section: The Future of Copper – Will the looming supply gab short-circuit the energy transition? | S&P Global.

4 The Role of Critical Minerals in Clean Energy Transitions – Analysis – IEA.

<sup>2</sup> Electric Vehicles, renewables, and Covid-19: what next for base metals demand? | CRU (crugroup.com)

<sup>3</sup> Copper: Powering Up The Electric Vehicle | Wood Mackenzie.

 $<sup>5\</sup>quad {\rm Copper} \ {\rm and} \ {\rm Recycling} \ 2017 \ {\rm infographic} \ {\rm I} \ {\rm International} \ {\rm Copper} \ {\rm Association}: \ {\rm Copper} \ {\rm Alliance}$ 



### THE VALUE OF VERTICAL INTEGRATION IN DECARBONIZATION

Freeport's vertically integrated copper portfolio (from earth to cathode) in the Americas and Europe enables us to directly manage and mitigate emissions that would typically be Scope 3 downstream processing emissions for other producers. Approximately 50% of Freeport's overall copper concentrate production is vertically integrated, with our Miami smelter in Arizona and our Atlantic Copper smelter in Spain, collectively processing approximately 1.4 million metric tons of internally produced concentrate per year. Additionally, our Atlantic Copper smelter purchases and processes approximately 70% of concentrate annually from other sources and is investing in a project to increase its recycling capacity by processing end of life electronics waste. Our El Paso refinery in Texas and Atlantic Copper refinery in Spain, operate to upgrade copper anode to 99.99% copper cathode. In Miami, Arizona, and El Paso, Texas, our rod plants manufacture copper rod products for electrical markets. In fact, our rod mills process 65% of our internal 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. PT-FI concentrate is currently smelted and refined by PT Smelting (PTS) (PT-FI's 39.5% owned copper smelter and refinery in Gresik, Indonesia) and third-party smelters and refineries. In 2021, our PT-FI operations set forth plans to expand the annual capacity at PTS by 300,000 metric tons of concentrate, a 30% increase from current levels. Additionally, PT-FI started construction of a greenfield copper smelter in Gresik, Indonesia, with the capacity to process approximately 1.7 million metric tons of copper concentrate annually. From a GHG emissions perspective, this will shift what are now Scope 3 Category 10 downstream processing emissions into our Scope 1 and 2 total GHG emissions and enable us to maintain control all the way to cathode production to support further decarbonization.

# Transition Pathway Initiative 1.5°C Assessment

Freeport 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 July 2022, 131 investors globally, representing over \$50 trillion in assets under management and advice, have pledged support of TPI's efforts to objectively assess corporate performance on climate.

In partnership with the Grantham Research Institute on Climate Change and the London School of Economics and Political Science, Principles for Responsible Investment (PRI) and FTSE Russell, TPI developed its assessment framework, which 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.

#### (1) MANAGEMENT QUALITY

Companies' management quality is assessed against a series of indicators, covering issues such as company policy, GHG emissions reporting and verification, GHG emissions reduction targets, strategic risk assessment and executive remuneration. In TPI's most recent assessment of management quality in April 2022, TPI advanced Freeport to the highest level: Level 4 "Strategic Assessment". We believe this change reflects our progress in advancing our climate strategy and related disclosures, including reporting on the results of our first global climate scenario analysis, integration of climate performance into executive compensation and incorporation of shadow carbon pricing into internal life-of-mine plans, among other initiatives.



### (2) CARBON PERFORMANCE

Companies' carbon performance is assessed using the Sectoral Decarbonization Approach (SDA), which was developed by CDP, the World Wildlife Fund and the World Resources Institute in 2015. The SDA utilizes modeling conducted by the IEA to translate absolute GHG emissions reduction targets made at the international level through the Paris Agreement into sector-based "carbon budgets" or benchmarks. Within each sector, TPI measures carbon performance based on emissions intensity in order to normalize each company's emissions per unit of activity. This approach allows for comparison of the performance of individual companies in specific sectors.

TPI assessed the largest publicly traded, diversified mining companies, based on market capitalization, against three benchmarks for the sector: (1) National Pledges scenario, (2) below 2°C scenario, and (3) 1.5°C scenario. TPI's assessment includes companies' Scope 1 and 2 emissions as well as select Scope 3 emissions categories. TPI recognizes that Scope 3 emissions intensities vary substantially between commodities, which in turn, can generate significant differences in starting points for companies' emissions intensity depending on the commodities produced.

In order to be in line with TPI's below 2°C scenario for the diversified mining sector, companies must produce less than approximately 17 metric tons of  $CO_2$  equivalent per metric ton of copper equivalent produced by 2050. The most recent TPI 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  $CO_2$  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 concentrate and partly because refining copper produces fewer downstream Scope 3 emissions compared to competing or other mined materials. Freeport engages with TPI on TPI's assessment and methodology and aims to continue to do so as our own data and assessment methodology improves.

To learn more, visit transitionpathwayinitiative.org.



In its most recent assessment, TPI reaffirmed Freeport is aligned with TPI's 1.5°C scenario in the short and medium term and TPI's below 2°C scenario in the long term.

# Advancing Responsibly Produced Copper

# **CLIMATE & INDUSTRY ASSOCIATIONS**

Freeport 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 level. We recognize the importance of collaboration with thought leaders to help drive progress, and we believe that engagement with stakeholders is fundamental to our success.

In 2022, we began conducting 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 the initial phase of 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 Freeport contributes more than \$100,000 annually. Our preliminary 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 Freeport'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 Freeport's climate change position, including our commitment to support the goals of the Paris Agreement. For example, in 2021, we actively engaged with fellow ICMM members to develop ICMM's updated climate change position, including its commitment to net zero Scope 1 and 2 emissions by 2050. ICMM's updated position publicly supports the objectives of the Paris Agreement and we believe that the position is generally aligned with Freeport's. Also in 2021, we joined the National Mining Association's (NMA) newly established ESG Task Force and played a leading role in updating NMA's climate change position statement. While the updated NMA climate position is an important first step in recognizing the industry's role in addressing climate change, we will continue to work with NMA with the aim of developing a more advanced position in support of the Paris Agreement over time.

