

## OUR APPROACH

The nature of our business impacts the environment and communities surrounding our operations. We mitigate impacts to the extent practicable through advanced control and remediation measures. We develop infrastructure, support health, safety and education efforts, and provide local employment and business development opportunities. The products we produce are critical for sustainability and higher standards of living.

### SUSTAINABILITY AND OUR BUSINESS

We have noted the continuous improvement and increasing maturity in our sustainability-focused, global risk management processes, particularly over the last eight years of third-party assurance. While we will continue to implement the ICMM Sustainable Development Framework, we are focusing our sustainability efforts on two key areas that provide a solid foundation for achieving our long-term business objectives.

First, we must maintain acceptance to operate through shared value at the local level in order to reinvest in our existing properties, plus new ventures, thereby increasing the production of metals needed for a healthy and prosperous world.

We also understand that our sustainability performance is critical to meeting society's, including our customers', responsible sourcing objectives so that we can place our products into the global marketplace today and into the future.

We will maintain our efforts to continuously improve all elements of our sustainability performance and are eager to engage with stakeholders on this continued journey.

To supply essential metals to current and future generations, we are guided by our stated business objectives, principles and policies, and we work continuously to improve our sustainable development programs. Throughout this report, we discuss the daily progress our workforce is making on key issues, including those emerging, which affect our company and our stakeholders.

### PRINCIPLES OF BUSINESS CONDUCT

In February 2017, we launched the new Principles of Business Conduct (PBC) that highlights our core values of Safety, Respect, Integrity, Excellence and Commitment, and helps guide how we do business, from top-level management to entry-level employees. The PBC sets forth a variety of business situations, from promoting a safe workplace to complying with laws and avoiding conflicts of interests to developing positive relationships with local communities. Freeport-McMoRan and its affiliates have established multiple mechanisms for employees and others to report concerns regarding potential violations of the PBC. One of the primary mechanisms is the Freeport-McMoRan Compliance Line, a phone system managed by an independent third party that allows for anonymous reporting. In addition, the company offers a similar web-based reporting system, also operated by a third party, along with an option for direct email to our Compliance Department. These accessible channels complement our long-established community and human rights grievance systems. By providing multiple reporting mechanisms, including anonymous communications, workforce members are encouraged to Speak Up if something violates or, could possibly violate, the PBC.

The Freeport-McMoRan Supplier Code of Conduct sets forth our expectations for our supply chain partners in areas such as safety, respect for human rights, anti-corruption, community and environment. Our policies, along with external standards and initiatives, form the overall framework that guides our sustainability programs. Supporting this framework are internal governance and management systems that detail how we operate.

## GOVERNANCE

The Freeport-McMoRan Board of Directors (board) as a whole is responsible for risk oversight, with reviews of certain areas being conducted by the relevant board committees that regularly report to the full board. 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.

The board believes that full and open communication between senior management and the board is essential to effective risk oversight. Our non-executive chairman regularly meets with and discusses with our chief executive officer a variety of matters including business strategies, opportunities, key challenges and risks facing the company, as well as management's risk mitigation strategies. Senior management attends regularly scheduled board meetings where they conduct presentations on various strategic matters involving our operations and are available to address any questions or concerns raised by the board on risk management-related or any other matters. The board oversees the strategic direction of the company, and in doing so, considers the potential rewards and risks of our business opportunities and challenges, and monitors the development and management of risks that impact our strategic goals.

The board has five standing committees: Audit, Compensation, Nominating and Corporate Governance, Corporate Responsibility and Executive, each of which is composed entirely of independent directors. The Corporate Responsibility Committee assists the board in fulfilling its oversight responsibilities, including with respect to the company's 1) environmental policy and implementation programs; 2) human rights policy and practices; 3) safety and health policies and programs; 4) community health programs and related public health matters; and 5) community policy and practices, governmental and stakeholder relations, and social investment and sustainable development programs.

During 2016, the Corporate Responsibility Committee received various reports and considered numerous items with a particular focus on safety, which included reviewing the root causes of fatal accidents, corrective actions implemented to prevent accidents in the future, and improvement in our safety procedures and practices. In addition, the Corporate Responsibility Committee reviewed community medical and public health services including our malaria and other disease prevention programs in Indonesia



*Bill Cobb, Vice President-Environmental Services and Sustainable Development works with Cerro Verde and El Abra sustainability professionals at a workshop in Arequipa, Peru.*

and the DRC, our global social expenditures, community engagement efforts, political activity and spending practices, the safety reporting process at our operations, our risk management and sustainability programs, our human rights program, our product stewardship program, and our tailings stewardship program. The Corporate Responsibility Committee reports to our board, which provides oversight on all matters.

