



# CHARGING AHEAD

RESPONSIBLY.

RELIABLY.

RELENTLESSLY.



## 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) Freeport 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.

Cover Photo: PT-FI employee planting seedlings to support mangrove reclamation in the estuary in the Lowlands near operations in Papua, Indonesia.





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In recent years, our molybdenum operations in Colorado have been recognized multiple times by the Colorado Mining Association for its practices in reclamation and environmental stewardship.



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

## LETTER TO STAKEHOLDERS

Dear Stakeholders,

Freeport is a leading producer of the metals essential to support the global energy transition. Our principal product – copper – is critical to the technologies necessary to enable decarbonization.

As I reflect on recent events of this year alone, there is no doubt that a changing climate is negatively impacting our environment and society. In 2021, Freeport had two wildfires near our operations in Arizona, our Sierrita operation received record rainfall, the United States government declared for the first time a water shortage on the Colorado River and the Andes Mountains in Chile and Peru are experiencing record drought conditions.

As both a major consumer of energy, and a producer of the copper essential to the energy transition, we know we have a responsibility to take action. We have inspiring work underway across our global business to reduce our own greenhouse gas (GHG) emissions, improve energy efficiency across our operations, advance the use of renewable energy, and better understand and enhance our own resilience to future climate-related risks.

In 2020, we published our inaugural climate report, established our first GHG emissions reduction target for the Americas copper business, and committed to aligning our future climate-related disclosures with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

In 2021, we completed our first global climate scenario analysis, established a cross-functional climate team, significantly enhanced climate expertise on our Board, directly linked climate performance with our executive compensation program and advanced our analysis of renewable energy opportunities in the southwestern United States.

With the publication of this report, I am also pleased to announce that we established a new 30% GHG emissions reduction target for our Indonesian operations by 2030 (versus a 2018 baseline). Today, PT-FI represents roughly 50% of our global Scope 1 emissions. This target furthers our resolve to reduce our GHG emissions.

We plan to submit our 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. 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. This process also will provide us with an independent third-party review of our plans, which is important to our decision-making as we refine and make additional commitments that advance our climate strategy.

**Freeport aspires to participate in – and positively contribute to – a 2050 net zero economy.** Not only is it the right thing to do for society and for the environment, it is also good business.

However, not all net zero targets are created equal. The definition of net zero and the path to get there varies and is often inconsistent. We have challenged ourselves to develop a more robust understanding of how we can move beyond our aspirational vision to a science-based net zero pathway.

Today, we believe we have a clear view of the primary challenges to achieve net zero GHG emissions across our various operating regions. For example, there is not yet a commercially viable alternative to the diesel-fueled haul trucks critical to our global open-pit mining operations. In Indonesia, we are challenged to shift away from coal for reliable electricity production in the short-to-medium term given, among other things, the remote nature of our operations.

Looking ahead, we acknowledge that future climate-related challenges for Freeport will require a meaningful shift in powering our operations and related equipment and potentially significant financial commitments. We also know that our path to net zero carbon emissions will require new technological solutions and innovation that must be driven by collaborative and meaningful industry commitment. Freeport embraces these challenges and we are dedicated to exploring and contributing to viable solutions including through our work with the International Council on Mining and Metals (ICMM) and the International Copper Association.

We are actively engaged with the ICMM's Innovation for Cleaner, Safer Vehicles initiative focused on developing low-GHG emissions mining equipment as well as with our own equipment manufacturers. We are also now a patron supporter of the Charge on Innovation Challenge, a global industry initiative aimed at developing concepts for large-scale haul truck electrification systems. In Papua, at our PT-FI operations, we are also evaluating alternative fuel options including the feasibility of liquefied natural gas (LNG).

We believe Freeport is uniquely positioned to eventually meet stakeholder expectations for both our contribution to – and our own alignment with – a 1.5°C scenario. This is in part because Scope 3 emissions related to converting copper cathode into usable products like wire are minimal compared to other materials. It is also because copper plays a crucial role in electrification, renewables, and energy efficient technologies.

In the coming years we plan to progress our climate strategy, including reporting on our progress, opportunities, challenges and aspirations. We will continue to integrate our climate initiatives into our long-term business plans as we work to supply the global economy with the copper necessary to support the global energy transition for the benefit of all stakeholders.

**Responsibly. Reliably. Relentlessly.**



## CLIMATE STRATEGY PROGRESS – AT A GLANCE

### 2020

- › Published inaugural climate report and formalized climate strategy
- › Established 2030 Americas Copper 15% GHG emissions intensity reduction target
- › Committed to TCFD alignment

### 2021

- › Established 2030 PT-FI 30% GHG emissions intensity reduction target
- › Announced 2050 net zero aspiration
- › 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 submitting 2030 GHG emissions intensity reduction targets to SBTi
- › Enhanced Scope 3 estimates

An aerial photograph of a large-scale copper mining operation in a rugged, mountainous landscape. The terrain is a mix of brownish-grey rock and sparse green vegetation. A prominent, winding dirt road or conveyor system cuts through the valley. In the background, a large, flat-topped mountain peak is visible under a clear blue sky. A dark green rectangular box is overlaid on the left side of the image, containing white text. To the right of the text box, three white chevron arrows point towards the right edge of the frame.

We are dedicated to positively contributing to society by supplying the world with copper – Responsibly. Reliably. Relentlessly.

Production from our Lone Star mine in Arizona, where we completed development in 2020, is expected to exceed 200 million pounds of copper in 2021.

# Our Approach

Freeport recognizes 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 GHG emissions that contribute to climate change. However, the copper we produce will play an essential role in global decarbonization given 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, electric vehicles and other energy efficient technologies.

As one of the world's largest copper producers, Freeport understands its critical role in supplying the materials needed to enable the low-carbon energy transition. We remain dedicated to supplying the global economy with responsibly produced copper which includes operating in a manner that manages and mitigates our own GHG emissions as well as other climate-related risks and impacts.

This report seeks to provide our stakeholders with an update on our progress towards TCFD alignment as well as an update on our continued progress to advance our climate strategy throughout our global business, across our three strategy pillars.

## THREE STRATEGY PILLARS

- › **Reduction:** We strive to reduce, manage and mitigate our GHG emissions, where possible. In 2020, we established our initial public target to reduce our GHG emissions intensity in the Americas by 15% per metric ton of copper cathode by 2030 from our 2018 baseline. With this report, we have established an additional target to reduce our GHG emissions in Indonesia by 30% per metric ton of payable copper by 2030 from our 2018 baseline. To learn more, refer to the **Performance** section of this report.
- › **Resilience:** We strive to enhance our resilience to both the physical and transitional risks associated with climate change 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. To learn more about our progress, refer to the **Resilience** section of this report.
- › **Contribution:** We strive to be a positive contributor beyond our operational boundaries by responsibly producing the copper and molybdenum necessary for the technologies needed to enable a future energy transition. This includes collaborating with partners in our value chain to support the global economy's transition to a low-carbon economy. To learn more, refer to **Contribution** section of this report.

# Governance

Sustainability is embedded in Freeport's values and business strategy. Governance and oversight of sustainability ultimately resides with the Board, with day-to-day oversight by the executive leadership and site-level management teams. Good governance requires strong leadership to ensure the values of the company are integrated into everyday operations and business decisions. It also means having the structure and processes in place to facilitate effective decision-making and actions that advance the long-term interests of all our stakeholders. Given the breadth and complexity of sustainability issues, our governance structure seeks to leverage our internal climate, regulatory and technical expertise to create an interdisciplinary team responsible for identification of risks and opportunities and effective management and oversight.

## BOARD OF DIRECTORS

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

The Board as a whole is responsible for risk oversight at the company, with reviews of certain areas being conducted by one of its four standing committees: Audit, Compensation, Corporate Responsibility and Governance, each of which is composed entirely of independent directors and regularly reports to the full Board. Committee charters define the roles and responsibilities of each committee within the company's governance framework. Our Corporate Governance Guidelines along with the charters of our principal Board committees provide the framework for the governance of our company and reflect the Board's commitment to monitor the effectiveness of policy and decision-making at both the Board and management levels.

## THE BOARD'S CORPORATE RESPONSIBILITY COMMITTEE

The Corporate Responsibility Committee (CRC) is responsible for providing advice, recommendations and oversight to the company's management team on environmental and social matters.



The CRC regularly reviews the effectiveness of management's strategies, programs and policy implementation with respect to safety and health, responsible production frameworks, tailings management and stewardship, climate change, water stewardship, biodiversity, waste management, human capital management (including inclusion and diversity initiatives), human rights, stakeholder relations, social performance and Indigenous Peoples, responsible sourcing, and political activity and spending practices.

During 2020, the CRC met three times, and a member of the CRC participated directly in several shareholder engagement calls during the year to solicit feedback on our sustainability programs and practices. Climate-related matters were discussed in two of the three regularly scheduled CRC meetings in 2020, and to date in 2021, management has presented an update on our climate strategy and global scenario analysis in both meetings.

In 2021, the Board progressed its refreshment process, welcoming four new directors – David Abney, Bob Dudley, Marcela Donadio and Sara Grootwassink Lewis. Both Mr. Abney and Mr. Dudley have expertise in sustainability matters, including climate risk-management, strategy and disclosure. Mr. Abney is the retired Chairman and Chief Executive Officer (CEO) of United Parcel Service, a multinational package delivery and supply chain management company, where he was responsible for progressing its climate strategy and TCFD-aligned disclosures. Mr. Dudley is the retired Group Chief Executive of BP, a British multinational oil and gas company, and since 2016, he has chaired the Oil and Gas Climate Initiative, a CEO-led initiative that aims to accelerate the oil and gas industry's response to climate change. Mr. Dudley was appointed to the CRC in May 2021.

### EXECUTIVE & SUSTAINABILITY LEADERSHIP

Our Chairman and CEO has ultimate responsibility for the company's sustainability performance. The company's 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. In 2020, the SLT met four times, and in 2021, the SLT has met monthly and regularly reports to executive leadership, including our Chairman and CEO, and President and Chief Financial Officer. In addition, members of the SLT report to the CRC on key environmental, social and governance (ESG) matters, including climate, at regularly scheduled meetings.

The SLT is sponsored by our Senior Vice President and Chief Administrative Officer and is led by our Vice President and Chief Sustainability Officer, with active participation from other members of the SLT, including our four business unit Presidents. SLT membership also includes Vice Presidents or senior representatives from functional groups including health and safety, security, supply chain, human resources, sales, legal, compliance, sustainability and finance. To date in 2021, the SLT has regularly reviewed, discussed and addressed climate-related matters in its meetings.

### CLIMATE TEAM

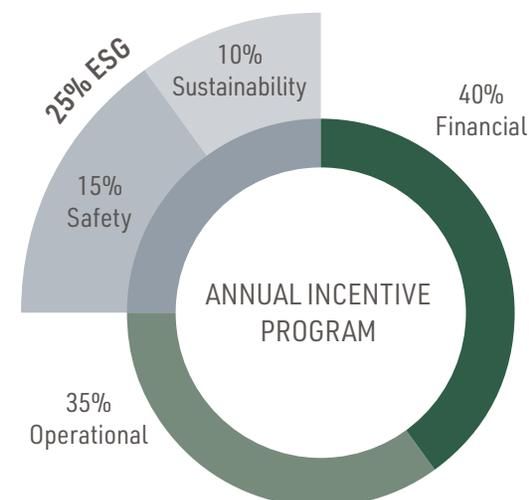
In 2020, we established a cross-functional climate team to focus on climate-related risks and opportunities, coordinate and implement our climate strategy, and support the business to prepare the company for the transition to a low-carbon future.

The climate team is made up of representatives from across the 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.

In early 2021, we enhanced our climate team with two new key positions, a senior climate engineer who is involved with advancing our climate strategy and a general manager of sustainable mining who is responsible for driving the link between mine efficiency efforts and sustainability with a focus on mine operations, equipment lifecycle management, mine technology opportunities and carbon emissions reduction. We believe these new leadership roles will be instrumental in advancing our long-term decarbonization and climate strategy efforts.

### CLIMATE & EXECUTIVE COMPENSATION

Executive officers are held accountable for the company's sustainability performance through the company's performance-based annual incentive program (AIP). In 2020, ESG metrics collectively accounted for 25% of the AIP (15% safety and 10% sustainability). Starting in 2021, climate change performance was integrated into executive compensation, contributing to the sustainability component of the AIP.



# Risk Management

Freeport has several processes in place to identify and assess climate-related risks, including our global climate scenario analyses (the first of which was completed earlier this year), our sustainability risk register process and Enterprise Risk Management (ERM) program. We are currently in the process of further integrating significant potential climate impacts (including both transition and physical risks) into both our sustainability risk register and ERM program, following the results of our global climate scenario analysis. To learn more about our global climate scenario analysis, refer to the Resilience section of this report.

## RISK REGISTER

Freeport's sustainability risk register process is used to identify, prioritize and track sustainability risks and actions at the corporate- and site-level. Defined in a global standard operating procedure, the process uses a 4 x 4 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 actions plans are required for those rated as critical.

The risks included in the sustainability risk register are mapped to our external commitments, including all 38 International Council on Mining and Metals (ICMM) Performance Expectations, and the Copper Mark's 32 ESG requirements. Our sustainability risk register is the focal point of our internal and external assurance process required to validate our commitments. Specific to climate, ICMM member companies are required 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, monitor and disclose Scope 1 and 2 GHG emissions, and engage with external parties to determine a preferred approach to reporting Scope 3 GHG emissions. 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 sustainability risk register supports our teams to identify and prioritize the most significant risks, and ultimately the most meaningful actions, to our business and to our stakeholders across various sustainability areas beyond climate – such as health and safety, human rights, environmental management, community development and engagement, and economic impact. We work collaboratively to implement our various commitments, and our sustainability risk register process allows site-level management teams to tailor their site-specific priorities while helping to support globally consistent implementation.

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 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 Freeport's business-wide strategic objectives. Freeport's ERM committee, comprised of senior executives with responsibility across operations and core business functions, is responsible for providing input and oversight to the ERM framework. 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.





Members of the PT-FI environmental team conduct estuary monitoring and sample the water of the Arafura Sea.

### INTERNAL COST OF CARBON

Freeport operates in some countries and regions with existing carbon pricing policies in place including Chile, the United Kingdom and Europe. The government of Indonesia is also considering 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 an internal carbon shadow price range between \$50-\$150 per metric ton of CO<sub>2</sub> equivalent. We believe that this price range will provide a key input to our decision-making for both current 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. As a first step, we have begun to integrate the carbon shadow price range into our internal life-of-mine plans. As a next step, we plan to integrate the price range into the evaluations 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.

»»» Freeport has established an internal carbon price range of \$50-\$150 per metric ton of CO<sub>2</sub> equivalent.



Supplying responsibly produced copper includes managing and mitigating our own GHG emissions.



In 2021, we established a GHG emissions intensity reduction target for our Indonesia operations.

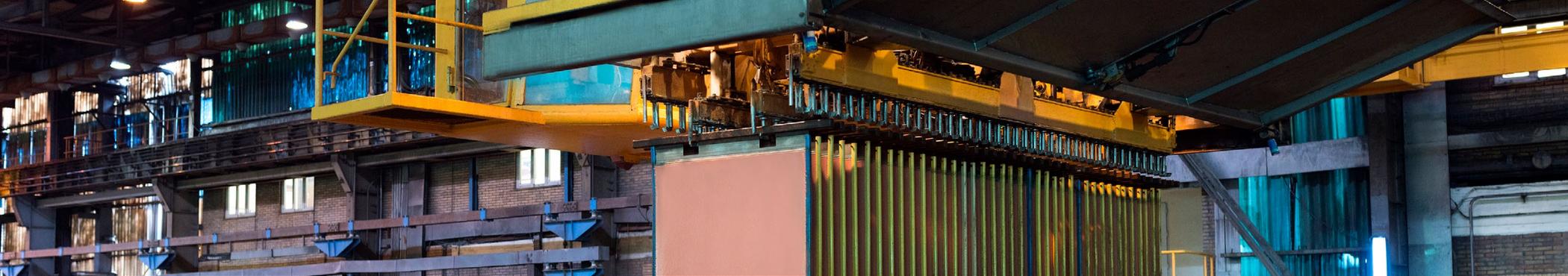
## Performance

Our global annual absolute GHG emissions (Scope 1 and Scope 2) range between 7 to 9 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 from purchased electricity (Scope 2); whereas, PT-FI's GHG emissions result from coal (70%) used to generate reliable electricity for our remote operations in the eastern province of Papua and the remaining from diesel (30%) used to generate power and for mobile equipment. GHG emissions at our Indonesia operations are all Scope 1.

In 2020, our global absolute Scope 1 and Scope 2 emissions decreased by 8% from approximately 7.8 million metric tons the prior year to 7.1 million metric tons, and the reduction was driven predominantly by reduced production and stripping at our Americas operations as a result of operational changes associated with our COVID-19 response, uncertain economic conditions, and PT-FI's operational transition from open-pit to underground mining during the year. Our absolute Scope 1 and Scope 2 GHG emissions in 2020 were 21% lower than 2016 levels, due to significant improvements in energy efficiency and grid decarbonization, as well as periods of reduced mining rates at PT-FI.

GLOBAL ABSOLUTE GHG EMISSIONS





We calculate our GHG emissions inventory using the WRI/WBCSD Greenhouse Gas Protocol (GHG Protocol), which utilizes using an internal database to gather data from our sites. Each year, a third party verifies our GHG emissions inventory against the ISO 14064 GHG emissions standard and provides an assurance statement which can be found at the end of this report. A summary of our five-year global GHG emissions data can be found on the following page. For site-level GHG emissions, energy use and power source data, please refer to the **Performance Data** section.

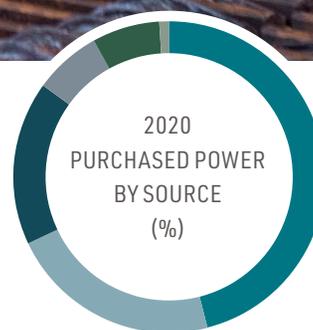
Our current Scope 3 emissions estimates represent a smaller proportion than our Scope 1 and 2 emissions given the minimal downstream processing required to transform copper concentrate into cathode and cathode into various forms, such as wire for electrical cables. In 2020 and the first half of 2021, we enhanced and expanded our Scope 3 emissions calculations to include additional categories in line with the GHG Protocol. Our 2020 Scope 3 emissions are estimated to be 19% of Scope 1, 2 and 3 combined emissions. Please refer to the **Scope 3** section of this report for more information on our revised calculations.