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.

As a next step, we plan to conduct a more comprehensive review of our industry and business associations, including an evaluation of whether the association has, to our knowledge, publicly engaged in anti-climate advocacy against the goals of the Paris Agreement. We aim to complete this work in 2023 and, where we have not done so already, we plan to begin engaging with those associations that we believe are not in alignment with Freeport's current climate position.

Freeport is a member of various industry and business associations that provide a platform for advancing sustainability. We recognize the importance of collaboration with thought leaders to help drive progress, and we believe that engagement with stakeholders is fundamental to our success. 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 Freeport contributed more than \$100,000 in 2021. 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.

#### 2021 SELECTED INDUSTRY & BUSINESS ASSOCIATION MEMBERSHIPS EVALUATION<sup>1</sup>

	ORGANIZATION	LEADERSHIP ROLE	2021 MEMBERSHIP FEES (USD)	PUBLIC CLIMATE Position that supports the paris agreement	ALIGNMENT WITH Freeport's Climate position
	International Copper Association (ICA)	Chair	\$500k+	Yes	Aligned
Global	International Council on Mining & Metals (ICMM)	Chair	\$100 - 499k	Yes	Aligned
	The International Molybdenum Association (IMOA)	Chair	\$500k+	Yes	Aligned
Chile	Consejo Minero	N/A	\$100 - 499k	Yes	Aligned
E.U.	EIT RAWMATERIALS E.V.	N/A	\$100 - 499k	Yes	Aligned
Peru	Sociedad Nacional de Mineria, Petroleo y Energia	Board Member	\$100 - 499k	Yes	Aligned
	Business Roundtable	N/A	\$100 - 499k	Yes	Aligned
U.S.	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, 2021 through December 31, 2021. The evaluation did not include any Freeport-affiliated political action committees, or PACs. Any reference to Freeport's alignment with a third-party association does not constitute or imply an endorsement by Freeport of any or all of the positions or activities of such organization.

#### **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 Freeport'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 Freeport'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**

Freeport has played a leading role in the development of the Copper Mark by actively participating in the organization's multi-stakeholder processes. The Copper Mark is a comprehensive assurance framework designed specifically for copper producers to demonstrate their responsible production practices across 32 ESG requirements on a site-by-site basis. The Copper Mark was initially focused on copper producers at the beginning of the supply chain, however the organization recently expanded criteria to include copper fabricators and component producers with the goal of establishing a chain of custody for downstream companies, such as automobile and electronics producers. Currently, Freeport is taking part in the Copper Mark's pilot program for its new chain of custody certification, which aims to connect parties from the mine through to the Original Equipment Manufacturers (OEMs), enabling Copper Mark status to be identified throughout the entire value chain.

Freeport was an early adopter of the Copper Mark and, to date, we have achieved the Copper Mark at all 11 of our eligible copper producing sites in the Americas and Europe, and PT-FI has signed a letter of commitment and initiated the validation process. To learn more about the Copper Mark or to see our site-level assessment reports, visit our **website** and **coppermark.org**.





#### **COPPER'S CARBON FOOTPRINT**

Life Cycle Assessments (LCAs) provide an overview of the environmental impacts across a product's life cycle to enable producers and other decision makers to identify improvement opportunities and trade-offs. Globally, governments are increasingly using LCAs in developing Circular Economy frameworks and setting climate policies to compare the carbon and water footprints of various products and services.

In 2020, the ICA launched a study to update the global industry-average LCA profile for copper concentrate and copper cathode. The study was recently completed and the results are expected to be released later in 2022.

In addition, a separate but related study was initiated in 2021 by the Copper Development Association, a partner organization to ICA in North America, to conduct an LCA of copper rod used for electrical applications. The copper rod study will use the results of the cathode study and is expected to be completed in 2023. We are participating in both studies, and have provided data from our mining, refining and semi-fabrication facilities, and reviewed preliminary results as well as provided feedback over the past two years.

We are also participating in the ICA's Global Copper Decarbonization Roadmap (GCDR) project with peers and other interested organizations (such as the Copper Mark and the International Wrought Copper Council) to develop a carbon footprint methodology for copper, as well as a roadmap for decarbonization of the global copper industry. This carbon footprint methodology is expected to enable more consistent, comparable and higher quality datasets across the industry. In addition, it is expected to help downstream companies and stakeholders in general to gain knowledge of the overall carbon footprint of copper. The GCDR project also includes setting a baseline for Scope 1, 2 and 3 emissions for the industry and assessing the associated abatement potential of various decarbonization pathways to 2030 and 2050. This will enable participants in 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.

Once the LCAs and GCDR studies are finalized, we expect to use the results to further inform our climate strategy, drive continuous improvement and, as appropriate, to provide Freeport specific results to customers and other value-chain participants.

We are participating in the ICA's Global Copper Decarbonization Roadmap project to help develop a carbon footprint methodology for copper and decarbonization roadmap for the industry.



# **ABOUT THIS REPORT**

We aim to communicate regularly and transparently 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 the **TCFD Index**.

This report focuses primarily on the activities of our most significant subsidiaries, including our 48.76 percent-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 period January 1, 2021 to December 31, 2021 (unless otherwise indicated). Data is as of December 31, 2021 (unless otherwise noted). For additional information, please see our **2021 Annual Report on Sustainability** and visit our website at **fcx.com**.

# **EXTERNAL ASSURANCE**

Third-party verification of the 2021 GHG emissions inventory was conducted by GHD Limited (GHD). GHD verified the Scope 1, 2 and 3 emissions of FCX's global operations from January 1, 2021, to December 31, 2021, in accordance with ISO 14064 (Specifications 1 and 3) to a reasonable level of assurance. In addition, Corporate Integrity Ltd. conducted a limited level of assurance of our 2021 Climate Report per the applicable ISAE3000 standard. A copy of both statements are included in this report and available in the sustainability section of our website at **fcx.com**.