## SUSTAINABLE DEVELOPMENT LEADERSHIP TEAM

The company's Sustainable Development Leadership Team considers both imminent matters and emerging trends while providing strategic guidance for our programs. The team is sponsored by our Executive Vice President and Chief Administrative Officer, and is led by our Vice President of Environmental Services and Sustainable Development. Our Chief Operating Officer, business unit presidents, as well as Vice President-level or senior staff from the safety, supply chain, security, human resources, sales, legal/compliance, and land and water functions comprise the team.

During 2016, the team reviewed and addressed key issues and projects including:

- Emerging global regulations and business-to-business initiatives related to product stewardship, including market access and sustainability performance in the value chain
- Roll-out plan and training program for our updated Principles of Business Conduct: "Strength in Values"
- Work plans for future Human Rights Impact Assessments, including at Cerro Verde in 2017
- New ICMM position statements on Water Stewardship and the Prevention of Catastrophic Failure of Tailings Storage Facilities



- Current and future contributions from operations to the UN Sustainable Development Goals
- Key observations related to independent assurance of our sustainability programs, including implementation of the ICMM Sustainable Development Framework
- Product control and custody procedures at TFM in the DRC
- Results of engagements with the socially responsible investment community and other financial stakeholders
- Company practice of reporting government payments, including country-level participation in the Extractive Industries Transparency Initiative (EITI)
- Key themes and disclosures in our WTSD reporting

## STAKEHOLDER ENGAGEMENT

Project life-cycles can span decades in the mining sector and our company maintains large, long-lived assets with significant proven and probable metal reserves. That is why early, ongoing and transparent engagement with stakeholders is critical. Doing so in a genuine and consistent manner creates mutually beneficial opportunities while reducing sustainability-related risks to our business plans. We seek strategic partnerships with host governments, communities and development partners to ensure the viability of our projects while making a positive contribution to sustainable development, including post-closure.

We formally engage with community stakeholders across our portfolio, development institutions and NGOs. Annually, hundreds of entities are engaged via community foundations, formal grievance systems, community liaison officer interactions, workshops, participatory group panels, town hall meetings and surveys. Engagement also occurs through regulatory consultation processes with local governments and community groups, including indigenous peoples. Mining operations maintain five-year community engagement and development plans that specify affected or interested parties for ongoing engagement and consultation. Issues raised help inform each operation's sustainable development risk register and assist in developing social investment and capacity-building strategies.

Freeport-McMoRan's corporate Sustainable Development Department and senior personnel regularly work with



*Chino copper cathode is loaded onto a truck headed for Freeport-McMoRan's rod mill in El Paso, Texas. To learn more about the societal benefits of copper, from renewable energy to public health, visit [www.copperalliance.org](http://www.copperalliance.org).*

asset owners and managers, banking institutions, multi-stakeholder initiatives and NGOs to understand issues of concern or interest and where we may have influence to advance sustainability objectives. In 2016, our corporate team engaged with over 60 of these organizations on topics including fatality prevention, human rights, environmental management, revenue transparency, water resources and community development projects.

## PRODUCT STEWARDSHIP

Environmental and social performance of mining operations, as well as of the metals we produce, continues to be of interest to many stakeholders within the value chain, from customers to regulators. We view this trend as an opportunity to engage on the vital importance of our products for social progress as well as on our programs that guide responsible operating practices.

Maintaining market access for our products allows us to remain a viable business entity. Members of our Product Stewardship team engage both downstream customers and international governmental agencies on operational and product-specific sustainability issues. We believe that proactive engagement on product stewardship matters can help reduce sustainability-related risks and ultimately enable us to continue to deliver positive contributions to society.

Our Product Stewardship team is led by our Vice President of Environmental Services and Sustainable Development and is coordinated with our global product sales and legal teams with support from multiple technical experts.