Scope 1	48%
Scope 2	33%
Scope 3	19%



FMC Mining	63%
PT-FI	28%
Downstream Processing	9%



Natural Gas	47%
Hydro	22%
Coal, Other Fossil Fuels	17%
Nuclear	7%
Solar, Wind, Geothermal	7%
Other	<1%

<sup>1</sup> Scope 1 & 2 only

## GLOBAL GHG EMISSIONS SUMMARY

(CO <sub>2</sub> e METRIC TONS)	2016	2017	2018	2019	2020
<b>FMC Mining<sup>1</sup></b>					
Scope 1	1,772,308	1,763,407	2,049,720	2,244,999	1,926,378
Scope 2 <sup>2</sup>	3,834,801	3,349,818	2,774,994	2,705,132	2,541,913
<b>Total FMC Mining</b>	<b>5,607,109</b>	<b>5,113,226</b>	<b>4,824,714</b>	<b>4,950,131</b>	<b>4,468,291</b>
<b>Downstream Processing<sup>3</sup></b>					
Scope 1	245,842	244,389	259,653	268,360	268,577
Scope 2 <sup>2</sup>	366,260	341,298	389,827	337,940	344,012
<b>Total Downstream Processing</b>	<b>612,102</b>	<b>585,688</b>	<b>649,481</b>	<b>606,300</b>	<b>612,589</b>
<b>PT-FI (Grasberg)</b>					
Scope 1 <sup>4</sup>	2,775,114	2,257,149	2,651,587	2,212,265	2,034,939
Scope 2 <sup>2</sup>	0	0	0	0	0
<b>Total PT-FI (Grasberg)</b>	<b>2,775,114</b>	<b>2,257,149</b>	<b>2,651,587</b>	<b>2,212,265</b>	<b>2,034,939</b>
<b>FCX Global</b>					
Scope 1	4,793,264	4,264,946	4,960,961	4,725,624	4,229,894
Scope 2 <sup>2</sup>	4,201,061	3,691,117	3,164,821	3,043,072	2,885,925
<b>Scope 1 + 2 Total - FCX Global</b>	<b>8,994,325</b>	<b>7,956,062</b>	<b>8,125,782</b>	<b>7,768,696</b>	<b>7,115,819</b>
<b>Scope 3 Total - FCX Global<sup>5</sup></b>	<b>618,189</b>	<b>706,214</b>	<b>750,332</b>	<b>692,336</b>	<b>1,729,251</b>

## 2030 GHG EMISSIONS INTENSITY REDUCTION TARGETS

(EMISSIONS INTENSITY <sup>6</sup> BASIS: CO <sub>2</sub> e METRIC TONS / METRIC TON CU)	2016	2017	2018	2019	2020
Freeport Americas Copper <sup>7</sup> Intensity Target for 2030	N/A	N/A	3.17	3.17	3.17
Freeport Americas Copper <sup>7</sup> Intensity	3.67	3.73	3.72	3.70	3.81
PT-FI (Grasberg) <sup>8</sup> Intensity Target for 2030	N/A	N/A	3.34	3.34	3.34
PT-FI (Grasberg) <sup>8</sup> Intensity	5.70	4.93	4.76	7.73	5.40

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

2 2015-2017 Scope 2 emissions were calculated using a location-based method; 2018-2020 Scope 2 emissions were calculated using a market-based method with the exception of Bayway Rod & Wire, Norwich Rod, El Abra, Ft. Madison, Kikkola and Stowmarket which are calculated using location-based grid factors and amount to less than 9% of our total Scope 2 emissions.

3 Downstream Processing includes Atlantic Copper Smelter & Refinery, Bayway Rod & Wire, Ft. Madison Moly Special Products, Kikkola Cobalt Refinery, Miami Smelter & Rod, Norwich Rod, Rotterdam, Stowmarket and El Paso Refinery & Rod. In 2020, Bayway Rod & Wire and Norwich Rod facilities were closed and decommissioned.

4 During the 2020 GHG emissions verification process, an opportunity was identified to improve PT-FI Scope 1 emissions calculations by switching to actual heating value for coal. The calculations have been restated accordingly back to 2016.

5 In 2021, we expanded our Scope 3 emissions calculations to include additional categories in line with the WRI/WBCSD GHG Protocol. As a result, our 2020 Scope 3 emissions figures here are higher than the Scope 3 emissions previously reported in our 2020 Annual Report on Sustainability, with the figures in this report being the most current. Please refer to the Scope 3 section for more detail.

6 Intensity targets include total (Scope 1 and Scope 2) GHG emissions and do not include by-products in the denominator.

7 Freeport 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. The Freeport Americas Copper intensity target includes all payable copper forms up to cathode (which includes concentrate, anode, and cathode) but excludes rod and wire.

8 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, which are currently accounted for as Scope 3 emissions and not included in this target. Upon completion of the PTS expansion for which PT-FI will 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 or 2, and we will adjust our target and baseline in line with the GHG Protocol at such time.

Note: GHG emissions data have been prepared in accordance with the WRI/WBCSD GHG Protocol. FCX reports carbon emissions on 100% operational basis per the WRI/WBCSD GHG Protocol. However, FCX reports certain financial information, such as consolidated revenue, net of Morenci's undivided joint venture partners' interest. FCX owns a 72% undivided interest in Morenci. FCX's GHG emissions verification statement is available at [fcx.com/sustainability](http://fcx.com/sustainability).

# Climate Reduction Targets

Freeport recognizes the near- and long-term challenges of climate change for society and for our own operations. We strive to manage, mitigate and reduce our GHG emissions where possible. To date, we have developed two GHG emissions (Scope 1 and 2) reduction targets for our business in order to help manage relevant, climate-related risks and support the decarbonization of our business – the first, established in 2020, seeks to reduce the GHG emissions intensity of Freeport Americas Copper operations by 15% from our 2018 baseline. The second, established this year, seeks to reduce the GHG emissions intensity of our Indonesia operations by 30% by 2030, from our 2018 baseline.

## 2030 GHG EMISSIONS INTENSITY REDUCTION TARGETS

REGION / BUSINESS UNIT	INTENSITY REDUCTION <sup>1</sup>	2018 BASELINE YEAR	2030 TARGET YEAR
Freeport Americas Copper <sup>2</sup>	15% reduction per metric ton of copper cathode	3.72	3.17
PT-FI (Grasberg) <sup>3</sup>	30% reduction per metric ton of payable copper	4.76	3.34

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

<sup>2</sup> Freeport 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. The Freeport Americas Copper intensity reduction target includes all payable copper forms up to cathode (which includes concentrate, anode, and cathode) but excludes rod and wire.

<sup>3</sup> 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, which are currently accounted for as Scope 3 emissions and not included in this target. Upon completion of the PTS expansion 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 or 2, and we will adjust our target and baseline in line with the GHG Protocol at such time.

We plan to submit our GHG emissions reduction targets to the SBTi, a widely accepted standard for GHG emissions reduction goals, for validation. Validating our GHG emissions reduction targets against the SBTi criteria is critical to understanding if our targets adequately support the Paris Agreement’s goal of limiting global warming well below 2°C. The SBTi validation process also will provide us with an independent third-party review of our plans, which will play a part in our own decision-making as we seek to take action – and to make commitments – that advance our climate strategy. We plan to initiate the SBTi validation process in the near term. 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 in future reporting.

In the near term, we are committed to developing a 2030 GHG intensity reduction target for our Climax molybdenum operations in Colorado and downstream processing.

### GHG EMISSIONS REDUCTION TARGET – FREEPORT AMERICAS COPPER OPERATIONS

Our first GHG emissions reduction target, established in 2020, evaluates the performance of the copper producing mines and refining facilities of our Americas operations. We have committed to reducing our GHG emissions intensity by 15% per metric ton of copper cathode produced in the Americas by 2030, compared to our 2018 baseline.

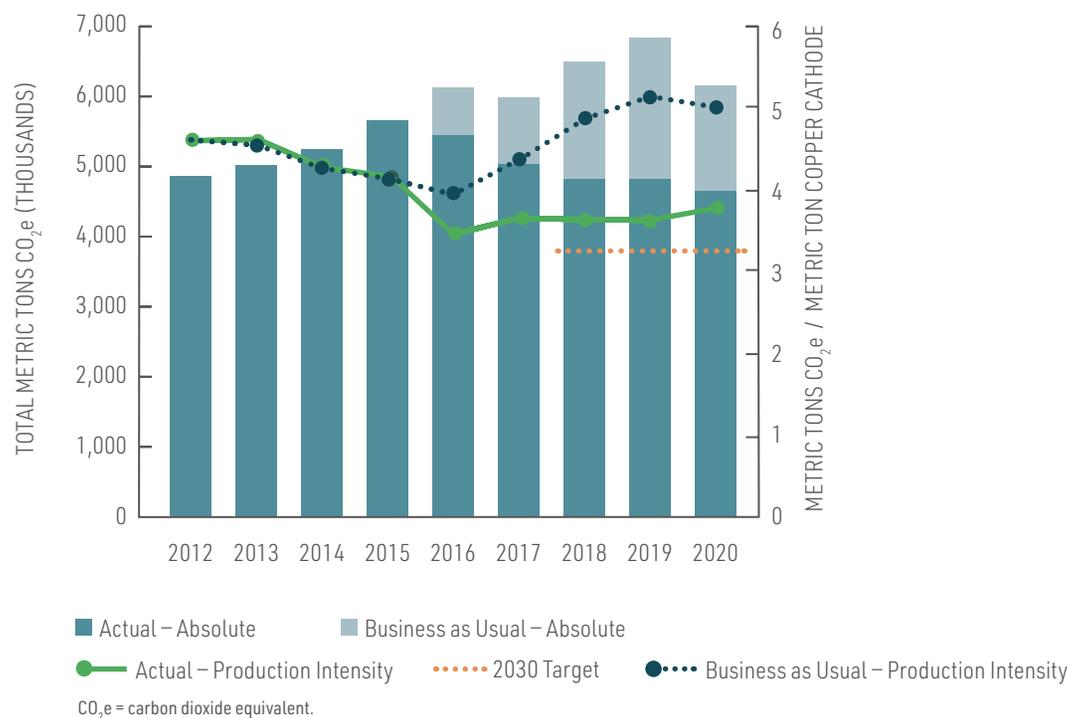
The chart below demonstrates the absolute GHG emissions and production intensity performance of Freeport Americas Copper operations and projects what our performance would have been under a "business-as-usual" scenario in the absence of innovation. On an absolute basis, we have reduced our total GHG emissions for the Americas business to approximately 4.6 million metric tons, which is 6% lower than 2019 total emissions and 24% lower than our business-as-usual projections.

Performance against our 15% intensity reduction target is shown with the solid green line. In 2020, our performance against our target deteriorated slightly due to reduced production and other reductions following operational changes to manage COVID-19 and economic uncertainty earlier in the year.



WE ARE COMMITTED TO  
REDUCING OUR GHG  
EMISSIONS INTENSITY BY  
**15% PER METRIC  
TON OF COPPER**  
CATHODE PRODUCED IN THE  
AMERICAS BY 2030, FROM  
OUR 2018 BASELINE

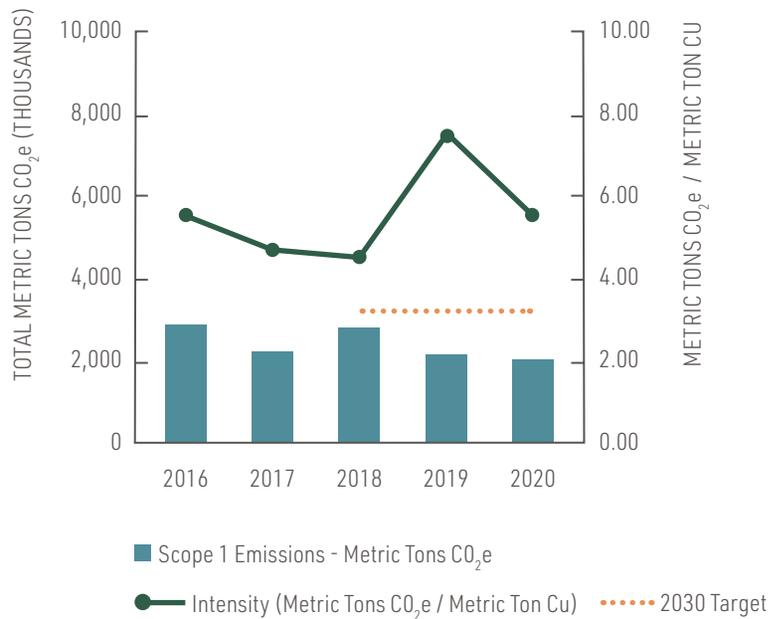
AMERICAS COPPER GHG EMISSIONS REDUCTION PERFORMANCE



## GHG EMISSIONS REDUCTION TARGET - INDONESIA OPERATIONS

With this report, we have announced our newly established GHG emissions intensity reduction target for our PT-FI operations in Indonesia. PT-FI accounts for approximately 50% of Freeport’s global Scope 1 emissions. In an effort to further minimize our climate impact, we are committing to reducing GHG emissions intensity from PT-FI by 30% per metric ton of payable copper by 2030, from our 2018 baseline, as shown in the following target baseline and projection chart.

### INDONESIA GHG EMISSIONS REDUCTION 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. The baseline and target are calculated (total emissions / payable copper) and may differ due to rounding error.
- 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 for which PT-FI will 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 or 2, and we will adjust our target and baseline in line with the GHG Protocol at such time.

Note: GHG emissions data have been prepared in accordance with the WRI/WBCSD GHG Protocol. FCX reports carbon emissions on 100% operational basis per the WRI/WBCSD GHG Protocol.



In 2020, we advanced the largest block caving operation in the world at our Grasberg underground mine in Indonesia.

## PT-FI TARGET CONTEXT

PT-FI's operations are located in the Grasberg mineral 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. Due to the high carbon intensity of coal-fired electricity, in 2020, PT-FI's operations generated approximately 30% of our global absolute GHG emissions and approximately 50% of our global Scope 1 emissions.

In 2020, the ramp-up of underground production at the Grasberg Block Cave (GBC) and Deep Mill Level Zone (DMLZ) underground mines advanced, following completion of mining the Grasberg open-pit in 2019. As the ramp-up of the GBC and DMLZ underground operation reaches full capacity, PT-FI expects its average power demand to increase by 50MW to a total of 270MW annually (from a 2018 baseline year average of 220MW) for underground air ventilation and additional processing of the ore bodies.

To support the additional energy requirements, PT-FI identified an opportunity to integrate a lower carbon power source at our operations with the development of a dual fuel power plant (DFPP) at our Arafura Sea port facility at Amamapare. The DFPP is currently under construction and will have an installed capacity of 129MW which will provide the additional power we believe is necessary for our operations as well as 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). Absent any unexpected delays, the DFPP is expected to be completed in the first half of 2022.

The DFPP is designed using high-efficiency dual fuel reciprocating engines on a flexible platform that can operate on either diesel fuel or natural gas, providing PT-FI future optionality to adjust the fuel type and increase plant capacity as we seek to reduce our Scope 1 emissions by transitioning to a fuel with lower GHG emissions than coal. While the necessary infrastructure to deliver natural gas has not yet been developed, the PT-FI team is studying various options. PT-FI will initially use domestically produced biodiesel for the DFPP, as mandated by the government of Indonesia; however, we plan to evaluate other options in the future including LNG. We describe the additional potential decarbonization initiatives under evaluation for PT-FI in the **Decarbonizing Electricity Supply** section.

Freeport is committed to reducing our GHG emissions by 30% per metric ton of payable copper in Indonesia by 2030, from our 2018 baseline.

# Pathway to 2030 – Scope 1 & 2

Multiple GHG emissions reduction initiatives are either already in process or are under evaluation across our global business. Collectively, these initiatives are the foundation that will help us develop and define our roadmap to achieve our current 2030 GHG emissions reduction targets. These initiatives fall into four primary categories: (1) decarbonizing our electricity supply by converting power supplies to renewable energy on the grid through power purchase agreements (PPAs) and through site-related renewables projects to reduce our emissions, (2) optimizing energy and asset efficiency, (3) electrification of equipment, and (4) process innovation.

## SUMMARY OF SCOPE 1 & 2 INITIATIVES

INITIATIVES	DETAILS	SELECTED PROJECTS IN PROCESS AND/OR UNDER EVALUATION
Decarbonizing Electricity Supply	Purchased electricity generates just over 50% of the GHG emissions of our Americas operations. Renewable energy projects and PPAs in the southwestern United States (U.S.) are under evaluation and will be important to progressing our 2030 15% GHG emissions reduction target for the Americas. Freeport, in some cases, may provide the land for these projects. In some jurisdictions where we operate, such as Chile, we may benefit if we are using the local grid and renewables are added to it without our intervention. In Indonesia, a majority (~70%) of our current GHG emissions generated are a result of our coal-fired power plant. We will benefit from evaluating alternative fuel sources and flexibility for fuel switching in the future.	<ul style="list-style-type: none"> <li>Progressing the first phase of Copper Skies (see pg. 16) to evaluate up to 450MW in renewable power projects (wind / solar / battery storage) and PPAs in the southwestern U.S.</li> <li>Evaluating PPAs vs. grid transition in both Peru and Chile to incorporate more renewable content</li> <li>Approved new 129MW DFPP at PT-FI; evaluating viability to use LNG</li> <li>Atlantic Copper contracted new PPAs and constructed a new heat recovery boiler</li> </ul>
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 the Scope 3 GHG emissions associated with manufacturing and delivering new haul trucks to our sites. Sites are also working to identify other potential efficiency projects tied to carbon emissions reductions.	<ul style="list-style-type: none"> <li>Digital twin technology</li> <li>Energy management systems</li> <li>Improved metering</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>
Electrification	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. 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 style="list-style-type: none"> <li>Komatsu and Caterpillar 400-ton class (diesel-electric) truck commitments have been made for trial and commissioning in early 2022</li> <li>Designed and built an autonomous electric train at PT-FI underground which is currently operational</li> <li>Evaluating various options for electrifying ancillary and light duty equipment at both PT-FI and the Americas operations</li> </ul>
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 allows us to skip the energy intensive smelting step and for molybdenum, CLP results in a more refined product directly at the mine site, rather than shipping overseas for processing. In both cases, CLP reduces associated energy and carbon emissions.	<ul style="list-style-type: none"> <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

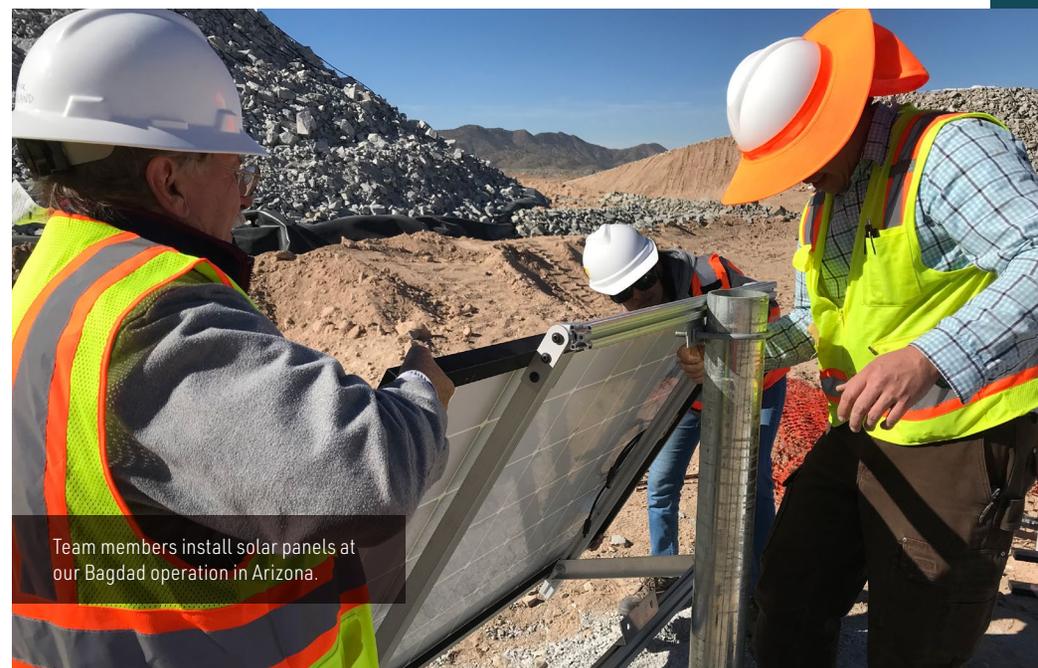
Purchased electricity generates just over half of our GHG emissions at our Americas operations, making this a critical focus area for our decarbonization efforts in the next decade. In South America, open electricity markets allow our operations to contract directly with energy generation suppliers. We believe this structure provides more opportunity, compared to our operations in North America, to more rapidly decarbonize our electricity supply by establishing new renewable energy contracts. At our Cerro Verde operations in Peru, we currently purchase power from various non-renewable and renewable sources (including natural gas and hydroelectric) through three PPAs. One of three Cerro Verde PPAs is due for renewal in 2025. We are currently planning for this contract renewal, and we will seek to incorporate additional renewable energy sources into this contract. At our El Abra operations in Chile, we have one PPA, primarily natural gas supply, 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 renewable energy supply within our existing PPA.