# **QUALITY IMPROVEMENTS**

Prior to 2018, we relied on the United States Environmental Protection Agency's (EPA) eGRID published data for emission factors when calculating Scope 2 emissions for purchased electricity, as is common practice for U.S.-based companies. In 2018, we transitioned to a more accurate, market-based approach to calculate the emissions from our power purchase agreements contracted resources and our wholesale and retail utilities providers. The emission factors calculated under the market-based approach better reflect our actual GHG emissions intensity, enabling us to more accurately demonstrate our decarbonization efforts. In 2021, we expanded our Scope 3 emissions calculations to include additional categories in line with the GHG Protocol and now our Scope 3 inventory includes all emissions sources for which data is available. The inventory may be expanded in the future.

#### **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 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 climate commitments by 2030 and 2050 net zero aspiration; our operational resiliency and climate scenarios; our expectations regarding climaterelated risks and future risk mitigation; and our commitment to deliver responsibly produced copper, including plans to implement and validate 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, 2021, 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 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 the GHG Scope 1, 2, and 3 emissions data which has been third-party verified in accordance with ISO 14064 (Specifications 1 and 3) to a reasonable level of assurance), not prepared in accordance with generally accepted accounting principles (GAAP), 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 2021 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.

# 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.

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, March 2006 (ISO 14064-1)
- ISO 14064 Greenhouse gases Part 3: Specification with guidance for the greenhouse gas assertions, ISO, March 2006 (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)
- \* GHD applied ISO 14064:3:2006 for which GHD is accredited and implemented the requirements of ISO 14064-3:2019. GHD expects to be fully accredited to ISO 14064-3:2019 in 2022 as per the ANAB accreditation schedule

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 2021 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://www.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 (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O)
- On-Site Transportation  $CO_2$ ,  $CH_4$ ,  $N_2O_2$
- Industrial Process Emissions CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O
- Fugitive Emissions Sulfur hexafluoride (SF<sub>6</sub>)

#### Scope 2:

- Purchased Electricity - CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O

#### Scope 3:

- Category 1: Purchased Goods and Services (including Category 2: Capital Goods) - CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O
- Category 3: Fuel and Energy-Related Activities CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O
- Category 4: Upstream Transportation and Distribution  $CO_{2}$ ,  $CH_4$ ,  $N_2O$
- Category 5: Waste Generated in Operations CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O
- Category 7: Employee Commuting CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O

- \* Due to use of US EPA EEIO (Environmentally-Extended Input Output) emission factors for the above Scope 3 categories, 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.
- Category 6: Business Travel CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O
- Category 9: Downstream Transportation and Distribution CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O
- Category 10: Processing of Sold Products CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O

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 and rod mill
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
Ft Madison	Iowa, USA	Molybdenum chemical plant
El Paso	Texas, USA	Copper refinery and rod mill
South America		
Cerro Verde	Peru	Open-pit copper, molybdenum, & silver mine
El Abra	Chile	Open-pit copper mine
Asia		
Grasberg/PT-FI	Papua, Indonesia	Underground copper, gold, & silver mine
Europe		
Atlantic Copper	Spain	Copper smelter
Rotterdam	The Netherlands	Molybdenum chemical plant
Stowmarket	United Kingdom	Ferromolybdenum plant

# **5. VERIFICATION METHODOLOGIES**

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 2021 with emissions from previous reporting year(s).

#### Follow-up Interviews:

- 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 reporting period is between January 1, 2021 and December 31, 2021.

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.
- The 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. REMOTE SITE ASSESSMENT**

Due to travel restrictions in place due to the ongoing COVID-19 pandemic, GHD completed all verification activities virtually. Using a risk-based approach, GHD conducted virtual site assessments at the following facilities:

- Bagdad
- Miami
- Cerro Verde

# 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 is available and may be expanded in the future. 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, Bagdad, Miami, Cerro Verde, Atlantic Copper and El Paso as well as reviewing sample data and calculation methodologies from all other Sites. GHD verified 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 2021 reporting year:

- Scope 1 Emissions: 4,575,559 tonnes carbon dioxide equivalent (tCO<sub>2</sub>e)
- Scope 2 Emissions: 2,614,155 tCO<sub>2</sub>e
- Scope 3 Emissions: 5,179,522 tCO<sub>2</sub>e

A breakdown of the Scope 3 Emissions Inventory per Scope 3 category is found below:

- Category 1: Purchased Goods and Services: 2,849,703 tCO<sub>2</sub>e
- Category 3: Fuel and Energy-Related Activities: 551,616 tCO<sub>2</sub>e
- Category 4: Upstream Transportation and Distribution: 426,360 tCO<sub>2</sub>e
- Category 5: Waste Generated in Operations: 8,665 tCO<sub>2</sub>e
- Category 6: Business Travel: 1,315 tCO<sub>2</sub>e
- Category 7: Employee Commuting: 14,485 tCO<sub>2</sub>e
- Category 9: Downstream Transportation and Distribution: 442,010 tCO<sub>2</sub>e
- Category 10: Processing of Sold Products: 885,367 tCO<sub>2</sub>e

Based on the procedures undertaken, it is our opinion that Freeport's 2021 Emissions Inventory is supported by appropriate underlying evidence and is free of material misstatements.

All of Which is Respectfully Submitted,



# Sean Williams, P. Eng.

Lead Verifier CARB Accredited Lead Verifier (H2-20-093)

**Gordon Reusing, M.Sc., P.E., P. Eng.** Peer Reviewer GHD Principal – Greenhouse Gas Assurance Services

# Assurance Statement

The Freeport-McMoRan Inc. (Freeport-McMoRan) 2021 Climate Report – Electrifying The Future - has been prepared and presented by the management of Freeport-McMoRan.

### **SCOPE OF ASSURANCE**

Corporate Integrity Ltd., in accordance with Freeport-McMoRan management's instructions, was asked to perform a review of statements made in the 2021 Climate Report.