*Members of the Tailings Stewardship Team (TST) inspect the Bagdad tailings dam as part of an annual audit. The TST is a multi-disciplinary group of internal and external experts that evaluate the design, operation and maintenance of tailings storage facilities. The company operates 18 active and 52 inactive or closed tailings dams.*

During 2016, the team addressed issues including:

- Business to business due diligence efforts related to sustainability policies, programs and performance of our operations
- Input into development of draft Organisation for Economic Co-operation and Development (OECD) Minerals Risk Handbook
- European Union and European Commission proposals regarding responsible sourcing objectives for minerals
- Pending and final regulations related to chemicals management in the value chain
- Analysis and input regarding globally emerging regulations, or policies from international governmental agencies for product labeling requirements
- Tracking and interfacing on the product stewardship work of trade associations, including the International Copper Association, ICMM, Cobalt Development Institute and International Molybdenum Association
- Emerging nongovernmental sustainability certification, benchmarking and reporting initiatives

## AUDITS AND ASSESSMENTS

To ensure implementation of our policy commitments and objectives, we utilize a combination of audit and assessment programs along with an annual program for site-level independent assurance of our sustainability framework that encompasses commitments of the ICMM Sustainable Development Framework. The health and safety management systems and environmental management systems of our operations obtain independent certification to Occupational Health and Safety Assessment Series (OHSAS) 18001 and International Organization for Standardization (ISO) 14001, respectively. These systems include corrective and preventive action tracking for internal and external audit findings. Our Tailings Stewardship Program includes inspections and reviews all active and inactive tailings storage facilities. Engineers of Record also inspect our operating TSFs on a quarterly basis. In addition to our own audit programs, customers and financial institutions periodically request to conduct sustainability-focused audits or assessments at certain facilities. Our operations are also routinely inspected by regulatory agencies of host governments.

## SUSTAINABLE DEVELOPMENT RISK REGISTER

The Freeport-McMoRan Sustainable Development framework is implemented based on operation-specific factors and influences, including regional context, type of operation and social setting. Essential to this framework is the Sustainable Development Risk Register process, which prioritizes risks that could have the potential for negative consequences to our business and our stakeholders as it relates to areas including health and safety, respect for human rights, the environment, and community stability and economic impacts. The Sustainable Development Department and senior corporate multi-disciplinary personnel coordinate with operations to ensure prioritization processes are consistent with corporate procedures and provide guidance to ensure alignment of priorities and mitigation plans.

Sustainability focus areas identified through this process at the global level are reviewed annually by our Sustainable Development Leadership Team and communicated to members of the board. The current focus areas are described on the following pages and throughout this report.





## SUSTAINABILITY FOCUS AREAS



*We continue to deploy DreamBuilder: The Women's Business Creator; a free, online entrepreneurial training program designed to assist women of all education levels. Graduate Patricia Quezada participates in an enterprise fair organized by the municipality of Calama, Chile.*

### BIODIVERSITY

We own, lease and operate large land holdings, some of which are in and adjacent to areas of high biodiversity value. Our operations are managed to identify potential impacts and, where practicable, implement actions that conserve and enhance biodiversity, including during reclamation activities. (p. 32)

### COMMUNITY ENGAGEMENT AND DEVELOPMENT

Our social and economic development programs are designed to be responsive to issues raised by communities, including vulnerable groups and indigenous peoples, and help us maintain good relations and avoid disruptions of operations. Nevertheless, social and political instability in the areas of our operations may adversely impact our operations. (p. 21)

### CORRUPTION

As a U.S.-based mining company with substantial assets located outside of the U.S., our business may be adversely affected by issues related to corruption. Any violation of the U.S. Foreign Corrupt Practices Act and similar anti-corruption laws of jurisdictions in which we operate could result in significant criminal or civil fines and penalties, litigation, and loss of operating licenses or permits. We maintain a rigid anti-corruption training and reporting program. (p. 17)

### ENERGY MANAGEMENT

Carbon-based energy is a significant input to our operations and increased regulation of greenhouse gas emissions may directly or indirectly increase our costs. In 2016, approximately 63 percent of our purchased power was from low carbon sources, including natural gas and renewable energy. We have modeled multiple carbon tax scenarios to understand the range of potential increases to our operating costs. (p. 26)