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 through wholesale contracts and has the ability to directly contract with developers to secure renewable energy to help achieve our goals.

In recent years, Freeport has studied opportunities to integrate renewable energy supplies including solar, wind and energy storage at our Americas operations. In 2018 and 2019, we engaged the Rocky Mountain Institute (RMI) through their Sunshine for Mines Program to assist with identifying a pipeline of conceptual projects to support our energy needs ranging from hosting renewable projects on our own land to the development of off-site projects. Project plans were temporarily paused in 2020 while we navigated the uncertainty of COVID-19 and focused on establishing our GHG emissions reduction target for Freeport Americas Copper operations.

However, we have since refocused and worked to further evaluate and develop a portfolio of renewable energy projects in the Americas – including some of those identified in the RMI study – which we refer to as Copper Skies. 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 have the potential to be integrated into our operations within the next five years. We plan to work with new and existing energy partners to advance these projects, decarbonize our electricity supply and drive value for our business.

Simultaneously, we will aim to identify opportunities with our retail electricity providers to replace long-term contracts with new, renewable energy supplies. In 2021, a green tariff with Salt River Project in Arizona, signed in 2018, began providing renewable energy to our Miami operations. We believe that opportunities such as green tariffs and the initial phase of Copper Skies will help us to advance our decarbonization efforts, potentially helping us realize up to a third of our 15% Americas GHG emissions intensity reduction target.



Team members install solar panels at our Bagdad operation in Arizona.



Atlantic Copper Smelting & Refinery was awarded the Copper Mark in 2020.

## Indonesia

As noted in the **Climate Reduction Targets** section, PT-FI is currently building a 129MW Dual Fuel Power Plant (DFPP), with expected completion in 2022. The new DFPP will support the additional energy required as the underground operations ramp-up to full capacity. The new DFPP will provide the additional capacity at an improved carbon intensity versus additional installed coal units and we also are evaluating other long-term potential options to further reduce the carbon emissions for PT-FI.

While we plan to initially use biodiesel to fuel the DFPP, we are studying the feasibility of switching the fuel supply to LNG, which could further reduce GHG emissions and provide other benefits, including potential energy cost savings. We believe transitioning from diesel to LNG could also support a significant reduction in PT-FI's NO<sub>x</sub> emissions at the port.

The team also has initiated work to evaluate the potential to retrofit PT-FI's existing coal-fired power plant to accept LNG for power generation as well as the potential for a full replacement of the port's coal-fired power plant with a new high-efficiency, combined-cycle power plant, which would use cleaner burning energy sources, such as natural gas, to produce electricity.

Preliminary internal assessments evaluating the use of renewable energy generation sources to power all of PT-FI's operations are underway. 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 2041 mining license timeframe. The PT-FI team will continue to investigate renewable energy generation options to determine viability at both small- and large-scale.

## ATLANTIC COPPER SMELTING & REFINING

Our Atlantic Copper operations in Spain process over 1 million metric tons of copper concentrate annually. According to Wood Mackenzie, Atlantic Copper is benchmarked as one of the most energy efficient smelters in the world, despite being built in the 1970s. Atlantic Copper was the first copper smelter in the world to be certified to ISO 50001 Energy Management System. Over the past decade, Atlantic Copper has improved upon its industry-leading energy efficiency by almost 20% per metric ton of material processed. Atlantic Copper currently consumes 28% of its electricity from renewable sources or on-site, high-efficiency cogeneration and aims to increase its consumption of these sources to 60% in 2024 through additional PPAs and a new heat recovery boiler, which was completed in March 2021.

## ENERGY & ASSET EFFICIENCY

### Energy Efficiency

Three years ago, we began investing in 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 completed the first trials for the digital twin technology at the concentrator at our Bagdad operations in Arizona in 2018. After applying the technology at Bagdad, the concentrator realized a 13% improvement in throughput. Since this initial success, we have applied the digital twin technology to other concentrators across our Americas business, including at our Cerro Verde concentrating facilities, which have seen a 2% increase in recovery as a result. The gains achieved with the benefit of the digital twins are generated at a fraction of the incremental energy that would otherwise be required to add more equipment to expand capacity. Overall, our processing plants operate more efficiently with digital twin technology integration, resulting in fewer GHG emissions per ton of copper produced.

### Asset Management & Optimization

Longer, steeper haul truck routes and additional truck runs are required as mines age and ore grades decline, both of which impact a mine's GHG emissions intensity. As ore grades decline, more energy is used to mine and process lower-grade material compared to the energy used to produce the same amount of metal from higher-grade material. Declining ore grades are an industry-wide challenge, which Freeport has sought to address, in part, through our innovative asset optimization practices. Over the last decade, we have become leaders in asset optimization – maximizing the lives of our haul trucks and enabling each truck to operate well beyond the industry average.

At our Americas operations, we measure each haul truck's actual cycle-time versus the plan and provide suggestions for improvement. Better haul truck cycle-times can help decrease the number of haul trucks required to move material. Fewer haul trucks mean lower capital, operational and energy expenditures, which can also result in lower GHG emissions. Further, over the last two years, Freeport has deployed a unique Haul Truck Operator Scorecard (HTOS) system to engage and involve our equipment operators in 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 driving practices, increasing safety and saving time.



ASSET OPTIMIZATION EFFORTS HAVE:

**Improved the average cycle-time** of our haulage fleets at our Americas operations by **more than 3 minutes**.

**Eliminated a total of 126,000 operating hours** from our haulage fleets year over year in 2020.

OPERATING HOURS SAVED EQUATES TO  
**~6,000,000 GALLONS OF FUEL SAVED.**

OR

**66,000 METRIC TONS OF CO<sub>2</sub> EQUIVALENT**, REDUCING OUR ANNUAL AMERICAS SCOPE 1 EMISSIONS BY ~3%.

WE EXPECT TO

**ELIMINATE AN  
ADDITIONAL  
213,000  
OPERATING  
HOURS** IN 2021.

## EQUIPMENT ELECTRIFICATION

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.

### 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 provide immediate benefits such as reduced unit costs, increased load capacity, and reduced energy consumption and GHG emissions. They also can provide us with a more flexible platform for the future. In order to evaluate performance, we have made commitments to trial and commission both Komatsu and Caterpillar 400-ton class diesel-electric trucks at our Cerro Verde operations in Peru, starting in early 2022.

### Indonesia

As our Grasberg operations transitioned from open-pit to underground mining operations, PT-FI designed and built an autonomous electric train system to move ore through underground tunnels rather than traditional, diesel-powered trucks. The GBC mine is planned to be the largest block caving operation in the world with a sustained peak capacity of 130,000 metric tons per day. The GBC is ramping up, with current production rates in second quarter 2021 averaging 64,400 metric tons per day as well as days with production over 100,000 metric tons per day. The GBC 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 six 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<sub>2</sub> equivalent per year (excluding Scope 3 and at full capacity) versus a comparable fleet of diesel trucks designed to do the same task.

As we move forward, we also plan to look for opportunities to electrify additional underground equipment at PT-FI and ancillary equipment at our sites in the Americas.

➤➤➤ Rather than using traditional, diesel-power trucks, PT-FI's autonomous electric trains can move the same amount of material through the underground tunnels as one surface haul truck.



An autonomous electric train system moves ore through underground tunnels at our PT-FI operations in Indonesia. Remotely operating underground mining equipment reduces workforce exposure to ground failure, wet muck spills and air contaminants in addition to lowering GHG emissions.



### COLLABORATING FOR INNOVATION

Freeport recognizes that mining companies and Original Equipment Manufacturers (OEMs) must work together collaboratively in order to develop and advance technologies that will support industry-wide decarbonization. Freeport is actively leveraging its existing strategic partnerships with its OEMs to better understand their emissions goals and objectives for haulage as well as other critical equipment.

For example, we are actively engaged with a number of consortiums that bring together industry leaders with OEMs to work together to develop innovative solutions. In 2021, we joined The Charge on Innovation Challenge (The Challenge) as a patron supporter. The Challenge is 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 aims to demonstrate an emerging market for charging solutions in mining, accelerate commercialization of solutions and integrate innovations from other industries into the mining sector.

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 by 2040, to minimize the operational impact of diesel exhaust by 2025 and to develop vehicle collision avoidance technology for the mining industry by 2025. 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 on enabling the use of hydrogen in haul trucks.

## 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 2020, approximately 45% 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.



Freeport is vertically integrated for 100% of our molybdenum production and is the largest producer of molybdenum globally, a critical component in stainless steel and a variety of renewable energy technologies such as wind and solar. Pictured here are our Bagdad operations in Arizona.



## MOLYBDENUM OPERATIONS

Freeport is vertically integrated for 100% of our molybdenum production and is the largest producer of molybdenum globally. We have two primary molybdenum mines in Colorado (Henderson and Climax), and we also have by-product molybdenum production from multiple copper mines (Cerro Verde, Morenci, Sierrita and Bagdad). We roast molybdenum concentrates at our Sierrita operations in Arizona and our Fort Madison facility in Iowa, with roasting and subsequent conversion at our Rotterdam facility in the Netherlands. We produce a ferro-molybdenum product at a plant in Stowmarket, England.

In 2020, we began engaging with our molybdenum value chain on climate-related topics. We anticipate that both our primary and by-product molybdenum products will benefit from our decarbonization efforts in the Americas. Our by-product molybdenum emissions are already included in our existing 15% GHG emissions intensity reduction target for the Americas Copper business and in the latter half of 2021, we aim to develop an additional GHG emissions reduction target for our primary molybdenum mines and downstream processing facilities.

# Scope 3

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, further refining or transforming of our copper into useable products, such as wire or sheet.

Overall, Scope 3 emissions for copper are relatively low compared to many other metals because the downstream production of copper requires comparatively less energy, given the 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 Scope 1 and 2 emissions. However, our current Scope 3 emissions estimates represent a smaller proportion than our Scope 1 and 2 emissions. Our estimated Scope 3 emissions currently represent 19% of our aggregate Scope 1, 2 and 3 emissions. As we continue our work to enhance our Scope 3 calculations and add additional relevant categories, we anticipate further increases in our Scope 3 emissions estimates next year. We expect that Scope 3 emissions will comprise approximately one-third of our combined global Scope 1, 2 and 3 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. While the GHG Protocol provides standardization of Scope 3 emissions into 15 categories, it does not provide specific guidance for the mining and metals industry on how to best estimate GHG emissions. In 2020 and first half of 2021, we enhanced and expanded our Scope 3 emissions calculations to include additional categories in line with the GHG Protocol. 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.

## UNDERSTANDING OUR FOOTPRINT

Freeport has estimated select Scope 3 emissions categories for many years. In 2020, we initiated a process to improve our existing Scope 3 emissions estimates and add additional categories, in line with the GHG Protocol. To accomplish this, during 2020 and the first half of 2021, Freeport worked closely with industry partners and associations, focusing on the most material categories of Scope 3 emissions to our value chain including: purchased goods and services (Category 1), upstream fuel production (Category 3), transport of our commercial products to our customers (Category 9) and downstream processing of sold copper concentrates and anodes (Category 10). Our revised 2020 Scope 3 emissions calculations include the following adjustments:

- › **Category 3 Fuel and energy-related activities:** We have added an estimate of emissions related to the upstream production of diesel, used not only for the movement of our haul truck fleet but also in the generation of energy in our remote site in Indonesia, which resulted in an increase of approximately 225,000 metric tons of CO<sub>2</sub> equivalent. We expect to add additional upstream fuel emissions in the future.
- › **Category 9 Downstream transport:** We have added an estimate of downstream emissions for the transport of our concentrates to customers around the world, which resulted in an increase of approximately 336,000 metric tons of CO<sub>2</sub> equivalent.
- › **Category 10 Processing of sold products:** We have updated our approach to calculating downstream processing to be more fulsome. We continue to base our estimates for this category by averaging performance at our two smelters / refineries and applying the result to total concentrate sold. Previously, this estimation included only stationary combustion emissions from smelting and refining and was therefore underestimating the total, which has resulted in an increase of approximately 550,000 metric tons of CO<sub>2</sub> equivalent.

A summary of our revised 2020 Scope 3 emissions estimates is provided in the table on the following page. Our Scope 3 emissions calculation effort is ongoing with the aim of identifying and reporting across all relevant Scope 3 emissions sources in 2022.

## 2020 GLOBAL SCOPE 3 EMISSIONS

(CO <sub>2</sub> e METRIC TONS)	2020	2020 REVISED <sup>1</sup>
<b>Upstream</b>		
Category 1: Purchased goods and services <sup>2</sup>	323,012	323,012
Category 2: Capital goods <sup>3</sup>	N/A	N/A
Category 3: Fuel and energy related activities <sup>4</sup>	TBC	225,358
Category 4: Upstream transportation and distribution <sup>4</sup>	TBC	TBC
Category 5: Waste generated in operations <sup>5</sup>	MI	MI
Category 6: Business travel	1,684	1,684
Category 7: Employee commuting <sup>5</sup>	MI	MI
Category 8: Upstream leased assets <sup>3</sup>	N/A	N/A
<b>Downstream</b>		
Category 9: Downstream transportation and distribution <sup>4</sup>	TBC	336,159
Category 10: Processing of sold products	275,848	843,038
Category 11: Use of sold products <sup>5</sup>	MI	MI
Category 12: End-of-life treatment of sold products <sup>5</sup>	MI	MI
Category 13: Downstream leased assets <sup>3</sup>	N/A	N/A
Category 14: Franchises <sup>3</sup>	N/A	N/A
Category 15: Investments <sup>3</sup>	N/A	N/A
<b>Total Scope 3 Emissions</b>	<b>600,544</b>	<b>1,729,251</b>

1 In 2021, we expanded our Scope 3 emissions calculations to include additional categories in line with the WRI/WBCSD GHG Protocol. As a result, our 2020 Scope 3 emissions figures here are higher than the Scope 3 emissions reported in our 2020 Annual Report on Sustainability, with the figures in this report being the most current.

2 To date, Category 1 emissions data include production of lime only. More purchased goods and services will be reviewed and added to our calculation in 2022.

3 Categories 2, 8, 13, 14 and 15 are not applicable to FCX.

4 Categories 3, 4 and 9 are to be calculated, except as indicated.

5 Categories 5, 7, 11 and 12 are not currently estimated due to their minor impact (MI) in line with the WRI/WBCSD GHG Protocol.

Note: GHG emissions data have been prepared in accordance with the WRI/WBCSD GHG Protocol. FCX reports carbon emissions on 100% operational basis per the WRI/WBCSD GHG Protocol. However, FCX reports certain financial information, such as consolidated revenue, net of Morenci's undivided joint venture partners' interest. FCX owns a 72% undivided interest in Morenci. FCX's GHG emissions verification statement is available at [fcx.com/sustainability](http://fcx.com/sustainability).



Enhancing resilience to climate risks is important for our operations, our host communities and our stakeholders.



Farmers near our Cerro Verde operation in Peru practice sustainable agriculture and are supported by the company through a variety of business development and training programs.

## Resilience

Freeport strives 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 extreme weather events, water stress and other climate change impacts.

This section seeks to provide our stakeholders insights into the climate risks and opportunities we have identified that may impact our business over various time horizons as well as our strategic process for identifying and assessing climate risks. We have adopted the TCFD's categorization of climate-related risks as either "transition" or "physical" climate risks. Transition risks are those climate-related risks arising out of governmental, market or other actions associated with the transition to a low-carbon economy. These may include events such as a change in general consumer preferences, the implementation of climate-progressive governmental regulations, the deployment of clean energy technologies or an increase in legal liability for high carbon-emitting entities. Physical risks are those climate-related risks that arise from the physical impacts of climate change. As in the TCFD framework, Freeport considers 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.

In addition to risks, climate-related opportunities could come in the form of a change to market and consumer preferences that benefit the company, an expected increase in the availability of renewables, new markets or new operational locations, an expected increase in demand for certain products, or a competitive advantage in certain scenarios when compared with peers or other circumstances.

In 2020, we initiated our first global climate scenario analysis with support from a third-party consultant to identify potential climate-related risks and opportunities across our business. The goal of the analysis was to gather additional data to inform our ongoing climate-related decision-making and better prepare the company for possible outcomes in the short- (2021 - 2025), medium- (2025 - 2030) and long-term (2030 and beyond). We are confident in our ability to adapt to a wide variety of future scenarios and know that preparation is an important means to ensure operational and financial resiliency for an uncertain future.

We identified certain risks and opportunities through a series of internal interviews with key business unit representatives from across the global business and a review of our sustainability risk register that integrates climate-related risk reporting on recent and historic events and climate-related impacts and exposures. Following this internal assessment, we identified the priority risks and opportunities listed on the following page.