A review of Freeport-McMoRan's climate change commitments and implementation formed part of Corporate Integrity's annual assurance review summarised in the Assurance Statement appended to the 2021 Annual Report on Sustainability. Our assurance work scope covered all the Freeport-McMoRan mining and metals processing operations. We undertook site level reviews of nine operational sites and a corporate office review.

#### **ASSURANCE CONCLUSION**

Based on our review, its scope and limitations, nothing has come to our attention that causes us to believe that the information reported by Freeport-McMoRan in the 2021 Climate Report has been materially misstated.

### **METHODOLOGY APPLIED**

Through document reviews, physical observations made during site visits, interviews at the selected sites and corporate office, the work activity involved reviews of:

- Freeport-McMoRan climate change commitments and their alignment to ICMM Position Statement on climate change at corporate and site level.
- The systems and approaches that Freeport-McMoRan used to manage its climate change risks and to implement its climate change program.
- The assertions made in the 2021 Climate Report and other associated third party assurance of specific aspects of the climate change program and performance metrics.

# LIMITATIONS OF THE WORK PERFORMED

This work has been carried out by checking samples of information and documents that have been made available during the period of assurance activity by Freeport-McMoRan.

Information provided that has been deemed to be independently verified by other third parties has been considered to be appropriately verified, and was not subjected to re-verification by Corporate Integrity Ltd.

Our evidence gathering procedures have been designed to obtain a limited level of assurance on which to base our conclusions.

The assurance statement provided by Corporate Integrity Ltd. is not intended to be used as advice or as the basis for any decisions, including, without limitation, financial or investment decisions.

# STATEMENT OF INDEPENDENCE

The independence of our team has been reviewed and none of the Corporate Integrity Ltd. assessors involved in this project presents a conflict of interest to the integrity of this assurance statement.

Standard Applied to This Engagement: International Standard on Assurance ISAE3000 (revised) – Assurance Engagements other than Audits & Reviews of Historical Financial Information' issued by the International Auditing and Assurance Standards Board (IAASB).

# corporateintegrity

David Shirley & Raj Aseervatham Directors, Corporate Integrity Ltd.



# **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 GAAP in the U.S. and, with the exception of 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, data have not been audited. 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**.

#### **GLOBAL GHG EMISSIONS SUMMARY**

(CO <sub>2</sub> e METRIC TONS)	2017	2018	2019	2020	2021
Scope 1 + 2 <sup>1</sup>					
FMC Mining <sup>2</sup>	5,113,226	4,824,714	4,950,131	4,468,291	4,365,377
Downstream Processing <sup>3</sup>	585,688	686,062	627,132	587,200	539,869
PT-FI (Grasberg)	2,257,149	2,651,587	2,212,265	2,034,939	2,284,467
Scope 1 + 2 Total - FCX Global	7,956,062	8,162,363	7,789,529	7,090,429	7,189,714

Scope 3 <sup>4</sup>					
Scope 3 Total - FCX Global	706,214	750,332	692,336	1,729,251	5,179,522

1 2017 Scope 2 emissions were calculated using a location-based method; since 2018, Scope 2 emissions have been calculated using a market-based method, where available. For more detail on our Scope 2 GHG emissions, please see page 72 of this report. 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. PT-FI generates its own electricity. As a result, there are no Scope 2 emissions associated with PT-FI operations.

2 FMC Mining includes Bagdad, Cerro Verde, Chino (including Cobre), Climax, El Abra, Henderson, Morenci, Safford (including Lone Star), Sierrita and Tyrone.

3 Downstream Processing includes Atlantic Copper Smelter & Refinery, Bayway Rod & Wire, Fort Madison, Kokkola Cobalt Refinery, Miami Smelter & Rod, Norwich Rod, Rotterdam, Stowmarket and El Paso Refinery & Rod.

4 Our 2021 Scope 3 figure differs from the number reported in our 2021 Annual Report on Sustainability due to our updated Scope 3 emissions estimates, as described in the Scope 3 section.

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 on FCX's website at **fcx.com/sustainability**. In September 2021, FCX completed the sale of its remaining cobalt business based in Kokkola, Finland, and in 2020, FCX closed and decommissioned its Bayway Rod & Wire and Norwich Rod facilities.

#### 2030 GHG EMISSIONS REDUCTION TARGET PERFORMANCE

	Baseline Year 2018	2019	2020	2021	Target Year 2030
Intensity Reduction Targets <sup>1</sup>					
Americas Copper <sup>2</sup> - 15% intensity reduction	3.72	3.70	3.81	3.59	3.17
PT-FI (Grasberg) <sup>3</sup> - <i>30% intensity reduction</i>	4.76	7.73	5.40	3.71	3.34

Absolute Reduction Targets <sup>4</sup>					
Atlantic Copper Smelter & Refinery - 50% absolute reduction	176,865	146,044	126,103	112,671	88,432
Primary Molybdenum Sites <sup>5</sup> - 35% absolute reduction	308,136	325,591	263,023	232,317	200,288

1 Intensity reduction targets (CO<sub>2</sub>e 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.

2 Americas Copper (for target) includes Bagdad, Cerro Verde, Chino (including Cobre), ELAbra, 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.

3 Our PT-FI intensity reduction target is based on payable copper produced in concentrate. PT-FI concentrate is currently 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. Upon completion of the PTS expansion after which PT-FI will have majority ownership and the construction of the greenfield smelter at Gresik, GHG emissions for smelting and refining are expected to shift from Scope 3 to Scope 3 to Scope 3 to A / or 2, and we will adjust our target and baseline in line with the GHG Protocol at such time.

4 Absolute targets include total (Scope 1 and 2) emissions.

5 Primary Molybdenum Sites include Climax and Henderson mines located in Colorado, U.S., and downstream molybdenum processing facilities at Fort Madison, Rotterdam and Stowmarket.