### HUMAN RIGHTS

We are integrating the UN Guiding Principles on Business and Human Rights into our business systems to continue to improve management of potential human rights risks. Our operations may be adversely affected by impacts from security risks stemming from events or activities including political instability, labor strikes and civil strife. The Voluntary Principles on Security and Human Rights also serve as guidelines for our security and human rights programs. (p. 19)



## LABOR RELATIONS

Forty-seven percent of our global labor force was covered by collective labor agreements as of December 31, 2016. We engage openly with our employees and union leadership to successfully negotiate and uphold labor agreements recognizing that prolonged strikes or other work stoppages at our operations can adversely affect our business, our workforce and regional stakeholders. (p. 14)

## PRODUCT STEWARDSHIP

Our product stewardship team engages downstream customers and international governmental agencies on operation and product-specific sustainability issues. We believe that proactive engagement on product stewardship issues can help reduce risks associated with market access while enabling continued delivery of positive contributions to society. (p. 8)

## SAFETY AND HEALTH

The safety of our global workforce is our highest priority. During 2016, we sadly incurred six fatalities and fell short of our Total Recordable Incident Rate (TRIR) target. Through implementation of our Fatality Prevention program, we aim to completely eliminate fatalities by identifying and implementing critical controls and delivering technical training and communications throughout the workforce. (p. 15)

## TAILINGS

Managing the volume of tailings, waste rock and leach material produced in our mining operations presents significant environmental, safety and engineering challenges and risks. We maintain large leach pads and tailings impoundments containing viscous material that must be engineered, constructed and monitored to assure structural stability and avoid leakages. Through our Tailings Stewardship Program we implement control systems, which include independent expert input and review to address these risks. (p. 29)

## WATER SUPPLY AND MANAGEMENT

We recognize the importance of responsibly managing water resources at mining operations in both arid and wet regions. While all of our mining operations require secure and reliable quantities of water for mining and ore processing, most of our operations are located in arid regions of North America and South America. We maintain programs to promote efficient use of water and are advancing alternative water supply projects with external stakeholders. (p. 28)



*Tom Butler, ICMM CEO (fifth from left), joins Freeport-McMoRan's Red Conger along with other Freeport-McMoRan and Cerro Verde team members on a tour of company-funded water infrastructure projects in Arequipa, Peru.*



PERFORMANCE TARGETS	2016 STATUS	2016 PERFORMANCE DESCRIPTION	TARGET DATE
<b>BUSINESS ETHICS</b>			
With our online training module, annually train 90% of targeted employees who interact with, or have the potential to interact with, government officials on anti-corruption laws, regulations and company policies and procedures	√	We conduct comprehensive training on our Principles of Business Conduct for all employees. Management-level employees receive annual certification and approximately 97% were trained in 2016.	Annually Recurring
<b>WORKFORCE</b>			
Increase the percentage of women in our workforce, including representation in managerial positions, to 15%	X	Women comprise 10% of our employee population and hold 10% of all managerial positions, which is relatively unchanged from recent years.	Ongoing
<b>SAFETY &amp; HEALTH</b>			
Incur zero fatalities <sup>a</sup>	X	Sadly, we incurred six work-related fatalities at our mining operations in 2016.	Annually Recurring
Meet company-wide total recordable incident rate (TRIR) <sup>a</sup> of 0.56	X	Our TRIR <sup>a</sup> was 0.64 for 2016.	Annually Recurring
<b>HUMAN RIGHTS</b>			
Incur zero gross <sup>b</sup> human rights violations at our operations caused by employees and contractors	√	We did not incur any gross human rights violations at our operations caused by employees or contractors.	Annually Recurring
<b>COMMUNITIES</b>			
Invest (in aggregate) 1% of the average of the previous three years annual mining operations revenue, as reported in Freeport-McMoRan's audited consolidated financial statements, in community programs, including in-kind support and administration (2016 target of \$165 million)	X	Approximately \$142 million was invested in community programs across our operations (86% of our target).	Annually Recurring
<b>ENVIRONMENT</b>			
Incur zero significant environmental events (rating of three or higher on Sustainable Development Risk Register)	√	We did not incur any significant environmental events. We did have 23 spills or releases that were reportable to national agencies based on applicable regulations.	Annually Recurring
Incur zero penalties more than \$100,000	√	Our operations did not incur any penalties exceeding \$100,000.	Annually Recurring

a. Includes oil and gas assets.

b. There is no uniform definition of gross human rights violations under international law; however, the United Nations Office of the High Commissioner report: The Corporate Responsibility to Respect Human Rights – An Interpretive Guide, provides guidance on identifying such types of violations.