## PRIORITY RISKS & OPPORTUNITIES

DESCRIPTION OF IDENTIFIED CLIMATE RISKS & OPPORTUNITIES	IMPACT TIMING	FINANCIAL IMPACTS
<b>Policy Risks:</b> Compliance with new governmental regulations to incentivize decarbonization and emissions reductions may require capital expenditures or modified operations and may impact mining economics. Evolving carbon pricing policies could increase the cost of doing business from direct and supply chain emissions or could impact the competitiveness of Freeport's commodities.	Short- to long-term	Potential increase in compliance and operating costs
<b>Market Opportunities:</b> Expanded electrification from market and regulatory drivers and increased customer demands for low-carbon products may increase market demand for copper and molybdenum.	Short- to long-term	Potential increase in production and revenue
<b>Market Risks:</b> A future with reduced oil and gas demand may negatively impact the security of our sulfur supply (since sulfur is a by-product of oil and gas processing), which is a critical operating material for Freeport. Reduced sulfur supply may constrain our operational capacities.	Medium- to long-term	Potential increased operating costs and production reductions
<b>Technology Risks:</b> The path to decarbonization requires significant capital investment and operational transformation. Efforts to decarbonize may require the use of unproven technologies, the selection and implementation of which may be time and resource intensive.	Medium- to long-term	Potential capital investments and resource expenditures to decarbonize
<b>Physical Risks:</b> Event driven (acute) or long-term shifts in climate patterns (chronic) may lead to direct or indirect impacts to our business through disruptions to our operations, workforce, communities and logistics supply chain.	Short- to long-term	Potential increased operating costs; potential losses from production curtailment and delays; potential capital investments to increase operational resilience

## SCENARIO SELECTION

We evaluated the key risks and opportunities outlined above 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 the Paris Agreement goals of limiting global temperature rise to well below 2°C, preferably to 1.5°C, compared to preindustrial levels). Our scenario analysis was conducted using the prospective time periods of 2030 and 2050 and incorporating a range of business considerations based on third-party GHG emissions trajectory scenarios and their corresponding implications for Freeport. Physical risks were evaluated mainly using data from the Fifth Phase of the Coupled Model Intercomparison Project (CMIP5) which was used in the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report. Our scenario analysis covered our operational and non-operational assets as well as our supply chain.



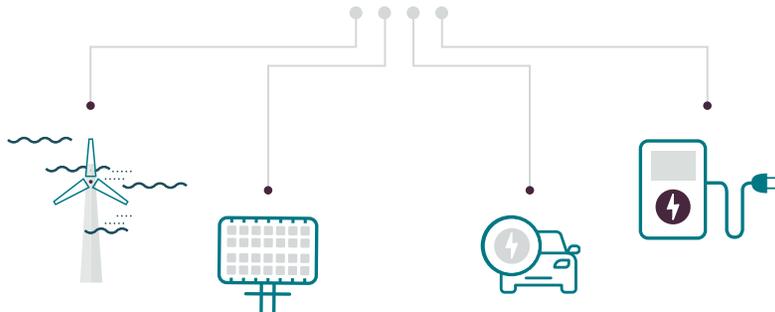
# Transition Risks & Opportunities

Freeport selected specific transition risks and opportunities arising due to policy, product and technology changes for further analysis. The data evaluated in this analysis was sourced from the International Energy Agency (IEA) World Energy Outlook energy demand and carbon pricing modeling, external market analysis, such as those developed by Wood Mackenzie, CRU, and World Bank and internal Freeport forecasts.

Overall, our analysis indicated that although Freeport is prepared for the potential growth in copper demand, we must continue to monitor evolving carbon and energy policies and prices and evaluate the potential implications on our operations to prepare for the impacts of such changes on our business. We plan to monitor policies in the main countries and regions where policies and incentives are projected to become more aggressive, such as the U.S., Europe and Chile.



## IN THE ENERGY TRANSITION



Renewable energy technologies use 4-5x more copper than fossil fuel power generation.

Electric vehicles use up to 4x more copper than internal combustion engines.

Source: [copperalliance.org](http://copperalliance.org)



## COPPER: TRANSITION OPPORTUNITIES

### COPPER IS CRITICAL

to support the global transition to a low-carbon economy

### COPPER IS ESSENTIAL

to the technologies necessary to deliver clean energy, including electric vehicles, charging stations, high-efficiency motors and renewable energy

By 2030, use of copper could support

**REDUCTION OF GLOBAL CARBON EMISSIONS BY 16%**

**OVER 65%** of the world's copper is used in applications that deliver electricity

### GLOBAL DECARBONIZATION

is expected to drive increased copper use

Source: [copperalliance.org](http://copperalliance.org)

## AGGRESSIVE CLIMATE ACTION (1.5°C) SCENARIO

This scenario is characterized by global collaboration to reduce GHG emissions in alignment with the Paris Agreement goals and reduce emission to net zero by 2050 and further limiting the global temperature increase by the year 2100 to around 1.5°C.

Description	This scenario assumes: (i) global energy-related and industrial process CO <sub>2</sub> emissions fall by nearly 40% between 2020 and 2030 and become net zero in 2050, (ii) the market sees an accelerated transition to renewables and electrification, and (iii) governments implement aggressive regulations to limit the extraction and use of fossil fuels in most sectors and all major economies, including carbon pricing. In addition, energy efficiency, wind and solar photovoltaic production methods would provide around half of the necessary emissions reductions until 2030. After 2030, decarbonization would continue with increased electrification, hydrogen use and carbon capture, utilization and storage (CCUS) deployment. Importantly, this scenario assumes the deployment of technologies not widely available on a commercial scale today.
Carbon Prices (U.S. dollars / metric ton CO <sub>2</sub> e)	In advanced economies, assume \$130 by 2030 and \$250 by 2050; in select emerging markets and developing economies (China, Brazil, Russia, South Africa), assume \$90 by 2030 and \$200 by 2050; in other emerging markets and developing economies, assume \$15 by 2030 and \$55 by 2050.
Renewables	<ul style="list-style-type: none"><li>• Solar photovoltaic and wind are the leading sources of electricity in 2030; and provide 70% of electricity generation globally in 2050</li><li>• 60% of global car sales are electric by 2030 and 50% of heavy truck sales are electric and no new internal combustion engine car sales by 2035</li></ul>
Fossil Fuels	<ul style="list-style-type: none"><li>• Phase out of unabated coal in advanced economies by 2030, and phase out of all unabated coal and oil power plants by 2040</li><li>• By 2050, up to 75% projected decline in oil and gas demand; remaining fossil fuels used in production of nonenergy goods (like plastics), in plants with CCUS, and in sectors where low emissions options are scarce</li></ul>
Reference Scenarios	<ul style="list-style-type: none"><li>• Transition Risks &amp; Opportunities: IEA Net Zero Emissions by 2050</li><li>• Physical Risks: IPCC Representative Concentration Pathway (RCP) 2.6</li></ul>



PT-FI's Amamapare port facility in Papua, Indonesia was included in our our global climate scenario analysis.

## PRIMARY RISKS FOR FREEPORT

- › **Technology Risks:** Our operations are dependent on the use of heavy equipment for which low-carbon alternatives are not currently readily available. To the extent that carbon pricing, or GHG emissions limitations are imposed upon our operations or implemented as a result of our voluntary commitments, we could face significant expenses to replace mining equipment or purchase carbon offsets, which would reduce our Scope 1 emissions but increase operational costs.
- › **Policy Risks:** Changes in regulations could accelerate a reduction in both our Scope 1 and Scope 2 emissions and result in increased costs. For example, proposals are underway for a carbon border adjustment mechanism in Europe as part of the E.U. Green Deal. Freeport could be impacted and face potential loss of clients or increases in the cost of selling to European manufacturers affected by this tax scheme (such as metal suppliers of the auto and electronics industries). Our most carbon-intensive assets have the highest carbon price exposure risk under this scenario, including PT-FI, which currently relies predominately on coal-based power, and our larger Americas mining assets at Cerro Verde and Morenci. The surge in policies under this scenario could push us to invest capital at a faster pace to decarbonize our operations.
- › **Sulfur Costs:** We may face challenges from supply deficits and price volatility. Specifically, Freeport may have to manage through a disruption to sulfur supply if demand for oil and gas sharply declines, and refineries and natural gas processing plants that produce sulfur are decommissioned. Shipping costs could be negatively impacted if Freeport were required to source sulfur from alternative vendors or regions. Sulfur is necessary for sulfuric acid production, an essential material for SX / EW (leached) copper production for which fossil fuel production is the low-cost producer. To date, Freeport has successfully managed prior disruptions in the sulfur market through supplier diversification, on-site storage, contingency plans and risk management in vendor agreements.

## PRIMARY OPPORTUNITIES FOR FREEPORT

- › **Energy Sources:** The rapid drop in fossil fuel demand and acceleration of renewable energy deployment under this scenario leads to significantly lower prices for the energy needed to power our operations – both in oil and gas and renewable energy. Improvements in technology, such as storage and faster deployment of clean energy in this scenario, may lead to reduction in the levelized cost of renewable energy and may make it even more attractive for us to switch to renewable energy at our sites.
- › **Demand:** Both copper and molybdenum are anticipated to perform more strongly under this scenario given consumer demand for inputs to manufacture the primary technologies deployed in a highly electrified and low-carbon economy, including wind turbines, solar photovoltaics, electric vehicles, electronic equipment, cables, wiring and transformers.
- › **Prices:** The IEA projects the value of the copper market to increase from \$35.5 billion in 2020 to \$149 billion by 2050. Overall, the total market size of critical minerals such as copper, cobalt, manganese and various rare earth metals is expected to grow almost sevenfold between 2020 and 2030 in the net zero pathway. Molybdenum sees a similar increase in such projections given its use in various renewable energy technologies and steel.
- › **Growth:** The projected increase in demand for copper and molybdenum may create opportunities for Freeport to grow and increase production over the coming decades, for example by making more reserves economic to produce. As demonstrated by initiatives such as Freeport's mining innovations and Copper Mark certifications, Freeport also could continue to seek out ways to advance sustainable operations to differentiate itself and create competitive advantages as compared to its peer companies during this transition.

## MODERATE CLIMATE ACTION (2.5°C) SCENARIO

This scenario considers a curb in global GHG emissions based on existing policies and announced commitments including Nationally Determined Contributions, but efforts fall short of meeting the Paris Agreement targets with disorderly progress. Under this scenario, the global economy would moderately constrain GHG emissions limiting the global temperature increase by the year 2100 to around 2.5°C.

Description	This scenario assumes: (i) the majority of energy sources are renewable-based, although coal would continue to play an important role in electricity generation in emerging economies to 2050, and (ii) carbon prices would rise in certain Freeport operating regions. This scenario also anticipates a divergence between the advanced economies and the emerging market and developing economies, with advanced economies seeing greater technological progress, reduced energy demand and cleaner fuel switching and emerging economies seeing economic growth and urbanization and infrastructure expansion, outweighing improvements in energy efficiency and clean technology deployment.
Carbon Prices (U.S. dollars / metric ton CO <sub>2</sub> e)	In certain FCX operating regions (Chile, Europe and the U.K.), pricing ranges between \$8 and \$35 by 2030; between \$20 and \$52 by 2040.
Renewables	<ul style="list-style-type: none"><li>55% of global electricity generation in 2050 mainly driven by solar photovoltaic and wind</li></ul>
Fossil Fuels	<ul style="list-style-type: none"><li>Coal continues to play an important role in electricity generation in emerging economies to 2050, with demand in power and industry sectors expected to grow in India, Indonesia and other countries in southeast Asia</li><li>Global oil demand returns to pre-COVID-19 pandemic levels around 2023, with increase up to 2030 and leveling in 2050</li><li>Natural gas demand projected to quickly recover post COVID-19 pandemic and be nearly 15% higher in 2030 than in 2019 and almost 50% higher in 2050</li></ul>
Reference Scenarios	<ul style="list-style-type: none"><li>Transition Risks &amp; Opportunities: IEA Stated Policies Scenario reference scenario</li><li>Physical Risks: IPCC RCP 4.5</li></ul>

## PRIMARY RISKS FOR FREEPORT

- › **Policy Risks:** In this scenario, in the regions where Freeport operates, carbon pricing policies would remain limited but carbon prices would increase, thereby increasing Freeport's cost exposure, but to a lesser extent than the Aggressive Climate Action (1.5°C) Scenario.
- › **Physical Risks:** Although less than in the Current State scenario, potential risks associated with the physical impacts of climate change could impact the company's operations, supply chain, workforce and local communities as a result of this scenario. These risks are expanded upon in the following physical risk assessment review.
- › **Sulfur Costs:** Under this scenario, it is possible that Freeport may have to manage changes in sources of sulfur supply but likely to a lesser extent than the Aggressive Climate Action (1.5°C) Scenario.

## PRIMARY OPPORTUNITIES FOR FREEPORT

- › **Energy Sources:** The expansion of renewables over the next two decades, led by continued high levels of solar photovoltaic deployment, would lead to a price reduction. Decarbonization incentives and policies would be announced, particularly in easier-to-abate sectors, leading to opportunities for Freeport to purchase renewable energy or develop on-site renewables.
- › **Demand:** Copper and molybdenum are expected to perform strongly under this scenario due to the increased investment in technologies that support decarbonization of the energy and transportation sectors, which could provide additional opportunities for increased production, mining expansion and innovation. The potential for copper supply shortages would likely be less severe in this scenario.

## CURRENT STATE (4°C) SCENARIO

This scenario considers a baseline for how global emissions would evolve if governments and markets make no changes to their existing policies or low-carbon investments and fail to meet their Nationally Determined Contributions. Under this scenario, the global economy would maintain business as usual without constraining GHG emissions anticipating the global temperature increases by the year 2100 to around 4.0°C.

Description	This scenario assumes limited emissions reduction policies and a lack of global coordination to address climate change. In comparison to the Moderate Climate Action scenario, this scenario assumes that countries fail to deliver on announced policies under the Nationally Determined Contributions and fall well-short of their stated ambitions, leading to increased GHG emissions and physical risks relative to the other scenarios we considered. Furthermore, the slow pace of transition leads to an insufficient momentum behind clean energy deployment to offset the effects of an expanding global economy and growing population. Effects of climate change become more visible and require significant investments in adaptation measures to protect assets, infrastructure, communities and workforce in the long-term. This scenario also assumes no- or low-carbon prices, continued reliance on fossil fuels, and energy-intensive activities and lifestyles.
Carbon Prices (U.S. dollars / metric ton CO <sub>2</sub> e)	Policies and carbon pricing initiatives remain relatively low. In certain FCX operating regions (Chile, Europe, and the U.K.), pricing ranges between \$0 and \$30, which would minimally impact FCX.
Renewables	<ul style="list-style-type: none"> <li>• With the slow transition to low-carbon, solar and wind renewables account for less than 30% of global electricity production by 2050, and the sale of electric vehicles grows at a slow pace</li> </ul>
Fossil Fuels	<ul style="list-style-type: none"> <li>• Continued reliance on fossil fuels, and energy intensive activities and lifestyles</li> <li>• Continued major share of oil and gas in the global economy, and increased demand despite short-term decrease in demand from the COVID-19 pandemic</li> </ul>
Reference Scenarios	<ul style="list-style-type: none"> <li>• Transition Risks &amp; Opportunities: IEA Current Policies Scenario</li> <li>• Physical Risks: IPCC RCP 8.5</li> </ul>

## PRIMARY RISKS FOR FREEPORT

- › **Physical Risks:** The greatest risks to Freeport in this scenario arise from the physical impacts of climate change on the company's operations and supply chain and the impacts on our workforce and local communities. These risks are expanded upon in the following physical risk assessments review.

## PRIMARY OPPORTUNITIES FOR FREEPORT

- › **Demand:** Copper 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.

# Physical Risk Assessment

Freeport recognizes that as the climate changes, our operations, workforce and supply chain may be exposed to changes in the frequency, intensity and/or duration of intense storms, drought, flooding, wildfire, and other extreme weather events and patterns. To better prepare ourselves for the future and enhance our resilience, we assessed the current and potential future exposure of our assets and supply chain to climate-related physical hazards.

The data underlying our physical risk assessment include: (i) historic and future projections from 10 Coupled Model Intercomparison Project 5 (CMIP5) global climate models, (ii) the IPCC Fifth Assessment Report and peer-reviewed scientific journal publications, and (iii) datasets from NASA, The Global Facility for Disaster Reduction and Recovery (ThinkHazard), the World Resources Institute and others. The CMIP5 global climate model projections were used to estimate our potential future physical risk under RCPs 2.6, 4.5 and 8.5. We selected physical hazards for analysis based on stakeholder interviews, internal documentation describing historic impacts and historical data from the sources listed above.

The recently released 2021 IPCC Sixth Assessment Report utilizes data from the Sixth Phase of the CMIP (CMIP6), which features a number of improved, and some new, modeling aspects. The release of CMIP6 occurred several months after the completion of our physical risk assessment. While we anticipate using CMIP6 data for future climate scenario analysis assessments, we believe that for the purposes of this assessment, the use of CMIP5 data is appropriate for our screening of the key physical hazards that could potentially impact Freeport's sites and supply chain.

The physical risk assessment undertaken provides us with an initial screening of projected ranges of our potential risk. The use of global climate models to project future impacts is subject to a number of limitations. Such an approach lacks the spatial and temporal precision that will ultimately be necessary to conduct detailed engineering analyses to assess how local climate impacts may require us to alter our operations.

Freeport is committed to continuing to improve our assessment of physical climate risks over time as more high-quality, site-relevant and decision-useful climate model results and data become available. At present, we plan to focus our initial work on those regions and risk factors that have emerged as highest priority from this initial screening assessment of physical climate risks.

## PHYSICAL RISK EXPOSURE ANALYSIS

To assess our vulnerability to physical risks, we created a future exposure rating that examines four primary physical hazards based on the geographic location of each site and the potential future exposure change relative to historic exposure. The table on the following page describes our physical risk exposure benchmarks and ratings for each hazard. As noted previously, we recognize that the climate models used in this initial analysis have limitations, and as such, we present percentage increases of these metrics for the purposes of risk ranking rather than an explicit risk calculation. It is also important to acknowledge that the model projections used in our initial assessment produced a wide range of projected changes over the baseline, with results varying from negative change (e.g., reduction of maximum one day rainfall) to positive change (e.g., increase of maximum one day rainfall). We evaluated the model results using the multi-model ensemble median and not individual model projections in order to reduce biases and provide a higher-quality output than what would be associated with an individual model.