#### GHG EMISSIONS

SCOPE 1 (CO,e METRIC TONS)	2017	2018	2019	2020	2021
FMC Mining	i				
Bagdad	131,305	148,112	160,559	162,715	163,182
Cerro Verde	492,085	578,103	638,972	564,127	644,126
Chino / Cobre	159,014	167,047	148,576	53,111	100,331
Climax	37,165	41,950	51,414	34,558	29,591
El Abra	90,178	133,703	141,452	80,540	61,937
Henderson	17,670	18,860	19,966	17,232	17,817
Morenci	533,444	615,256	677,159	627,797	620,636
Safford / Lone Star	145,394	177,236	217,855	225,197	185,084
Sierrita	123,530	133,627	151,818	119,190	154,978
Tyrone	33,621	35,826	37,227	41,910	40,622
Total FMC Mining	1,763,407	2,049,720	2,244,999	1,926,378	2,018,306
Downstream Processing					
Atlantic Copper Smelter & Refinery <sup>1</sup>	55,129	57,767	59,299	60,149	53,427
Bayway Rod & Wire	922	1,116	916	-	-
Fort Madison Moly Special Products	17,344	14,111	16,709	17,107	16,610
Kokkola Cobalt Refinery	5,287	4,693	4,277	3,184	-
Miami Smelter & Rod	83,695	99,752	93,840	98,602	93,234
Norwich Rod	18,511	18,463	17,735	-	-
Rotterdam	7,194	6,925	8,404	8,238	9,365
Stowmarket	136	113	119	88	107
El Paso Refinery & Rod	56,170	60,473	71,105	85,613	100,043
Total Downstream Processing	244,389	263,412	272,405	272,982	272,786
Total PT-FI (Grasberg)	2,257,149	2,651,587	2,212,265	2,034,939	2,284,467
Scope 1 Total - FCX Global	4,264,946	4,964,720	4,729,669	4,234,298	4,575,559

1 Adjusted 2018, 2019 and 2020 emissions data at Atlantic Copper reflect improvements in our reporting and calculation process to use a market-based method and to align with EU ETS reporting expectations. These changes have been validated by GHD Limited, FCX's third-party GHG emissions inventory verifier.

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

#### **GHG EMISSIONS**

SCOPE 21 (CO,e METRIC TONS)	2017	2018	2019	2020	2021
FMC Mining					
Bagdad	238,380	254,016	231,111	239,608	160,233
Cerro Verde	605,993	264,778	275,539	231,339	315,557
Chino / Cobre	364,726	228,615	226,323	100,720	130,793
Climax	107,603	98,909	96,278	66,231	62,348
El Abra	406,977	259,703	238,720	224,033	222,730
Henderson	115,482	105,672	110,116	103,584	87,557
Morenci	1,023,518	985,533	970,178	949,081	763,267
Safford / Lone Star	99,910	88,718	98,252	138,629	156,798
Sierrita	233,127	389,041	352,222	408,617	356,594
Tyrone	154,103	100,009	106,392	80,071	91,194
Total FMC Mining	3,349,818	2,774,994	2,705,132	2,541,913	2,347,071
Downstream Processing					
Atlantic Copper Smelter & Refinery <sup>2,3</sup>	81,987	119,098	86,745	65,954	59,244
Bayway Rod & Wire	768	764	773	-	-
Fort Madison Moly Special Products	19,837	21,088	22,136	15,698	8,606
Kokkola Cobalt Refinery	22,350	21,840	22,513	6,675	-
Miami Smelter & Rod	175,124	235,059	204,128	207,312	183,425
Norwich Rod	5,380	5,449	4,907	-	-
Rotterdam <sup>3</sup>	0	0	0	0	0
Stowmarket	741	508	447	286	315
El Paso Refinery & Rod	35,112	18,843	13,078	18,293	15,493
Total Downstream Processing	341,298	422,649	354,727	314,217	267,083
Total PT-FI (Grasberg) <sup>4</sup>	0	0	0	0	0
Scope 2 Total - FCX Global	3,691,117	3,197,643	3,059,859	2,856,130	2,614,155

1 2017 Scope 2 emissions were calculated using a location-based method; since 2018, Scope 2 emissions have been calculated using a market-based method with the exception of Bayway Rod & Wire, Norwich Rod, El Abra, Fort Madison, Kokkola and Stowmarket which are calculated using location-based grid factors and amount to less than 9% of our total Scope 2 emissions. 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 2021 Scope 2 emissions are reported in the back of this report.

2 Adjusted 2018, 2019 and 2020 emissions data at Atlantic Copper reflect improvements in our reporting and calculation process to a market-based method and to align with EU ETS reporting expectations. These changes have been validated by GHD Limited, FCX's third-party GHG emissions inventory verifier.

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.

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

#### 2021 GHG EMISSIONS - SCOPE 2 DUAL REPORTING

SCOPE 2 (CO <sub>2</sub> e METRIC TONS)	LOCATION-BASED <sup>1</sup>	MARKET-BASED <sup>2</sup>							
FMC Mining									
Bagdad	172,044	160,233							
Cerro Verde	697,290	315,557							
Chino / Cobre	169,514	130,793							
Climax	72,591	62,348							
El Abra	222,730	222,730							
Henderson	101,942	87,557							
Morenci	728,400	763,267							
Safford / Lone Star	149,577	156,798							
Sierrita	202,335	356,594							
Tyrone	118,976	91,194							
Total FMC Mining	2,635,400	2,347,071							
Downstream Processing									
Atlantic Copper Smelter & Refinery	42,317	59,244							
Fort Madison Moly Special Products	8,606	8,606							
Kokkola Cobalt Refinery	-	-							
Miami Smelter & Rod	154,640	183,425							
Rotterdam	4,813	0							
Stowmarket	315	315							
El Paso Refinery & Rod	25,974	15,493							
Total Downstream Processing	236,665	267,083							
Total PT-FI (Grasberg) <sup>3</sup>	0	0							
Scope 2 Total - FCX Global	2,872,065	2,614,155							

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 were 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 at fcx.com/sustainability. In September 2021, FCX completed the sale of its remaining cobalt business based in Kokkola, Finland, and therefore its data have not been included in this table.

# 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 and 10), Freeport 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 environmentally extended input-output (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

As described by the GHG Protocol Corporate Value Chain (Scope 3) 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 enables us a higher quality dataset for what makes up approximately 20% or more of Category 1 emissions. Most of this sub-set is incurred by Atlantic Copper, which, as noted previously, purchases around 70% of its copper concentrates externally.

# **SCOPE 3 EMISSIONS INVENTORY DEVELOPMENT**

(CO <sub>2</sub> e METRIC TONS)	PHASE 1 OF INVEN	TORY REVIEW	PHASE 2 OF INVENTORY REVIEW Estimated FY 2021 Emissions			
	Estimated FY 202	20 Emissions				
	As of 2020 Annual Report on Sustainability	As of 2020 Climate Report	As of 2021 Annual Report on Sustainability	As of 2021 Climate Report		
Upstream						
Category 1: Purchased goods and services	323,012	323,012	368,718	2,849,703		
Category 2: Capital goods	To be calculated	To be calculated	To be calculated	Included above		
Category 3: Fuel- and energy-related activities	To be calculated	225,358	299,313	551,616		
Category 4: Upstream transportation and distribution	To be calculated	To be calculated	To be calculated	426,360		
Category 5: Waste generated in operations	Minor impact	Minor impact	Minor impact	8,665		
Category 6: Business travel	1,684	1,684	1,315	1,315		
Category 7: Employee commuting	Minor impact	Minor impact	Minor impact	14,485		
Category 8: Upstream leased assets	Not applicable	Not applicable	Not applicable	Not applicable		
Downstream						
Category 9: Downstream transportation and distribution	To be calculated	336,159	442,010	442,010		
Category 10: Processing of sold products	275,848	843,038	885,367	885,367		
Category 11: Use of sold products	Minor impact	Minor impact	Minor impact	Minor impact		
Category 12: End-of-life treatment of sold products	Minor impact	Minor impact	Minor impact	Minor impact		
Category 13: Downstream leased assets	Not applicable	Not applicable	Not applicable	Not applicable		
Category 14: Franchises	Not applicable	Not applicable	Not applicable	Not applicable		
Category 15: Investments	Not applicable	Not applicable	Not applicable	Not applicable		
Total Scope 3 Emissions	600,544	1,729,251	1,996,723	5,179,522		

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 (EEI0) analysis, using purchasing data and the U.S. Environmental Protection Agency's emission factors. Emissions estimates for Category 1 and Category 3 have been updated to 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 on FCX's website at fcx.com/sustainability.

# ENERGY CONSUMPTION BY SITE

DIRECT ENERGY (TERAJOULES)	2017	2018	2019	2020	2021
FMC Mining		<u> </u>		<u> </u>	
Bagdad	1,667	1,873	2,031	2,077	2,024
Cerro Verde	6,123	7,193	7,946	7,093	7,981
Chino / Cobre	1,918	2,131	1,803	706	1,474
Climax	530	584	694	497	424
El Abra <sup>1</sup>	1,132	1,676	1,767	1,031	757
Henderson	305	319	324	325	333
Morenci	6,834	7,938	8,749	8,088	7,975
Safford / Lone Star	629	1,262	1,667	2,008	2,244
Sierrita	1,586	1,699	1,924	1,513	1,955
Tyrone	414	443	456	515	502
Total FMC Mining	21,138	25,117	27,361	23,853	25,669
Downstream Processing					
Atlantic Copper Smelter & Refinery	881	846	874	895	800
Bayway Rod and Wire	18	22	18	-	-
Fort Madison Moly Special Products	332	276	325	339	327
Kokkola Cobalt Refinery	88	78	71	53	-
Miami Smelter & Rod	1,586	1,921	1,795	1,910	1,790
Norwich Rod	367	366	351	-	-
Rotterdam	143	137	164	163	185
Stowmarket	1	2	2	1	2
El Paso Refinery & Rod	1,112	1,197	1,408	1,694	1,981
Total Downstream Processing	4,529	4,844	5,009	5,056	5,086
Total PT-FI (Grasberg)	27,132	31,357	26,066	24,217	26,422
Direct Energy Total - FCX Global	52,799	61,318	58,436	53,127	57,177

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 2017-2020 but has not been included in 2021 to align with the GRI definition of total energy consumption.

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

# ENERGY CONSUMPTION BY SITE

INDIRECT ENERGY (TERAJOULES)	2017	2018	2019	2020	2021
FMC Mining					
Bagdad	2,017	2,072	2,080	2,088	1,853
Cerro Verde	12,179	12,731	12,868	11,005	12,458
Chino / Cobre	1,827	1,724	1,641	886	1,068
Climax	577	644	674	464	473
El Abra	1,895	2,233	2,119	1,988	2,052
Henderson	619	689	771	726	664
Morenci	8,662	8,608	8,521	8,251	7,844
Safford / Lone Star	846	775	863	1,203	1,611
Sierrita	1,973	2,067	1,996	2,315	2,179
Tyrone	772	755	771	715	750
Total FMC Mining	31,369	32,297	32,305	29,642	30,950
Downstream Processing					
Atlantic Copper Smelter & Refinery	1,181	1,046	1,007	1,032	1,016
Bayway Rod and Wire	11	12	12	-	-
Fort Madison Moly Special Products	157	155	163	145	111
Kokkola Cobalt Refinery	328	321	331	98	-
Miami Smelter & Rod	1,482	1,917	1,729	1,889	1,665
Norwich Rod	85	85	76	-	-
Rotterdam	60	64	61	46	47
Stowmarket	6	6	6	4	5
El Paso Refinery & Rod	264	278	191	269	240
Total Downstream Processing	3,574	3,884	3,577	3,483	3,085
Total PT-FI (Grasberg) <sup>1</sup>	0	0	0	0	0
Indirect Total - FCX Global	34,943	36,182	35,881	33,125	34,035
TOTAL ENERGY (TERAJOULES)	2017	2018	2019	2020	2021
FMC Mining	52,507	57,414	59,666	53,495	56,619
Downstream Processing	8,103	8,729	8,586	8,540	8,170
PT-FI (Grasberg)	27,132	31,357	26,066	24,217	26,422
Total - FCX Global	87,741	97,500	94,317	86,252	91,212