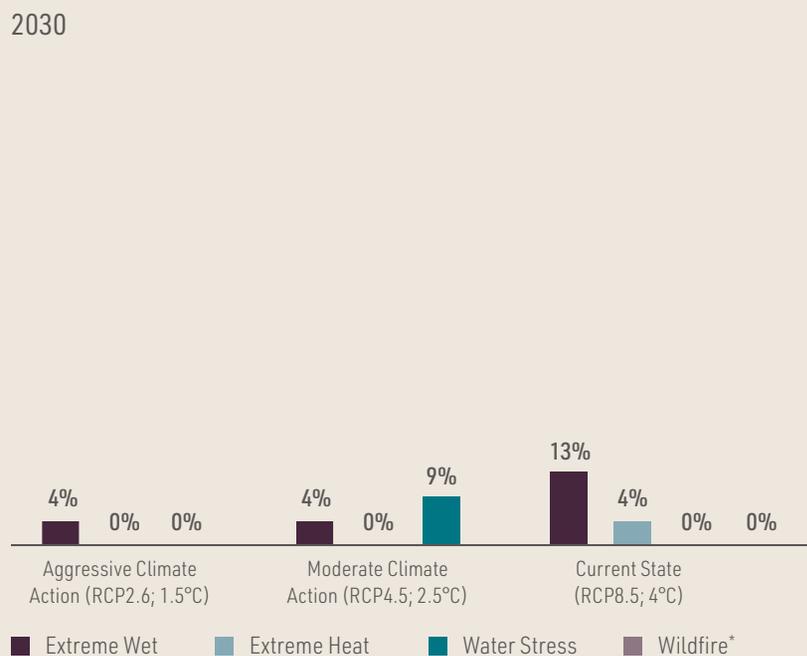
### PHYSICAL RISK EXPOSURE ASSESSMENT

HAZARD	LOW	MEDIUM	HIGH
<b>Extreme Wet</b> Projected increase in maximum daily precipitation for a year in the future compared to present day	Indeterminant change	Increases between 0.1% and 5%	Over 5% increase
<b>Extreme Heat</b> Projected increase in the annual number of days contributing to long (6+ days) heat waves compared to present day	Increase up to 19 days	Increase of 19 to 43 days	Over 43 days increase
<b>Water Stress</b> Projected increase in the longest number of consecutive days in a year where rainfall is less than 1mm (dry spell) compared to present day	Increase up to 1.1%	Increase between 1.1% and 5.7%	Over 5.7% increase
<b>Wildfire</b> Projected increase in the number of severe fire days annually in the future compared to present day	Increase up to 3.1 days	3.7 to 9.7 days increase	Over 9.7 days

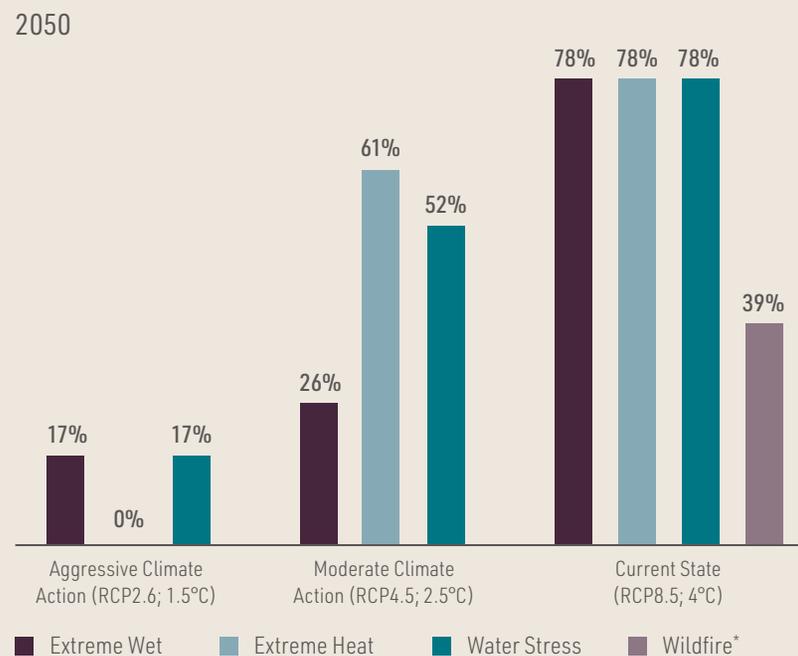
### ILLUSTRATIVE POTENTIAL HIGH RISK EXPOSURE IN 2030 VS. 2050

The charts below illustrate the proportion of our assets with the highest potential future increase in exposure to climate hazards in 2030 and 2050 across the three climate scenarios assessed. We chose to focus on the highest projected increase which in our opinion highlights where the most significant risk lies from physical hazards to our operations. Freeport’s physical risk exposure is greatest across our assets in the Current State (4°C) scenario and decreases as global climate action progresses in the Aggressive Climate Action (1.5°C) scenario.

2030



2050



\*Wildfire risk only assessed under Current State (RCP 8.5) scenario

Note: Assets included in this assessment are FCX’s operating mining and processing assets and non-operating mines, with the exception of Christmas and facilities at Dante, both closed properties.

## PROJECTED CHANGES IN PHYSICAL RISK EXPOSURE VS. TODAY

Freeport sites are currently exposed to multiple physical risk hazards that are projected to potentially increase or decrease under future scenarios. Following completion of the physical risk exposure analysis, we identified four main themes that we aim to integrate into our climate resiliency strategy going forward. These themes include: wet extremes, heat extremes, emerging water stress and sea level rise. Across each of the four main themes, the analysis sought to capture the assets with the highest projected future increase in exposure to these themes versus current exposure today. The trends noted in this map are overall changes across the majority of the scenarios and time horizons. Further analysis is required with more localized models to better understand and take appropriate action on these potential risks.

### 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

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

### PERU

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

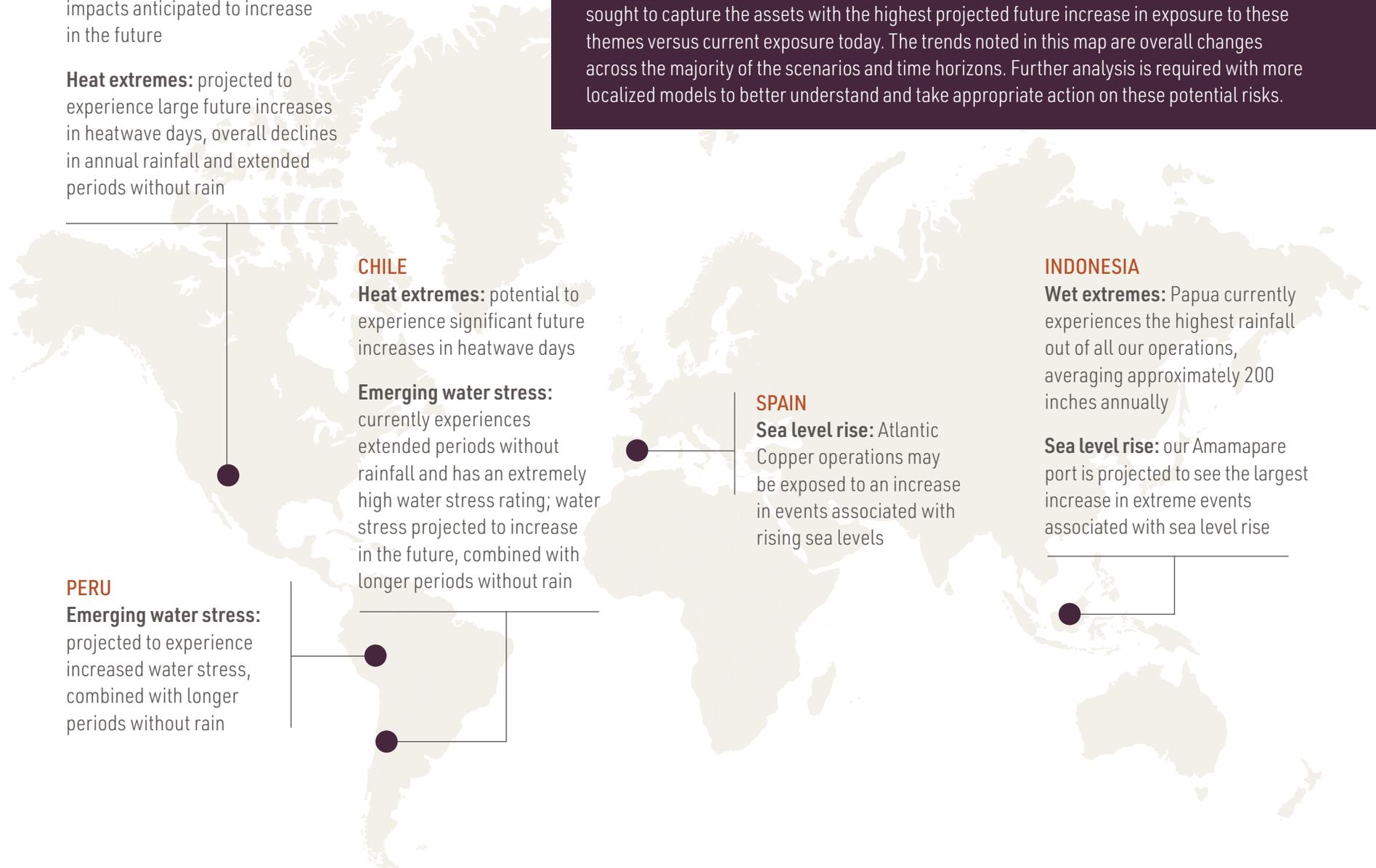
### SPAIN

**Sea level rise:** Atlantic Copper operations may be exposed to an increase in events associated with rising sea levels

### INDONESIA

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

**Sea level rise:** our Amamapare port is projected to see the largest increase in extreme events associated with sea level rise





We are preparing for exposure to the various physical risks identified through our analysis.

## EXAMPLES OF POTENTIAL PHYSICAL RISK EXPOSURES

### Wet & Heat Extremes: Arizona

Our facilities in Arizona currently have a “moderate to high” exposure to significant rainfall events. Under the Current State (4°C) scenario, a 2°C rate of warming reached by 2050 could result in an approximate 20% increase in frequency and 5% increase in intensity, with a 20% projected increase in the total precipitation during each event.

Our facilities in Arizona are also projected to experience large future increases in heat wave days, overall declines in annual rainfall and extended periods without rain. In all three scenarios, Arizona is projected to experience an increase of 25 to 69 days in long heat waves by 2050, with the magnitude of the change depending on scenario. Under a Moderate Climate Action (2.5°C) scenario, our facilities also are projected to experience a 5% to 11% decline in total annual rainfall by 2050. We are in the process of conducting additional localized studies to refine these data, which will enable us to revisit internal guidelines for infrastructure and operating procedures.

### Emerging Water Stress: Chile & Peru

Our operations in Chile could experience significant future increases in heat wave days, extended periods without rain and increased water stress. The projected increases are most significant under a Current State (4°C) scenario. In addition, our operations in Peru also are projected to experience increased water stress, combined with longer periods without rain. These increases are projected under both the Moderate Climate Action (2.5°C) and Current State (4°C) scenarios.

At both operations, we have previously designated water stress as a significant future issue and will continue working to address the risks these potential changes pose to our business.

### Sea Level Rise: Indonesia & Spain

We also analyzed the projected exposures of our coastal operations to sea level rise. PT-FI's Amamapare port and our Atlantic Copper smelter and refinery are exposed to rising sea levels with Indonesia, located in the warm tropics, projected to be at a significant potential risk of extreme events linked to sea level rise. This could lead to significant disruption to the timely delivery of essential materials to PT-FI and exports of commodities to our markets. It also exposes the coastal power plant that supplies PT-FI's energy to risk of damage and shutdown, thus increasing the likelihood of power outages to our operations. Sections of tailings management infrastructure at PT-FI that are exposed to marine water levels already include adjustments for sea level rise in their designs.

We perform periodic land elevation and tidal measurements to monitor sea level rise and plan to evaluate the structural resilience around the port and power plant. We will assess flood-related designs and review our recovery plans to account for the increased frequency of extreme sea level events that are projected in the next 30 years.

To support water requirements for mining and processing and our local communities, Cerro Verde has made significant investments in local water infrastructure including construction of a wastewater treatment and collection facility which has improved the quality of the Chili River, benefitting more than 1 million people in Arequipa.

Note: The values included in our findings are part of a range, and further study is needed for appropriate values to be accounted for in our operations and engineering designs, which we plan to do in the coming years.

## OPERATIONS, WORKFORCE, COMMUNITIES & SUPPLY CHAINS

We also 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. We identified certain critical vendors and assessed 224 vendor sites, 26 ports, five airports, two sea canals and railroads, gas pipelines, and electrical transmission lines in North America, Chile and Peru, and analyzed their exposure to current and potential future climate hazards under the same scenarios analyzed in this report. 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.

### POTENTIAL PHYSICAL RISK IMPACTS

PHYSICAL RISKS	OPERATIONAL IMPACTS	WORKFORCE & COMMUNITY IMPACTS	LOGISTICS & SUPPLY CHAIN IMPACTS
Extreme Precipitation	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Health and safety risks and property or infrastructure damage</li> </ul>	<ul style="list-style-type: none"> <li>• Supply disruption from supplier property damage, 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 style="list-style-type: none"> <li>• Increased cooling cost, overheating of processing equipment, and increased energy prices or potential power curtailment</li> </ul>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Increased energy / cooling costs at supplier sites</li> </ul>
Water Stress	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Limits to water allowances and availability for suppliers</li> </ul>
Extreme Cold	<ul style="list-style-type: none"> <li>• Disruption to energy supply from freezing gas pipelines and increased heating demands</li> <li>• Increased natural gas and electricity prices</li> </ul>	<ul style="list-style-type: none"> <li>• Increased heating demands and costs</li> </ul>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Production disruption and reduced access</li> </ul>	<ul style="list-style-type: none"> <li>• Evacuations, injuries, fatalities and respiratory diseases due to poor air quality</li> </ul>	<ul style="list-style-type: none"> <li>• Supply delays from property damage, power outage or limited site access at supplier locations and logistics networks</li> </ul>
Sea Level Rise	<ul style="list-style-type: none"> <li>• Disrupted operations at our coastal sites, e.g., PT-FI and Atlantic Copper</li> </ul>	<ul style="list-style-type: none"> <li>• Health and safety risks and community displacement</li> </ul>	<ul style="list-style-type: none"> <li>• Supply delays from flooding of ports, airports or railroads and roads</li> </ul>

# 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 the Current State (4°C) scenario, where physical risks are projected to be most significant. Aiding communities in adapting involves supporting their efforts in building their climate resilience and increasing their ability to withstand events such as droughts and floods. A summary of recent initiatives is provided below. For more information on community engagement programs, please see our [2020 Annual Report on Sustainability](#).

## Emergency Response, Relief & Prevention

- Near our Miami operations, the Telegraph Fire in June and July of 2021 burned more than 180,000 acres. When heavy rain followed, the area experienced significant flooding, causing the evacuation of more than 100 families and damage to homes and infrastructure. Freeport provided heavy equipment and volunteer operators to assist with fighting the fire, saving structures, and aid in the clean-up and support families in addressing impacts to their properties to enable them to return home. The company also provided support to an emergency relief fund to aid families in addressing their recovery needs.
- An unprecedented rain event in 2019 at our El Abra operation in Chile caused a shutdown and significant flooding and damage to the nearby indigenous community of Conchi Viejo. After supporting the immediate emergency needs of the town, Freeport continued to work with the local community in 2020 and 2021 to develop and implement measures to provide protection in the event of future extreme weather events, including the construction of rock walls, catch berms and ponds to decrease the velocity of rainwater and protect houses and other structures, including the local church. In addition, repairs and weatherproofing improvements were made to all 30 homes in the area.

## Managing Water Resources

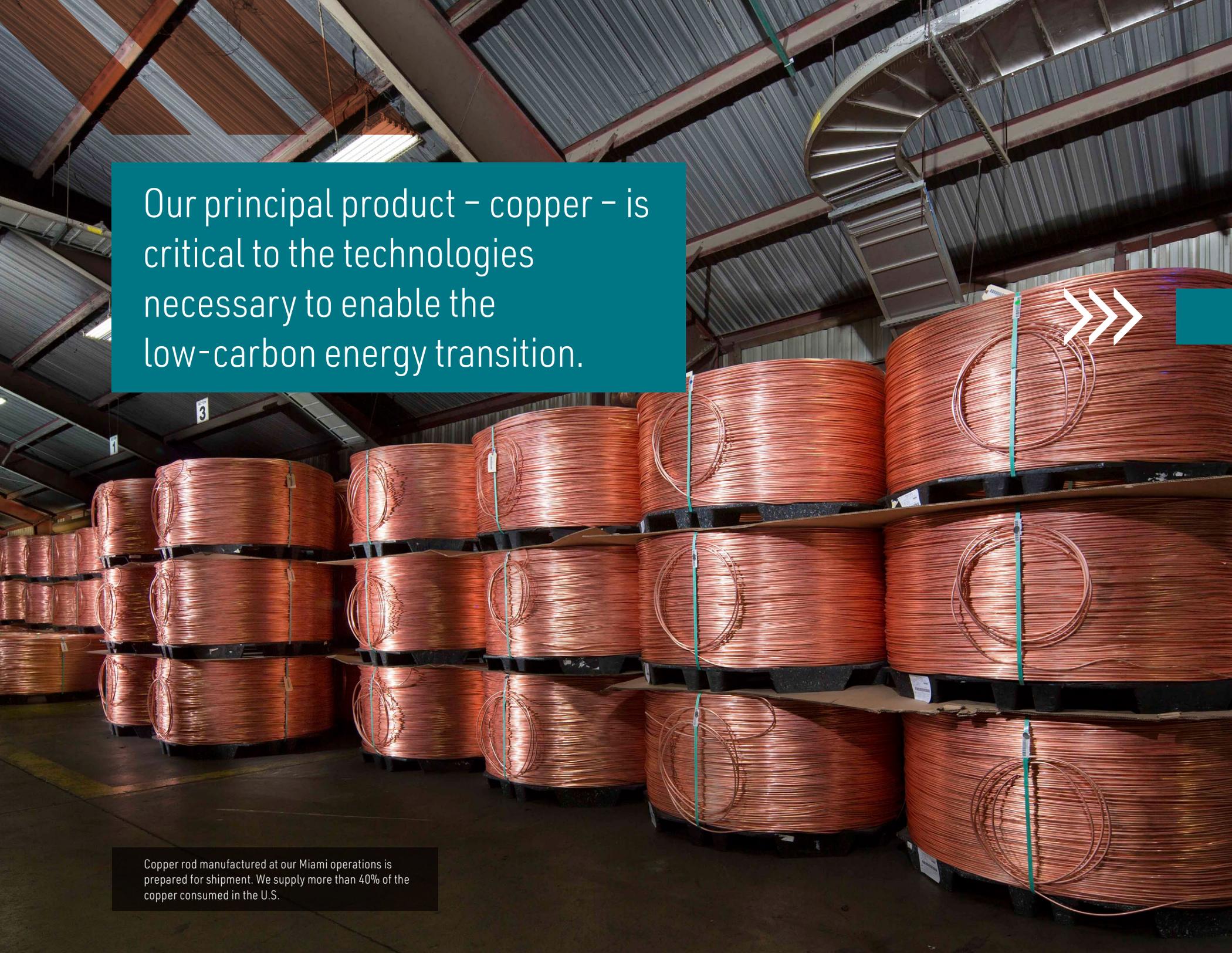
- At our Cerro Verde operations in Peru, where agriculture is very important to the local economy, we have long-supported local farmers with efficient irrigation systems as an adaptation measure for reduced water availability. Cerro Verde is coordinating with INDECI, the National Institute of Civil Defense and municipal leadership to develop a response and recovery plan for the future to enhance resilience.
- At our Morenci operations, a partnership with the Town of Duncan and Midstate Energy was recently created to upgrade aging water, wastewater and energy infrastructure to prevent failures, reduce operating costs, and boost reliability and resiliency of the water system. A key component of the project is replacing the power supply for the wastewater treatment plant and primary municipal well with solar power systems to help reduce energy costs and consumption in the future.