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

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

# 2021 ENERGY CONSUMPTION BY TYPE

	DIRECT ENERGY				INDIRECT ENERGY			TOTAL ENERGY		%
(TJ, EXCEPT PERCENTAGES)	RENEWABLE	NONRENEWABLE	TOTAL	RENEWABLE	NONRENEWABLE	TOTAL	RENEWABLE	NONRENEWABLE	TOTAL	RENEWABLE
FMC Mining										
Bagdad	0	2,024	2,024	389	1,464	1,853	389	3,488	3,877	10%
Cerro Verde	398	7,583	7,981	9,469	2,989	12,458	9,867	10,572	20,438	48%
Chino / Cobre	0	1,474	1,474	53	1,014	1,068	53	2,488	2,542	2%
Climax	0	424	424	170	302	473	170	727	897	19%
El Abra	0	757	757	876	1,176	2,052	876	1,933	2,809	31%
Henderson	11	322	333	239	425	664	250	747	996	25%
Morenci	345	7,630	7,975	706	7,138	7,844	1,051	14,768	15,820	7%
Safford / Lone Star	0	2,244	2,244	145	1,466	1,611	145	3,710	3,855	4%
Sierrita	0	1,955	1,955	121	2,058	2,179	121	4,012	4,134	3%
Tyrone	0	502	502	36	714	750	36	1,215	1,251	3%
Total FMC Mining	754	24,915	25,669	12,205	18,745	30,950	12,959	43,660	56,619	23%
Downstream Processing										
Atlantic Copper Smelter & Refinery	0	800	800	209	806	1,016	209	1,607	1,816	12%
Fort Madison Moly Special Products	0	327	327	66	45	111	66	373	438	15%
Kokkola Cobalt Refinery	-	-	-	-	-	-	-	-	-	-
Miami Smelter & Rod	0	1,790	1,790	263	1,403	1,665	263	3,193	3,456	8%
Rotterdam	0	185	185	47	0	47	47	185	232	20%
Stowmarket	0	2	2	2	4	5	2	5	7	22%
El Paso Refinery & Rod	0	1,981	1,981	6	234	240	6	2,215	2,222	0%
Total Downstream Processing	0	5,086	5,086	593	2,492	3,085	593	7,577	8,170	7%
Total PT-FI (Grasberg)	108	26,314	26,422	0	0	0	108	26,314	26,422	0%
Total - FCX Global	862	56,315	57,177	12,798	21,237	34,035	13,660	77,552	91,212	15%

Note: In September 2021, FCX completed the sale of its remaining cobalt business based in Kokkola, Finland, and therefore its data have not been included in this table.

# 2021 INDIRECT ENERGY CONSUMED BY SOURCE

(PERCENTAGE OF TOTAL)	GEOTHERMAL	SOLAR	WIND	NUCLEAR	HYDRO	BIOMASS	OTHER FOSSIL	GAS	OIL	COAL / Coke	OTHER
FMC Mining											
Bagdad	3%	5%	2%	18%	3%	7%	0%	46%	0%	15%	0%
Cerro Verde	0%	1%	0%	0%	75%	0%	0%	24%	0%	0%	0%
Chino / Cobre	1%	2%	1%	6%	1%	0%	0%	84%	0%	5%	0%
Climax	0%	5%	31%	1%	0%	0%	0%	37%	0%	26%	0%
El Abra	0%	13%	9%	0%	20%	0%	0%	18%	2%	34%	3%
Henderson	0%	5%	31%	1%	0%	0%	0%	37%	0%	26%	0%
Morenci	2%	3%	2%	12%	2%	0%	0%	69%	0%	10%	0%
Safford / Lone Star	2%	3%	2%	12%	2%	0%	0%	69%	0%	10%	0%
Sierrita	0%	4%	1%	0%	0%	0%	0%	49%	0%	37%	9%
Tyrone	1%	2%	1%	6%	1%	0%	0%	84%	0%	5%	0%
Downstream Processing											
Atlantic Copper Smelter & Refinery <sup>1</sup>	0%	6%	9%	33%	6%	0%	13%	26%	2%	3%	1%
Fort Madison Moly Special Products	0%	0%	57%	5%	2%	0%	0%	12%	0%	24%	0%
Kokkola Cobalt Refinery	-	-	-	-	-	-	-	-	-	-	-
Miami Smelter & Rod	3%	9%	1%	16%	2%	0%	0%	42%	0%	22%	4%
Rotterdam <sup>1</sup>	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%
Stowmarket	0%	0%	11%	21%	1%	16%	4%	40%	1%	3%	3%
El Paso Refinery & Rod	0%	3%	0%	44%	0%	0%	0%	42%	0%	0%	11%
PT-FI (Grasberg)											
PT-FI (Grasberg)²	-	-	-	-	-	-	-	-	-	-	-

1 At our Rotterdam processing facility, we purchase RECs for all electricity. Since 2020, at our Atlantic Copper Smelter & Refinery, we have purchased RECs for a portion of our electricity.

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

Note: In September 2021, FCX completed the sale of its remaining cobalt business based in Kokkola, Finland, and therefore its data have not been included in this table. Due to rounding, some data points less than 1% are represented as 0%.

## 2021 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
FMC Mining	FMC Mining										
Bagdad	0.0	1,900.2	0.0	0.0	0.0	31.8	91.4	0.9	0.0	0.0	0.0
Cerro Verde	0.0	0.0	7,950.3	0.0	0.0	30.4	0.0	0.0	0.0	0.0	0.0
Chino / Cobre	0.0	791.2	0.0	0.0	0.0	22.0	657.3	3.2	0.0	0.0	0.0
Climax	0.0	253.8	0.0	0.0	0.0	8.1	161.7	1.0	0.0	0.0	0.0
El Abra <sup>1</sup>	0.0	748.4	0.0	0.0	0.0	4.2	0.0	4.3	0.0	0.0	30.6
Henderson	0.0	9.7	0.0	0.0	36.1	3.7	277.2	1.7	0.0	4.5	0.0
Morenci	0.0	261.8	6,903.8	0.0	0.0	203.4	605.0	1.2	0.0	0.0	0.0
Safford / Lone Star	0.0	2,159.1	0.0	0.0	0.0	54.0	0.0	31.0	0.0	0.0	0.0
Sierrita	0.0	1,764.2	0.0	0.0	0.0	36.1	149.1	5.5	0.0	0.0	0.0
Tyrone	0.0	461.5	0.0	0.0	0.0	15.8	22.5	1.9	0.0	0.0	0.0
Total FMC Mining	0.0	8,349.7	14,854.1	0.0	36.1	409.6	1,964.1	50.7	0.0	4.5	30.6
Downstream Processing											
Atlantic Copper Smelter & Refinery	57.9	185.7	0.0	0.0	0.0	0.0	556.7	0.0	0.0	0.0	0.0
Fort Madison Moly Special Products	0.0	0.4	0.0	0.0	0.0	0.1	325.2	1.8	0.0	0.0	0.0
Kokkola Cobalt Refinery	-	-	-	-	-	-	-	-	-	-	-
Miami Smelter & Rod	0.0	48.5	0.0	0.0	0.0	12.4	1,726.6	2.9	0.0	0.0	0.0
Rotterdam	0.0	0.3	0.0	0.0	0.0	0.0	184.4	0.0	0.0	0.0	0.0
Stowmarket	0.0	0.9	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
El Paso Refinery & Rod	0.0	4.6	0.0	0.0	0.0	0.3	1,967.7	8.8	0.0	0.0	0.0
Total Downstream Processing	57.9	240.4	0.0	0.0	0.0	12.8	4,761.2	13.5	0.0	0.0	0.0
Total PT-FI (Grasberg)	15,232.5	10,479.4	0.0	0.0	360.8	29.0	0.0	0.0	177.7	142.8	0.0
Total - FCX Global	15,290.4	19,069.5	14,854.1	0.0	396.9	451.4	6,725.4	64.1	177.7	147.4	30.6

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.

Note: In September 2021, FCX completed the sale of its remaining cobalt business based in Kokkola, Finland, and therefore its data have not been included in this table.



# **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, which was subsequently updated in 2021 with 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. Freeport is committed to continuing to work towards aligning our climate-related disclosures with the current recommendations of the TCFD.

		REFERENCES
TCFD THEMES GOVERNANCE: Disclose the organization's governance around	<b>RECOMMENDATION</b> (a) Describe the board's oversight of climate-related risks and opportunities	REFERENCES (1) 2022 Proxy Statement: ESG/Sustainability (2) 2021 Climate Report: Governance (3) 2021 Annual Report on Sustainability: Our Approach (4) Charter of the Corporate Responsibility Committee of the Board of Directors
climate-related risks and opportunities	<b>(b)</b> Describe management's role in assessing and managing climate-related risks and opportunities	<ol> <li>(1) 2022 Proxy Statement: ESG/Sustainability</li> <li>(2) 2021 Climate Report: Governance</li> <li>(3) 2021 Annual Report on Sustainability: Our Approach</li> <li>(4) 2021 Annual Report on Sustainability: Climate</li> </ol>
STRATEGY:	(a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	(1) 2021 Climate Report: Resilience
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's	<ul> <li>(b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning</li> <li>Materials and Buildings supplemental non-financial disclosures: How climate-related risks and opportunities are integrated into (1) current decision making and (2) strategy formulation.</li> </ul>	<ul> <li>(1) 2021 Climate Report: Resilience</li> <li>(2) 2021 Climate Report: Risk Management, Internal Carbon Pricing</li> <li>(3) 2021 Climate Report: Reduction</li> <li>(4) 2021 Climate Report: Governance</li> </ul>
businesses, strategy, and financial planning where such information is material	<ul> <li>(c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario</li> <li>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</li> </ul>	(1) 2021 Climate Report: Resilience (2) 2021 Climate Report: Contribution
RISK MANAGEMENT:	(a) Describe the organization's processes for identifying and assessing climate-related risks	<ul><li>(1) 2021 Climate Report: Governance</li><li>(2) 2021 Climate Report: Resilience</li></ul>
Disclose how the organization identifies, assesses, and manages	(b) Describe the organization's processes for managing climate-related risks	<ul> <li>(3) 2022 Proxy Statement: ESG/Sustainability</li> <li>(4) 2021 Annual Report on Sustainability: Our Strategy in Action: Responsible Production</li> </ul>
climate-related risks	(c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	<ul> <li>(1) 2021 Climate Report: Governance</li> <li>(2) 2022 Proxy Statement: ESG/Sustainability</li> <li>(3) 2021 Annual Report on Sustainability: Our Strategy in Action: Responsible Production</li> </ul>
METRICS & TARGETS:		(1) 2021 Climate Report: Reduction
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material	(a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process <b>Materials and Buildings supplemental non-financial disclosures</b> : Key metrics related to the implications of GHG emissions, energy and water on the financial aspects related to revenue, costs, assets and financing costs.	<ul> <li>(2) 2021 Climate Report: Contribution</li> <li>(3) 2021 Climate Report: Risk Management, Internal Carbon Pricing</li> <li>(4) Sustainability &gt; Thriving Environments &gt; Tailings Management on fcx.com</li> <li>(5) 2021 Annual Report on Sustainability: Water Stewardship</li> <li>(6) 2021 Annual Report on Sustainability: Communities &amp; Indigenous Peoples</li> <li>(7) ESG Performance Data on fcx.com</li> </ul>
	(b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks	(1) 2021 Climate Report: Reduction
	(c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	(2) 2021 Climate Report: Contribution

# 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

- in Freeport-McMoRan
- **f** FreeportFCX
- FreeportFCX



Fully autonomous train at our PT-FI underground operations in Indonesia.