## Disease Prevention

- PT-FI works closely with the local Mimika government to support the provision of health services in the region through capacity building, construction of clinics, and malaria control programs. Since 2013, PT-FI and the Amungme Kamoro Community Development Foundation, in partnership with the local government, jointly have operated the Mimika Malaria Center and its Timika Malaria Control Program which coordinates all malaria prevention activities, such as indoor residual spraying of insecticides in homes and bed net distribution among the PT-FI workforce, their families and local communities. The activities have resulted in reduced malaria incidence through significant expansion of coverage, improved coordination, surveillance and reporting of malaria data.



El Abra workforce members hold a ceremony with an indigenous community to thank Mother Earth in Chile.



Our principal product – copper – is critical to the technologies necessary to enable the low-carbon energy transition.

Copper rod manufactured at our Miami operations is prepared for shipment. We supply more than 40% of the copper consumed in the U.S.

## Contribution

The downstream use of copper is a critical enabler for the technologies that will support the future energy transition, from electrifying vehicles to solar and wind energy. With an estimated 7% net equity share of total worldwide mined copper production, Freeport's role in supplying responsibly produced copper to support global decarbonization is crucial and we are committed to doing our part, both within our own operational boundaries and beyond. Freeport is uniquely positioned due to our vertical integration of both copper and molybdenum production, enabling us to directly manage and work towards mitigating the emissions associated with our products that would for many producers be downstream in their value chain. We also seek to collaborate with our industry, customers and other stakeholders to drive change, whether in responsible production certifications, developing carbon footprint models or advancing policy on climate.

In 2020, ICA launched the Copper Mark – a continual improvement responsible production framework. This voluntary framework requires that copper producers undertake third-party assessments of their performance on 32 requirements across ESG issues. The current Copper Mark framework is focused on copper producers at the beginning of the supply chain, but the organization is developing criteria for fabricators and component producers with the goal of establishing a chain of custody for downstream companies, such as automobile and electronics producers.

Freeport seeks to play a leading role in this work by actively participating in the organization's multi-stakeholder processes to further develop and work towards achieving its long-term strategy, referred to as Theory of Change. This includes key roles in the Advisory Council, Due Diligence Working Group, Technical Working Group and Transparency Working Group.

As an early adopter of the Copper Mark assurance framework, we are committed to responsible production practices across our global operations. We plan to achieve the Copper Mark at all of our copper operating sites. In 2020, we began this process with a Letter of Commitment for our first six sites. Since then, all six sites have been awarded the Copper Mark and we have been carrying out our routine check-ins with the organization on improvement plans. In June 2021, FCX commenced the Copper Mark assessment process at five additional operating sites. To learn more, visit our [website](#) and our site level Copper Mark assessment reports can be found at [coppermark.org](http://coppermark.org).



# Copper's Role in the Energy Transition

Copper is expected to play an essential role in facilitating a future low-carbon transition. Copper is a key component in the technologies that will be deployed in a highly electrified and low-carbon economy, including solar and wind 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. Because of these unique properties, copper is a necessary material for clean energy generation, transmission and storage.

Renewable energy generation technologies rely more on copper than higher carbon alternatives, using four to five times more copper than fossil fuel power generation. In 2020, renewable energy resources generated a record-breaking 834 billion kWh of electricity – 21% of all electricity generated in the U.S. – and the U.S. Energy Information Administration expects growth to continue in coming years.<sup>1</sup> CRU projects that global copper consumption from renewables will increase from 700 thousand metric tons per year in 2020 to 1.8 metric megatons per year in 2030.<sup>2</sup>

EVs, which require up to four times the amount of copper in terms of weight compared to vehicles of similar sizes with internal combustion engines, also are expected to be a long-term driver of demand for copper globally. Wood Mackenzie noted 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> Collectively, these drivers of growth in applications of copper provide a very favorable outlook for copper.

With its very long life cycle, copper is a truly circular material that is not only a good investment but also can be recycled over and over with no loss of its physical properties. ICA estimates that since 1900, two-thirds of the 550 million metric tons of copper mined 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 used again and again with the same expectations of performance. Nine million metric tons of copper are recycled every year. Copper recycling requires up to 85% less energy than primary production. According to the ICA, this saves 40 million metric tons of CO<sub>2</sub> annually, the equivalent of eliminating 16 million cars from the road.<sup>4</sup>

1 U.S. Energy Information Administration Renewables became the second-most prevalent U.S. electricity source in 2020 - Today in Energy - U.S. Energy Information Administration (EIA)

2 Electric Vehicles, renewables, and Covid-19: what next for base metals demand? | CRU (cru.org)

3 Copper: Powering Up The Electric Vehicle | Wood Mackenzie

4 <https://copperalliance.org/benefits-of-copper/recycling-circular-economy/>



## HOW THE COPPER INDUSTRY CONTRIBUTES TO THE SDGs

Copper is strategically important to enabling society's progress.

### Decarbonization

- › By 2030, increased use of copper could reduce global carbon emissions by 16%<sup>1</sup>
- › Copper is a critical component for electric vehicles, charging stations, high-efficiency motors and renewable energy

### Infrastructure

- › Copper is essential for reliable, advanced electrical grids (production and delivery of energy and energy storage), telecommunications (data centers, networks and cell towers) and railways

### Technology

- › Copper is crucial for connecting and advancing society and smart cities / homes, including artificial intelligence, smart grids, 5G technologies, mobile phones and computers

### Public Health<sup>2</sup>

- › Copper could play an invaluable role in public health if used more frequently on high-touch surfaces given its substantial antimicrobial properties, which can help eliminate bacteria, viruses and other pathogens, and reduces the risk of transmission

1 copperalliance.org

2 copperalloystewardship.com

## Vertical Integration & 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 Huelva, 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. Our refineries in El Paso, Texas, and Huelva, 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 own 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. In 2021, our PT-FI operations set forth plans to expand the annual capacity at PTS (PT-FI's 39.5% owned copper smelter and refinery in Gresik, Indonesia) by 300 thousand metric tons of concentrate, a 30% increase from current levels. Additionally, PT-FI started construction of a new 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.



Our vertical integration from earth to rod in the U.S. market enables us to better control emissions related to our value chain. Pictured here are our Miami operations in Arizona.

# Collaborating to Advance Responsibly Produced Copper

## ENGAGING WITH INDUSTRY & BUSINESS ASSOCIATIONS

In addition to our commitment to the Copper Mark, Freeport is a member of numerous industry associations, and we are involved in various organizations that provide a platform for advancing sustainability. We recognize the importance of collaboration with other thought-leaders to help drive change and progress, and we believe regular engagement with stakeholders is fundamental to our success. Through this work, we are able to listen to the views of a multitude of stakeholders, while also forming industry agreements and positions on our responsibilities across ESG issues and throughout our value chains.

We also believe that industry associations are an important vehicle for collaboration and advancement of the contribution that our products make to the energy transition. Through our involvement in these associations we seek to share and drive best practices, develop new methodologies, invest in research on critical topics related to material stewardship, and support the development of effective policy.

As we move forward, we endeavor to undertake a global evaluation of our memberships in various industry and business associations and whether the goals and objectives of those associations align with our commitments and aspirations. As part of this evaluation, we will consider the associations' positions on climate and broader sustainability objectives. As demonstrated by our leadership positions and active involvement with many associations, Freeport is committed to engaging the leadership and membership of these associations in an effort to align with best practices, which we believe should include constructively advancing the mining industry's work on climate-related matters as well as advancing the goals of the Paris Agreement. A summary of our selected industry and business association memberships where we contribute more than \$50,000 annually is provided below.

### SELECTED INDUSTRY & BUSINESS MEMBERSHIPS

COUNTRY / REGION	ORGANIZATION	LEADERSHIP ROLE
Global	International Council on Mining & Metals (ICMM)	Chair
	International Copper Association (ICA)	Chair
	The International Molybdenum Association (IMOA)	Chair
U.S.	National Mining Association	Board Member
	The Business Roundtable	N/A
	U.S. Chamber of Commerce	N/A
	Colorado Mining Association	Board Member
	Arizona Mining Association	Chair
	National Association of Manufacturers	N/A
E.U.	Eurometaux	N/A

## COPPER'S CARBON FOOTPRINT

Life Cycle Assessments (LCAs) provide an overview of environmental impacts across a product's life cycle to enable decision makers to identify improvement opportunities and trade-offs. Globally, governments are using LCAs in circular economy policy setting more often to compare the carbon and water footprints of products and services. In early 2020, the ICA launched a project to update the current global LCA profile for copper concentrate and cathode. Freeport assists in this study by providing data from our mining and refining facilities. The project was temporarily suspended in 2020 to enable producers to focus on COVID-19 management. The project relaunched in early 2021 and has expanded its focus to include developing a methodology for the carbon footprint of copper.

In addition, a project was re-initiated by the Copper Development Association, a partner organization to ICA in North America, to conduct a LCA of copper rod used for electrical applications. Freeport is participating in both studies, and we will seek to use the results of these studies to drive our internal improvements (e.g., support climate strategy) and to provide data to customers and other value-chain participants.

We are participating in the ICA Global Copper Decarbonization Roadmap project with peers and partner organizations (such as the Copper Mark) to develop a footprint methodology for copper that can be used to set a baseline for decarbonization from earth to semi-fabricated copper.



Workforce at our Safford operation in Arizona celebrate a production milestone - 2 billion pounds of copper produced since commencing operations in 2007.



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



El Abra's regenerative downhill conveyor system is 20 kilometers in length and generates electricity for use on site as it transports material for processing.

## Looking Ahead

Copper is expected to play an essential role in renewable energy technologies necessary to enable a global energy transition. Freeport believes that copper should be produced responsibly, which includes operating in a way that manages and mitigates our own GHG emissions and other climate-related risks.

Developing, implementing and executing on our climate strategy underpins our objective to provide responsibly produced copper to markets globally. We believe that our commitment to reduce our GHG emissions, enhance our climate-related resilience and contribute positively across our value chain is critical to the long-term sustainability of our business, including value creation for our stakeholders.

Looking ahead, we aim to progress key actions across the three pillars of our strategy – reduction, resilience and contribution – and we plan to continue to voluntarily report on our successes, progress and challenges in alignment with the recommendations of the TCFD.

### REDUCTION

In order to provide responsibly produced copper to global markets, we believe that we must reduce, manage and mitigate our own GHG emissions. Developing and implementing meaningful GHG emissions reduction targets supports our decarbonization strategy.

In the near-term, we endeavor to develop two additional 2030 GHG emissions reduction targets (one for our primary molybdenum sites and one for Atlantic Copper) so that our full business has relevant 2030 GHG reduction targets. As a next step, we plan to third-party validate our 2030 GHG reduction targets with SBTi to determine if our targets align with their science-based criteria for targets in line with the Paris Agreement's goals.

We know, however, that reduction targets are only as meaningful as the progress we make towards achieving them. We aim to continue our efforts to develop and refine our decarbonization pathway across each of our current initiatives: (1) decarbonizing our electricity supply, (2) optimizing energy and asset efficiency, (3) electrification of equipment, and (4) process innovation.

Specifically, over the next twelve months, we aim to advance our work with our Copper Skies evaluation and implementation to decarbonize our electricity supply in the Americas. At PT-FI, we are committed to advancing our evaluation for potential future use of LNG as well as other energy efficiency initiatives and electrification opportunities. We will continue our collaboration with our key suppliers and cross-industry consortiums in an effort to find a commercially viable solution to diesel haul trucks. This includes conducting on-the-ground trials of 400-ton class diesel-electric haul trucks in 2022. We also intend to develop abatement curves for our operations to help inform and prioritize our decarbonization efforts in support of our 2030 GHG reduction targets.

## RESILIENCE

Following the completion of our first global climate scenario analysis in 2021, we plan to further evaluate the key findings related to the five primary risks and opportunities identified in our analysis: regulatory, market, technology and physical risks, and market opportunities. We will work with the relevant sites to educate and integrate the findings from our analysis, which we expect will include integrating relevant risks into our site-level sustainability risk registers and action planning processes. We will also continue working closely with host communities to help support and enhance their resilience to potential physical risks related to climate change. In preparation of our business for future climate scenarios, we will also continue our efforts to integrate our new carbon pricing into our decision-making processes.

## CONTRIBUTION

In addition to the importance of copper to global decarbonization, we strive to produce and deliver our products responsibly while working to encourage circular economy frameworks including the reuse and recycling of copper. Over the course of 2022, we plan to continue our work with ICA to develop a global copper decarbonization roadmap and an associated carbon

footprint methodology, which is critical to enabling the copper industry with consistent evaluation of carbon intensity at a product level. We are seeking to achieve the Copper Mark at five more of our sites where we have signed a letter of commitment. We plan to continue our work with the Copper Mark to help develop a standard for chain of custody that may be used for transfer of product level claims through the value chain in the future.

## ASPIRING TOWARDS NET ZERO

Freeport aspires to participate in – and positively contribute to – a 2050 net zero economy. While we fully expect that our climate strategy will need to evolve and adapt over time as new technologies and information become available, we believe our current strategy and the decarbonization pathways we have identified are foundational to the work that needs to occur to achieve our 2030 GHG emissions intensity reduction targets and accomplish further reductions in future years. Our team is committed to developing a more robust understanding of how we can move beyond our aspirational vision to a science-based net zero pathway in future years, and we plan to continue to provide updates on our challenges, opportunities, progress and lessons learned.

## ILLUSTRATIVE 2050 NET ZERO PATHWAY<sup>1</sup>

2020 —————> 2030 —————> 2050

### Decarbonization Pathways

- > Decarbonizing Electrical Supply —————>
- > Equipment Electrification —————>
- > Energy & Asset Efficiency —————>
- > Process Innovation —————>

### 2030 Targets<sup>2</sup> (Scope 1 & 2)

- > Americas Copper 15% GHG emissions intensity reduction target
- > PT-FI 30% GHG emissions intensity reduction target

## ASPIRING TOWARDS NET ZERO IN 2050 (Scope 1 & 2)

<sup>1</sup> This is a high-level, initial illustrative net zero pathway only. As we develop our understanding and make plans for our 2050 net zero aspiration, we anticipate that we will need to balance residual GHG emissions with offsets and removals and plan to explore a variety of opportunities to achieve our net zero aspiration.

<sup>2</sup> FCX is committed to developing additional 2030 GHG emissions intensity reduction targets for our Climax molybdenum mines and downstream processing and for our Atlantic Copper smelter and refinery in Spain in the near-term.

# TPI Assessment of Below 2°C Scenario



Launched in 2017, the Transitions 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 2021, 107 investors globally, representing over \$29 trillion in assets under management, 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 Environment at the London School of Economics and Political Science, Principles for Responsible Investment, 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:** the quality of companies' management of their GHG emissions and risks and opportunities related to the low-carbon transition; and
2. **Carbon Performance:** how companies' carbon performance now and in the future might compare to the international targets and national pledges made as part of the Paris Agreement.

## 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. As of their most recent assessment of management quality in October 2019, TPI rated Freeport as Level 2 or "building capacity" on a scale of Level 0 (unaware of climate change as a business issue) to Level 4 (strategic assessment). The most recent management quality assessment was conducted in 2019 prior to the publication of our inaugural climate report in June 2020. Since the 2019 assessment, we have continued to advance our work on climate-related issues and disclosed more robust information on our climate strategy, management of climate-related issues and opportunities, and progress on climate initiatives. We anticipate this information will be incorporated and considered by TPI in their next management quality assessment.

## 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) Paris-aligned, (2) 2°C scenario, and (3) below 2°C scenario. Their assessment includes companies' Scope 1 and 2 emissions as well as select Scope 3 emissions from the processing of sold products (GHG Protocol Category 10) and the use of sold products (GHG Protocol Category 11). TPI notes 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 20 metric tons of CO<sub>2</sub> equivalent per metric ton of copper equivalent produced. **The most recent TPI assessment of carbon performance in December 2020 concluded that Freeport already is aligned with TPI's below 2°C scenario in 2050 at approximately 7 metric tons CO<sub>2</sub> 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 has been engaging with TPI on their assessment and methodology and aims to continue to do so as our own data and assessment methodology improves.



## About this Report

Freeport aims to communicate regularly and transparently about the risks and opportunities climate change poses to our operational and financial performance. Our 2020 Climate Report provides information on how we approach climate change and is intended to be a companion to our 2020 Annual Report on Sustainability as well as the sustainability section of our [website](#).

This report focuses primarily on the most significant entities that FCX consolidates, including its 48.76 percent-owned subsidiary PT Freeport Indonesia, and the following wholly-owned subsidiaries: Freeport Minerals Corporation and Atlantic Copper, S.L.U. (Atlantic Copper), for the period January 1, 2020 to December 31, 2020, unless otherwise indicated. Data is as of December 31, 2020, unless otherwise noted. For additional information on Freeport, please visit our [website](#).

### REPORTING FRAMEWORK

Freeport is committed to aligning our climate-related disclosures with the current recommendations of the TCFD. Please refer to the TCFD Reference Table section on page 64 of this report.

As a founding member of the International Council on Mining and Metals (ICMM), we endeavor to implement ICMM's climate change position statement requirements as well as its performance expectations across our business.

Additionally, we have committed to validating all of our copper producing sites against the Copper Mark, a third-party assurance framework designed specifically to demonstrate the copper industry's contribution to the SDGs. 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.

## EXTERNAL ASSURANCE

Freeport retained GHD Limited (GHD) to conduct a risk-based verification of the 2020 GHG emissions inventory for Freeport's global operations. GHD's verification included Scope 1, 2 and 3 emissions from Freeport's global operations from January 1, 2020 to December 31, 2020 in accordance with ISO 14064 (Specifications 1 and 3) to a reasonable level of assurance. Due to travel restrictions in place due to the ongoing COVID-19 pandemic, GHD completed all verification activities virtually. A copy of GHD's verification statement is included in this report and available in the sustainability section of our [website](#).

## Restatements and Quality Improvements

Prior to 2018, we relied on the United States Environmental Protection Agency's (EPA) eGRID published data for emissions 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 PPA-contracted resources and our wholesale and retail utilities providers. The emissions 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. As a result, our 2020 Scope 3 emissions figures here are higher than the Scope 3 emissions reported in our 2020 Annual Report on Sustainability, with the figures in this report being the most current. The Scope 3 emissions now include all emissions sources for which data is available and may be further expanded in the future. GHD determined that the changes in emissions from the previous reporting period are consistent with changes in operations and calculation methodologies.

## 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, social, safety and governance performance, including expectations regarding future 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 aspirations; our operational resiliency and climate scenarios; our expectations regarding climate-related risks and future risk mitigation; our continuing commitment to safe and reliable operations; our commitment to human rights; our commitment to deliver responsibly produced copper, including plans to implement and validate our operating sites under specific frameworks; and statements and goals related to copper's antimicrobial properties. The words "anticipates," "may," "can," "plans," "believes," "estimates," "expects," "endeavor," "seek," "goal," "predict," "strategy," "objective," "projects," "targets," "intends," "aspires," "likely," "will," "should," "could," "to be," "potential," "assumptions," "guidance," "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, 2020, 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 or severely adverse scenarios and assumptions, and these statements should not be viewed as representative of current risks or forecasts of expected risks. 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.

# Verification Statement – 2020 Greenhouse Gas Emissions Inventory

## **FREEPORT-MCMORAN INC., GLOBAL OPERATIONS**

Freeport-McMoRan Inc. (Freeport) retained GHD Limited (GHD) to conduct a verification of the 2020 greenhouse gas (GHG) emissions inventory (Emissions Inventory) for Freeport's global operations.

GHD was also retained to complete a focused re-verification of the 2020 Emissions Inventory to include additional Scope 3 emissions in the initial Emissions Inventory (relative to the initial verification completed on March 31, 2021). This verification statement supersedes the initial verification statement.

GHD has prepared this Verification Statement in accordance with *ISO Standard ISO 14064 Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions (ISO 14064 3)*.

## **VERIFICATION OBJECTIVES, 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. The verification was conducted to a reasonable level of assurance. GHD applied ISO 14064 3 as the verification standard and conducted the verification in accordance with the following criteria:

- › *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)

## **VERIFICATION SCOPE**

The verification included Scope 1, 2, and 3 emissions from Freeport's global operations from January 1, 2020 to December 31, 2020.

## **VERIFICATION PROCEDURES**

GHD conducted a risk-based verification 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. Through the document review GHD established to what degree the presented Emissions Inventory documentation met the verification standards and criteria.

The GHD Project Team's document review during the review process comprised an evaluation of whether:

- › 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.

### Site Assessments

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

- › PT-FI Grasberg Mine
- › Atlantic Copper Smelter and Refinery
- › Morenci Mine

The selected facilities represent 54.5 percent of total reported 2020 Scope 1 & Scope 2 emissions and represent a range of global operations including mining and copper refining in multiple continents.

### 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 PT-FI, Atlantic Copper and Morenci 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.

### VERIFICATION OPINION

Based on the verification conducted by GHD's, the GHG assertion provided in the 2020 Emissions Inventory for Freeport's Global Operations was determined to be free of material misstatements, fairly presented and substantiated by sufficient and appropriate evidence in all material aspects.

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*



## Performance Data

Unless noted otherwise, the data in this report cover climate matters related to all of our material operating sites including the following locations: Atlantic Copper, Bagdad, Bayway, Cerro Verde, Chino (including Cobre), Climax, El Abra, El Paso, Ft. Madison, Henderson, Kokkola, Miami, Morenci, Norwich, PT Freeport Indonesia, Rotterdam, Safford (including Lone Star), Sierrita, Stowmarket and Tyrone. These data do not include assets divested prior to 2020, such as our Tenke Fungurume mine or oil and gas operations (FM O&G), non-managed joint ventures, exploration activities and projects, and non-operating and discontinued sites.

As a result of methodology changes, corrections, or ongoing improvements to our data collection processes and quality, prior year data may be restated in future years. For more information on restatements and 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 has been third-party verified in accordance with ISO 14064 (Specifications 1 and 3) to a reasonable level of assurance, data have not been audited. Historical results are not necessarily indicative of future performance. All financial figures are quoted in U.S. dollars, unless otherwise noted. Reported amounts are approximate and 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 31, which corresponds to our fiscal year.

Additional information about FCX is available on our [website](#). For details on our financial performance and governance structure, please refer to our [Annual Report on Form 10-K](#) for the year ended December 31, 2020, filed with the SEC, and available on our [website](#).

## GHG EMISSIONS

SCOPE 1 (CO <sub>2</sub> e METRIC TONS)	2016	2017	2018	2019	2020
<b>FMC Mining<sup>1</sup></b>					
Bagdad	131,101	131,305	148,112	160,559	162,715
Cerro Verde	465,540	492,085	578,103	638,972	564,127
Chino / Cobre	173,879	159,014	167,047	148,576	53,111
Climax	41,366	37,165	41,950	51,414	34,558
El Abra	107,513	90,178	133,703	141,452	80,540
Henderson	18,825	17,670	18,860	19,966	17,232
Morenci	521,925	533,444	615,256	677,159	627,797
Safford / Lone Star	168,275	145,394	177,236	217,855	225,197
Sierrita	107,318	123,530	133,627	151,818	119,190
Tyrone	36,565	33,621	35,826	37,227	41,910
<b>Total FMC Mining</b>	<b>1,772,308</b>	<b>1,763,407</b>	<b>2,049,720</b>	<b>2,244,999</b>	<b>1,926,378</b>
<b>Downstream Processing<sup>2</sup></b>					
Atlantic Copper Smelter & Refinery	56,040	55,129	54,008	55,254	55,745
Bayway Rod & Wire	1,058	922	1,116	916	-
Ft. Madison Moly Special Products	17,036	17,344	14,111	16,709	17,107
Kokkola Cobalt Refinery	5,195	5,287	4,693	4,277	3,184
Miami Smelter & Rod	86,768	83,695	99,752	93,840	98,602
Norwich Rod	18,145	18,511	18,463	17,735	-
Rotterdam	5,928	7,194	6,925	8,404	8,238
Stowmarket	86	136	113	119	88
El Paso Refinery & Rod	55,585	56,170	60,473	71,105	85,613
<b>Total Downstream Processing</b>	<b>245,842</b>	<b>244,389</b>	<b>259,653</b>	<b>268,360</b>	<b>268,577</b>
<b>Total PT-FI (Grasberg)<sup>3</sup></b>	<b>2,775,114</b>	<b>2,257,149</b>	<b>2,651,587</b>	<b>2,212,265</b>	<b>2,034,939</b>
<b>Scope 1 Total - FCX Global</b>	<b>4,793,264</b>	<b>4,264,946</b>	<b>4,960,961</b>	<b>4,725,624</b>	<b>4,229,894</b>

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

2 Downstream Processing includes Atlantic Copper Smelter & Refinery, Bayway Rod & Wire, Ft. Madison Moly Special Products, Kokkola Cobalt Refinery, Miami Smelter & Rod, Norwich Rod, Rotterdam, Stowmarket and El Paso Refinery & Rod. In 2020, our Bayway Rod & Wire and Norwich Rod facilities were closed and decommissioned and therefore data has not been included in the table for these entities for 2020.

3 During the 2020 GHG emissions verification process, an opportunity was identified to improve PT-FI Scope 1 emissions calculations by switching to actual heating value for coal. The calculations have been restated accordingly back to 2016.

Note: GHG emissions data have been prepared in accordance with the WRI/WBCSD GHG Protocol. FCX reports carbon emissions on 100% operational basis per the WRI/WBCSD GHG Protocol. However, FCX reports certain financial information, such as consolidated revenue, net of Morenci's undivided joint venture partners' interest. FCX owns a 72% undivided interest in Morenci. FCX's GHG emissions verification statement is available in the About This Report section.

## GHG EMISSIONS

SCOPE 2 <sup>1</sup> (CO <sub>2</sub> e METRIC TONS)	2016	2017	2018	2019	2020
<b>FMC Mining<sup>2</sup></b>					
Bagdad	237,602	238,380	254,016	231,111	239,608
Cerro Verde	728,464	605,993	264,778	275,539	231,339
Chino / Cobre	415,231	364,726	228,615	226,323	100,720
Climax	87,236	107,603	98,909	96,278	66,231
El Abra	463,156	406,977	259,703	238,720	224,033
Henderson	113,942	115,482	105,672	110,116	103,584
Morenci	1,228,179	1,023,518	985,533	970,178	949,081
Safford / Lone Star	161,246	99,910	88,718	98,252	138,629
Sierrita	235,800	233,127	389,041	352,222	408,617
Tyrone	163,945	154,103	100,009	106,392	80,071
<b>Total FMC Mining</b>	<b>3,834,801</b>	<b>3,349,818</b>	<b>2,774,994</b>	<b>2,705,132</b>	<b>2,541,913</b>
<b>Downstream Processing<sup>3</sup></b>					
Atlantic Copper Smelter & Refinery	93,065	81,987	86,276	69,958	95,748
Bayway Rod & Wire	788	768	764	773	-
Ft. Madison Moly Special Products	21,926	19,837	21,088	22,136	15,698
Kokkola Cobalt Refinery	22,111	22,350	21,840	22,513	6,675
Miami Smelter & Rod	185,073	175,124	235,059	204,128	207,312
Norwich Rod	5,497	5,380	5,449	4,907	-
Rotterdam <sup>4</sup>	-	-	-	-	-
Stowmarket	659	741	508	447	286
El Paso Refinery & Rod	37,141	35,112	18,843	13,078	18,293
<b>Total Downstream Processing</b>	<b>366,260</b>	<b>341,298</b>	<b>389,827</b>	<b>337,940</b>	<b>344,012</b>
<b>Total PT-FI (Grasberg)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Scope 2 Total - FCX Global</b>	<b>4,201,061</b>	<b>3,691,117</b>	<b>3,164,821</b>	<b>3,043,072</b>	<b>2,885,925</b>

1 2015-2017 Scope 2 emissions were calculated using a location-based method; 2018-2020 Scope 2 emissions were calculated using a market-based method with the exception of Bayway Rod & Wire, Norwich Rod, El Abra, Ft. Madison, Kokkola and Stowmarket which are calculated using location-based grid factors and amount to less than 9% of our total Scope 2 emissions.

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, Ft. Madison Moly Special Products, Kokkola Cobalt Refinery, Miami Smelter & Rod, Norwich Rod, Rotterdam, Stowmarket and El Paso Refinery & Rod. In 2020, our Bayway Rod & Wire and Norwich Rod facilities were closed and decommissioned and therefore data has not been included in the table for these entities for 2020.

4 At our Rotterdam operation we purchase renewable energy certificates for all electricity.

Note: GHG emissions data have been prepared in accordance with the WRI/WBCSD GHG Protocol. FCX reports carbon emissions on 100% operational basis per the WRI/WBCSD GHG Protocol. However, FCX reports certain financial information, such as consolidated revenue, net of Morenci's undivided joint venture partners' interest. FCX owns a 72% undivided interest in Morenci. FCX's GHG emissions verification statement is available in the About This Report section.

## GHG EMISSIONS

SCOPE 1 + 2 <sup>1</sup> (CO <sub>2</sub> e METRIC TONS)	2016	2017	2018	2019	2020
FMC Mining <sup>2</sup>	5,607,109	5,113,226	4,824,714	4,950,131	4,468,291
Downstream Processing <sup>3</sup>	612,102	585,688	649,481	606,300	612,589
PT-FI (Grasberg) <sup>4</sup>	2,775,114	2,257,149	2,651,587	2,212,265	2,034,939
<b>Scope 1 + 2 Total - FCX Global</b>	<b>8,994,325</b>	<b>7,956,062</b>	<b>8,125,782</b>	<b>7,768,696</b>	<b>7,115,819</b>

SCOPE 3 <sup>5</sup> (CO <sub>2</sub> e METRIC TONS)	2016	2017	2018	2019	2020
<b>Scope 3 Total - FCX Global</b>	<b>618,819</b>	<b>706,214</b>	<b>750,332</b>	<b>692,336</b>	<b>1,729,251</b>

- 1 2015-2017 Scope 2 emissions were calculated using a location-based method; 2018-2020 Scope 2 emissions were calculated using a market-based method with the exception of Bayway Rod & Wire, Norwich Rod, El Abra, Ft. Madison, Kokkola and Stowmarket which are calculated using location-based grid factors and amount to less than 9% of our total Scope 2 emissions.
- 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, Ft. Madison Moly Special Products, Kokkola Cobalt Refinery, Miami Smelter & Rod, Norwich Rod, Rotterdam, Stowmarket and El Paso Refinery & Rod. In 2020, our Bayway Rod & Wire and Norwich Rod facilities were closed and decommissioned and therefore data has not been included in the table for these entities for 2020.
- 4 During the 2020 GHG emissions verification process, an opportunity was identified to improve PT-FI Scope 1 emissions calculations by switching to actual heating value for coal. The calculations have been restated accordingly back to 2016.
- 5 In 2021, we expanded our Scope 3 emissions calculations to include additional categories in line with the WRI/WBCSD GHG Protocol. As a result, our 2020 Scope 3 emissions figures here are higher than the Scope 3 emissions reported in our 2020 Annual Report on Sustainability, with the figures in this report being the most current. Please refer to the Scope 3 section for more detail.

2030 GHG EMISSIONS INTENSITY REDUCTION TARGETS<sup>1</sup>

(CO <sub>2</sub> e METRICS TONS / METRIC TON CU)	2016	2017	2018	2019	2020
Freeport Americas Copper <sup>2</sup> Intensity Target for 2030	N/A	N/A	3.17	3.17	3.17
Freeport Americas Copper <sup>2</sup> Intensity	3.67	3.73	3.72	3.70	3.81
PT-FI (Grasberg) <sup>3</sup> Intensity Target for 2030	N/A	N/A	3.34	3.34	3.34
PT-FI (Grasberg) <sup>3</sup> Intensity	5.70	4.93	4.76	7.73	5.40

- 1 Intensity targets include total (Scope 1 and Scope 2) emissions and do not include by-products in the denominator. Baseline and target are calculated (total emissions / payable copper) and therefore may differ due to rounding error.
- 2 Freeport 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. The Freeport Americas Copper intensity target includes all payable copper forms up to cathode (which includes concentrate, anode, 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 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 for which PT-FI will 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 or 2, and we will adjust our target and baseline in line with the GHG Protocol at such time.

## ENERGY CONSUMPTION BY SITE

DIRECT ENERGY (TJ)	2016	2017	2018	2019	2020
<b>FMC Mining</b>					
Bagdad	1,673	1,667	1,873	2,031	2,077
Cerro Verde	5,784	6,123	7,193	7,946	7,093
Chino / Cobre	2,093	1,918	2,131	1,803	706
Climax	589	530	584	694	497
EL Abra	1,321	1,132	1,676	1,767	1,031
Henderson	355	305	319	324	325
Morenci	6,583	6,834	7,938	8,749	8,088
Safford / Lone Star	704	629	1,262	1,667	2,008
Sierrita	1,353	1,586	1,699	1,924	1,513
Tyrone	452	414	443	456	515
<b>Total FMC Mining</b>	<b>20,905</b>	<b>21,138</b>	<b>25,117</b>	<b>27,361</b>	<b>23,853</b>
<b>Downstream Processing</b>					
Atlantic Copper Smelter & Refinery	905	881	846	874	895
Bayway Rod and Wire	21	18	22	18	-
Ft. Madison Moly Special Products	325	332	276	325	339
Kokkola Cobalt Refinery	87	88	78	71	53
Miami Smelter & Rod	1,672	1,586	1,921	1,795	1,910
Norwich Rod	360	367	366	351	-
Rotterdam	117	143	137	164	163
Stowmarket	1	1	2	2	1
El Paso Refinery & Rod	1,101	1,112	1,197	1,408	1,694
<b>Total Downstream Processing</b>	<b>4,588</b>	<b>4,529</b>	<b>4,844</b>	<b>5,009</b>	<b>5,056</b>
<b>Total PT-FI (Grasberg)</b>	<b>32,841</b>	<b>27,132</b>	<b>31,357</b>	<b>26,066</b>	<b>24,217</b>
<b>Direct Energy Total - FCX Global</b>	<b>58,334</b>	<b>52,799</b>	<b>61,318</b>	<b>58,436</b>	<b>53,127</b>

Note: In 2020, our Bayway Rod & Wire and Norwich Rod facilities were closed and decommissioned and therefore data has not been included in the table for these entities for 2020.

## ENERGY CONSUMPTION BY SITE

INDIRECT ENERGY (TJ)	2016	2017	2018	2019	2020
<b>FMC Mining</b>					
Bagdad	2,011	2,017	2,072	2,080	2,088
Cerro Verde	12,253	12,179	12,731	12,868	11,005
Chino / Cobre	2,080	1,827	1,724	1,641	886
Climax	468	577	644	674	464
EL Abra	2,175	1,895	2,233	2,119	1,988
Henderson	611	619	689	771	726
Morenci	10,394	8,662	8,608	8,521	8,251
Safford / Lone Star	1,365	846	775	863	1,203
Sierrita	1,996	1,973	2,067	1,996	2,315
Tyrone	821	772	755	771	715
<b>Total FMC Mining</b>	<b>34,173</b>	<b>31,369</b>	<b>32,297</b>	<b>32,305</b>	<b>29,642</b>
<b>Downstream Processing</b>					
Atlantic Copper Smelter & Refinery	1,255	1,181	1,046	1,007	1,032
Bayway Rod and Wire	11	11	12	12	-
Ft. Madison Moly Special Products	173	157	155	163	145
Kokkola Cobalt Refinery	325	328	321	331	98
Miami Smelter & Rod	1,566	1,482	1,917	1,729	1,889
Norwich Rod	87	85	85	76	-
Rotterdam	55	60	64	61	46
Stowmarket	5	6	6	6	4
El Paso Refinery & Rod	279	264	278	191	269
<b>Total Downstream Processing</b>	<b>3,757</b>	<b>3,574</b>	<b>3,884</b>	<b>3,577</b>	<b>3,483</b>
<b>Total PT-FI (Grasberg)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Indirect Total - FCX Global</b>	<b>37,930</b>	<b>34,943</b>	<b>36,182</b>	<b>35,881</b>	<b>33,125</b>
<b>TOTAL ENERGY (TJ)</b>					
FMC Mining	55,078	52,507	57,414	59,666	53,495
Downstream Processing	8,345	8,103	8,729	8,586	8,540
PT-FI (Grasberg)	32,841	27,132	31,357	26,066	24,217
<b>FCX Global</b>	<b>96,264</b>	<b>87,741</b>	<b>97,500</b>	<b>94,317</b>	<b>86,252</b>

Note: In 2020, our Bayway Rod & Wire and Norwich Rod facilities were closed and decommissioned and therefore data has not been included in the table for these entities for 2020. Certain energy calculations have been restated back to 2016, including B20 biodiesel, and energy related to the divested Tenke Fungurume mine has been excluded.

## 2020 ENERGY CONSUMPTION BY TYPE

(TJ, EXCEPT PERCENTAGES)	DIRECT ENERGY			INDIRECT ENERGY			TOTAL ENERGY			% RENEWABLE
	RENEWABLE	NONRENEWABLE	TOTAL	RENEWABLE	NONRENEWABLE	TOTAL	RENEWABLE	NONRENEWABLE	TOTAL	
<b>FMC Mining</b>										
Bagdad	97	1,981	2,077	395	1,694	2,088	491	3,674	4,166	12%
Cerro Verde	351	6,742	7,093	6,779	4,226	11,005	7,131	10,968	18,099	39%
Chino / Cobre	0	706	706	16	870	886	16	1,576	1,592	1%
Climax	0	497	497	105	359	464	105	856	961	11%
El Abra	33	998	1,031	392	1,597	1,988	424	2,595	3,019	14%
Henderson	10	315	325	164	562	726	174	876	1,050	17%
Morenci	354	7,734	8,088	668	7,582	8,251	1,022	15,317	16,339	6%
Safford / Lone Star	0	2,008	2,008	95	1,108	1,203	95	3,115	3,210	3%
Sierrita	0	1,513	1,513	301	2,014	2,315	301	3,528	3,829	8%
Tyrone	0	515	515	11	704	715	11	1,219	1,230	1%
<b>Total FMC Mining</b>	<b>844</b>	<b>23,009</b>	<b>23,853</b>	<b>8,926</b>	<b>20,716</b>	<b>29,642</b>	<b>9,770</b>	<b>43,725</b>	<b>53,495</b>	<b>18%</b>
<b>Downstream Processing</b>										
Atlantic Copper Smelter & Refinery	0	895	895	144	888	1,032	144	1,783	1,927	8%
Ft. Madison Moly Special Products	0	339	339	57	88	145	57	428	485	12%
Kokkola Cobalt Refinery	0	53	53	37	61	98	37	115	151	24%
Miami Smelter & Rod	0	1,910	1,910	219	1,670	1,889	219	3,581	3,800	6%
Rotterdam	0	163	163	46	0	46	46	163	208	22%
Stowmarket	0	1	1	1	3	4	1	5	6	19%
El Paso Refinery & Rod	0	1,694	1,694	0	269	269	0	1,963	1,963	0%
<b>Total Downstream Processing</b>	<b>0</b>	<b>5,056</b>	<b>5,056</b>	<b>503</b>	<b>2,980</b>	<b>3,483</b>	<b>503</b>	<b>8,037</b>	<b>8,540</b>	<b>6%</b>
<b>Total PT-FI (Grasberg)</b>	<b>69</b>	<b>24,148</b>	<b>24,217</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>69</b>	<b>24,148</b>	<b>24,217</b>	<b>0%</b>
<b>Total - FCX Global</b>	<b>914</b>	<b>52,213</b>	<b>53,127</b>	<b>9,429</b>	<b>23,696</b>	<b>33,125</b>	<b>10,343</b>	<b>75,910</b>	<b>86,252</b>	<b>12%</b>

Note: In 2020, our Bayway Rod & Wire and Norwich Rod facilities were closed and decommissioned and therefore data has not been included in the table for these entities for 2020. In addition, certain energy calculations have been restated back to 2016, including B20 biodiesel, and energy related to the divested Tenke Fungurume mine has been excluded.

## 2020 INDIRECT ENERGY CONSUMED BY SOURCE

ENERGY BY SOURCE (%)	GEOTHERMAL	SOLAR	WIND	NUCLEAR	HYDRO	BIOMASS	OTHER FOSSIL	GAS	OIL	COAL / COKE	OTHER
<b>FMC Mining</b>											
Bagdad	3%	4%	2%	18%	10%	0%	0%	39%	0%	25%	0%
Cerro Verde	0%	2%	4%	0%	56%	1%	0%	38%	0%	0%	0%
Chino / Cobre	1%	1%	0%	3%	1%	0%	0%	92%	0%	4%	0%
Climax	0%	2%	18%	0%	3%	0%	0%	30%	0%	48%	0%
El Abra	0%	0%	2%	0%	18%	0%	2%	26%	5%	44%	4%
Henderson	0%	2%	18%	0%	3%	0%	0%	30%	0%	48%	0%
Morenci	2%	3%	1%	11%	2%	0%	0%	65%	0%	16%	0%
Safford / Lone Star	2%	3%	1%	11%	2%	0%	0%	65%	0%	16%	0%
Sierrita	0%	7%	6%	0%	0%	0%	0%	30%	0%	55%	2%
Tyrone	0%	1%	0%	2%	0%	0%	0%	93%	0%	3%	0%
<b>Downstream Processing</b>											
Atlantic Copper Smelter & Refinery	0%	1%	9%	36%	4%	0%	12%	28%	3%	3%	4%
Ft. Madison Moly Special Products	0%	0%	37%	9%	2%	1%	0%	5%	1%	46%	0%
Kokkola Cobalt Refinery	0%	5%	19%	21%	14%	1%	0%	17%	5%	16%	2%
Miami Smelter & Rod	0%	5%	1%	28%	6%	0%	0%	33%	0%	28%	0%
Rotterdam <sup>1</sup>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Stowmarket	5%	5%	5%	21%	5%	5%	1%	42%	1%	9%	1%
El Paso Refinery & Rod	0%	0%	0%	0%	0%	0%	0%	99%	1%	0%	0%
<b>PT-FI (Grasberg)</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>

<sup>1</sup> At our Rotterdam operation we purchase renewable energy certificates for all electricity.

Note: In 2020, our Bayway Rod & Wire and Norwich Rod facilities were closed and decommissioned and therefore data has not been included in the table for these entities for 2020.

## 2020 DIRECT ENERGY CONSUMED BY SOURCE

ENERGY BY SOURCE (TJ)	COAL / COKE	DIESEL	B5 BIODIESEL	B20 BIODIESEL	B30 BIODIESEL	GASOLINE	NATURAL GAS	PROPANE / LPG	AVIATION FUEL	USED OIL	OTHER
<b>FMC Mining</b>											
Bagdad	0.0	0.0	1,936.1	0.0	0.0	31.0	109.2	1.0	0.0	0.0	0.0
Cerro Verde	0.0	32.3	7,026.2	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0
Chino / Cobre	0.0	534.1	0.0	0.0	0.0	20.9	147.4	3.6	0.0	0.0	0.0
Climax	0.0	295.2	0.0	0.0	0.0	9.2	191.7	1.0	0.0	0.0	0.0
El Abra <sup>1</sup>	0.0	988.3	0.0	0.0	0.0	4.8	0.0	5.0	0.0	0.0	33.0
Henderson	0.0	12.6	0.0	0.0	33.0	4.1	272.9	1.9	0.0	0.0	0.0
Morenci	0.0	190.5	7,077.9	0.0	0.0	137.6	680.5	1.5	0.0	0.0	0.0
Safford / Lone Star	0.0	1,917.9	0.0	0.0	0.0	51.3	0.0	38.6	0.0	0.0	0.0
Sierrita	0.0	1,330.6	0.0	0.0	0.0	33.8	143.6	5.4	0.0	0.0	0.0
Tyrone	0.0	475.4	0.0	0.0	0.0	15.3	22.2	2.2	0.0	0.0	0.0
<b>Total FMC Mining</b>	<b>0.0</b>	<b>5,776.9</b>	<b>16,040.2</b>	<b>0.0</b>	<b>33.0</b>	<b>342.7</b>	<b>1,567.5</b>	<b>60.3</b>	<b>0.0</b>	<b>0.0</b>	<b>33.0</b>
<b>Downstream Processing</b>											
Atlantic Copper Smelter & Refinery	79.9	192.9	0.0	0.0	0.0	0.0	622.0	0.0	0.0	0.0	0.0
Ft. Madison Moly Special Products	0.0	0.2	0.0	0.0	0.0	0.1	337.7	1.5	0.0	0.0	0.0
Kokkola Cobalt Refinery	0.0	0.5	0.0	0.0	0.0	0.0	0.0	52.9	0.0	0.0	0.0
Miami Smelter & Rod	0.0	58.0	0.0	0.0	0.0	12.6	1,837.5	2.4	0.0	0.0	0.0
Rotterdam	0.0	0.7	0.0	0.0	0.0	0.0	162.1	0.0	0.0	0.0	0.0
Stowmarket	0.0	0.7	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
El Paso Refinery & Rod	0.0	3.5	0.0	0.0	0.0	0.4	1,681.7	8.8	0.0	0.0	0.0
<b>Total Downstream Processing</b>	<b>79.9</b>	<b>256.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>13.1</b>	<b>4,641.6</b>	<b>65.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Total PT-FI (Grasberg)</b>	<b>16,495.6</b>	<b>7,089.8</b>	<b>0.0</b>	<b>22.5</b>	<b>215.6</b>	<b>23.9</b>	<b>0.0</b>	<b>0.0</b>	<b>208.0</b>	<b>162.0</b>	<b>0.0</b>
<b>Total - FCX Global</b>	<b>16,575.4</b>	<b>13,123.1</b>	<b>16,040.2</b>	<b>22.5</b>	<b>248.6</b>	<b>379.7</b>	<b>6,209.2</b>	<b>125.8</b>	<b>208.0</b>	<b>162.0</b>	<b>33.0</b>

<sup>1</sup> 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 2020, our Bayway Rod & Wire and Norwich Rod facilities were closed and decommissioned and therefore data has not been included in the table for these entities for 2020.

## 2020 TOTAL ENERGY USE BY TYPE

(PJ, EXCEPT PERCENTAGES)	FMC MINING <sup>1</sup>		DOWNSTREAM PROCESSING <sup>2</sup>		PT-FI (Grasberg) <sup>3</sup>		FCX GLOBAL	
	Energy Consumed	Percent of Total	Energy Consumed	Percent of Total	Energy Consumed	Percent of Total	Energy Consumed	Percent of Total
Scope 1								
Liquid Hydrocarbons	22.0	41.5%	0.3	3.2%	7.7	31.9%	30.2	35.0%
Coal	0.0	0.0%	0.0	0.0%	16.5	68.1%	16.5	19.1%
Gaseous Hydrocarbons	1.6	3.0%	4.7	55.1%	0.0	0.0%	6.3	7.3%
Other <sup>4</sup>	0.0	0.0%	0.1	0.9%	0.0	0.0%	0.1	0.1%
Scope 2 <sup>5</sup>								
Purchased electricity	29.6	55.4%	3.5	40.8%	0.0	0.0%	33.1	38.4%
<b>Total Energy Use</b>	<b>53.5</b>	<b>100%</b>	<b>8.5</b>	<b>100%</b>	<b>24.2</b>	<b>100%</b>	<b>86.2</b>	<b>100%</b>

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

2 Downstream Processing includes Atlantic Copper Smelter & Refinery, Bayway Rod & Wire, Ft. Madison Moly Special Products, Kakkola Cobalt Refinery, Miami Smelter & Rod, Norwich Rod, Rotterdam, Stowmarket and El Paso Refinery & Rod. In 2020, our Bayway Rod & Wire and Norwich Rod facilities were closed and decommissioned and therefore data has not been included in the table for these entities for 2020.

3 During the 2020 GHG emissions verification process, an opportunity was identified to improve PT-FI Scope 1 emissions calculations by switching to actual heating value for coal. The calculations have been restated accordingly back to 2016.

4 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. Energy associated with the regenerative conveyor belt does not represent additive Scope 1 or 2 consumption and therefore is not included here or on page 89 of our 2020 Annual Report on Sustainability.

5 2015-2017 Scope 2 emissions were calculated using a location-based method; 2018-2020 Scope 2 emissions were calculated using a market-based method with the exception of Bayway Rod & Wire, Norwich Rod, El Abra, Ft. Madison, Kakkola and Stowmarket which are calculated using location-based grid factors and amount to less than 9% of our total Scope 2 emissions.

Note: GHG emissions data have been prepared in accordance with the WRI/WBCSD GHG Protocol. FCX reports carbon emissions on 100% operational basis per the WRI/WBCSD GHG Protocol. However, FCX reports certain financial information, such as consolidated revenue, net of Morenci's undivided joint venture partners' interest. FCX owns a 72% undivided interest in Morenci. FCX's GHG emissions verification statement is available in the About This Report section.

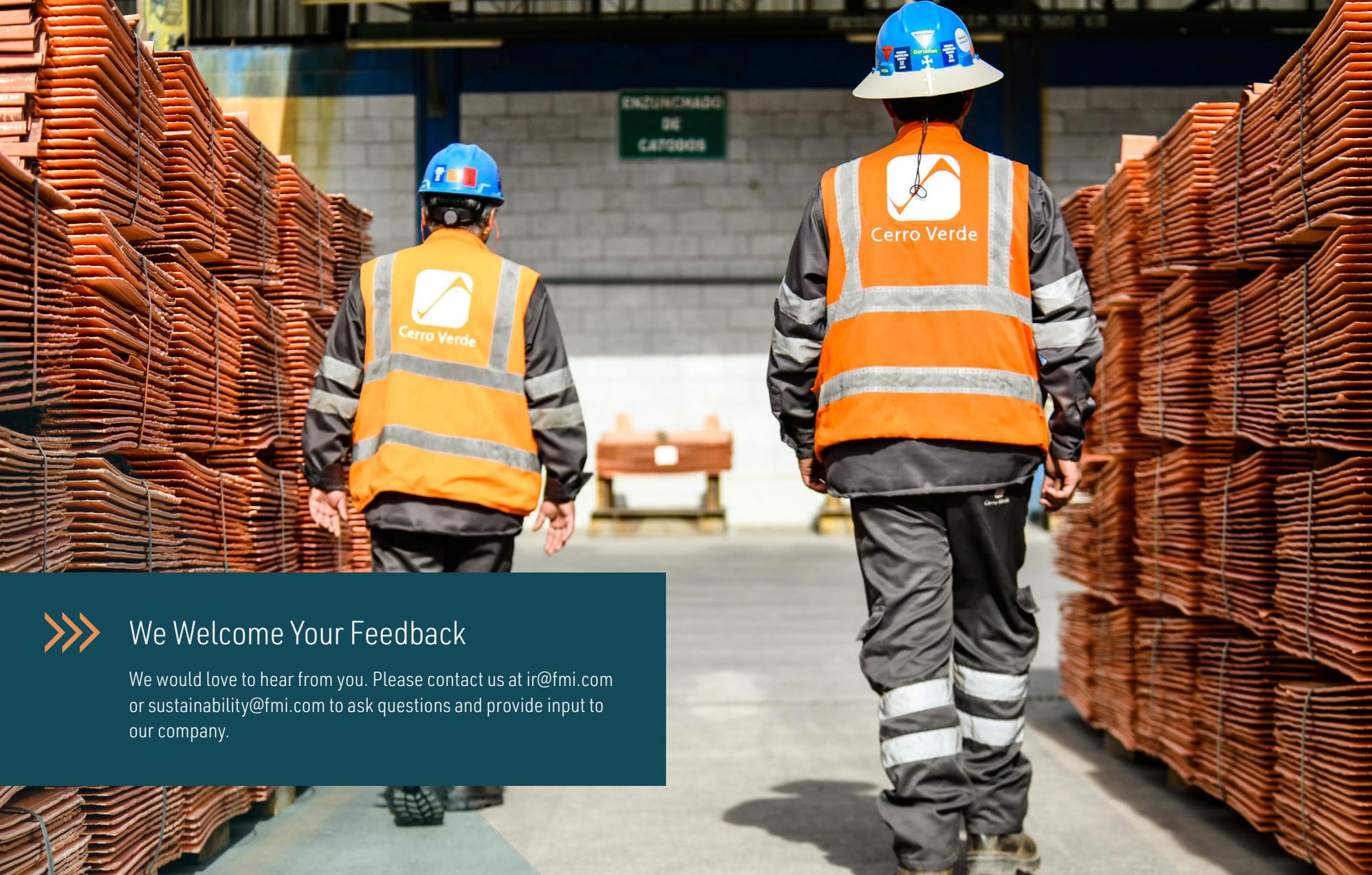


## TCFD Reference Table

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. The TCFD's recommendations are structured around four thematic areas: governance, strategy, risk management, and metrics and targets.

Freeport is committed to aligning our climate-related disclosures with the current recommendations of the TCFD. While we are not yet in full alignment with the current TCFD recommendations (2017 version), we continued to make progress over the last year. We provide the TCFD index table on the following page as a reference to the reader on our current progress as well as where additional information can be found for each TCFD recommendation.

TCFD THEMES	RECOMMENDATION	ALIGNMENT	REFERENCES
<b>GOVERNANCE:</b> Disclose the organizations governance around climate-related risks and opportunities	(a) Describe the board's oversight of climate-related risks and opportunities	Aligned	(1) 2021 Proxy Statement: Sustainability (2) 2020 Climate Report: Governance (3) 2020 Annual Report on Sustainability: Our Approach (4) Charter of the Corporate Responsibility Committee of the Board of Directors
	(b) Describe management's role in assessing and managing climate-related risks and opportunities	Aligned	(1) 2021 Proxy Statement: Sustainability (2) 2020 Climate Report: Governance (3) 2020 Annual Report on Sustainability: Our Approach (4) 2020 Annual Report on Sustainability: Climate
<b>STRATEGY:</b> Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material	(a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	Aligned	(1) 2020 Climate Report: Resilience
	(b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning	Partially Aligned	(1) 2020 Climate Report: Resilience (2) 2020 Climate Report: Risk Management, Internal Cost of Carbon
	(c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	Partially Aligned	(1) 2020 Climate Report: Resilience (2) 2020 Climate Report: Looking Ahead
<b>RISK MANAGEMENT:</b> Disclose how the organization identifies, assesses, and manages climate-related risks	(a) Describe the organization's processes for identifying and assessing climate-related risks	Aligned	(1) 2020 Climate Report: Governance (2) 2020 Climate Report: Resilience (3) 2021 Proxy Statement: Sustainability (4) Sustainability > Our Approach > Defining Responsible Production > The Risk Register on fcx.com
	(b) Describe the organization's processes for managing climate-related risks	Aligned	(1) 2020 Climate Report: Governance (2) 2020 Climate Report: Resilience (3) 2021 Proxy Statement: Sustainability (4) Sustainability > Our Approach > Defining Responsible Production > The Risk Register on fcx.com
	(c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	Aligned	(1) 2020 Climate Report: Governance (2) 2021 Proxy Statement: Sustainability (3) Sustainability > Our Approach > Defining Responsible Production > The Risk Register on fcx.com
<b>METRICS &amp; TARGETS:</b> 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	Partially Aligned	(1) 2020 Climate Report: Performance (2) 2020 Climate Report: Looking Ahead (3) Sustainability > Environment > Tailings Stewardship on fcx.com (4) 2020 Annual Report on Sustainability: Water Stewardship (5) 2020 Annual Report on Sustainability: Communities
	(b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks	Aligned	(1) 2020 Climate Report: Performance (2) 2020 Climate Report: Looking Ahead
	(c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	Aligned	(1) 2020 Climate Report: Performance (2) 2020 Climate Report: Looking Ahead



## We Welcome Your Feedback

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



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