# WORKFORCE

Successfully recruiting, developing and retaining talented employees from diverse backgrounds is key to achieving our business objectives. We offer rewarding careers as part of a team that, every day and everywhere, embraces our core values of Safety, Respect, Integrity, Excellence and Commitment.



*Richard Adkerson, Vice Chairman of the Board, President and Chief Executive Officer (second from left) and senior management members join employees from across the company's global operations on an interactive video conference.*

## LOCAL HIRING AND SKILLS DEVELOPMENT

Hiring talent from regions where we operate incorporates local cultures and knowledge into our business systems while supporting local economic development. For example, at our largest operation, PTFI, located in the remote province of Papua, Indonesia, we prioritize the hiring of indigenous Papuans. Approximately 99 percent of PTFI employees are Indonesian, 36 percent of whom are indigenous Papuans (up from 32 percent five years prior).



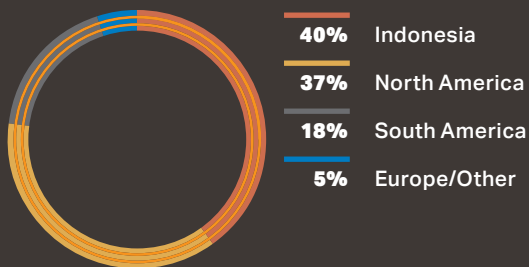
*The San Carlos Training Institute continues to develop skilled workers in Arizona by providing reservation-based technical training to enhance the employability of Apache students. Forty-two graduates are now employed with the company.*

Our regional technical training programs prepare community members for careers in mining, even though trainees have no obligation to join our company. The Nemangkawi Mining Institute in Papua, Indonesia has placed nearly 2,700 apprentices into permanent employee and contractor positions at PTFI, 90 percent of whom are indigenous Papuans. As PTFI prepares to transition from open-pit mining to fully underground mining, Nemangkawi is retraining the surface mine workforce for new opportunities, including reclamation projects.

Our training partnership program with the San Carlos Apache Tribe in Arizona is designed to increase the skills and employability of Apache students who generally live in communities with high unemployment rates. Students can become certified in skills ranging from heavy equipment operations to industrial maintenance. Through 2016, over 870 students have entered the program and approximately 50 percent have graduated. Many graduates have found employment at Freeport-McMoRan as well as with companies in other sectors. We proudly employ over 300 Native Americans, an increase of over 50 percent from five years prior.

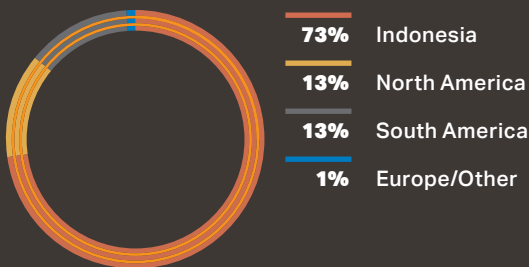
## EMPLOYEES

Approximately 30,000



## CONTRACTORS

Approximately 29,100



At year-end 2016

Workforce data includes oil and gas assets





*We seek ways to recruit and foster career development for women in our company. Technician Su Yin Chang Ardiles works within the electrowinning operation at El Abra.*

## DIVERSITY

We operate in regions of varying ethnic, religious and cultural backgrounds and are generally the largest employer in local communities. The diverse backgrounds and perspectives within our workforce are an asset. We prohibit discrimination and harassment, and our Principles of Business Conduct and Human Rights Policy require that all employees treat everyone in and around our operations with dignity and respect.

Seeking ways to recruit and foster career development for women in our company continues to be important, as women traditionally have been underrepresented in the mining sector. Women serve in key management roles within our organization, including our Chief Financial Officer and two members of our Board of Directors while an additional 300 women hold manager-level or higher positions. The percentage of women represented in our company varies across geographies, from a high of 17 percent in North America to a low of five percent in Indonesia.

Freeport-McMoRan defines discrimination as an act or practice of treating a person differently than others, causing a negative impact, based on that person belonging to a class or category rather than treating the person fairly on the basis of individual merit. Discrimination can take a number of forms and can be based on various categories, such as disability, use of genetic information, age, race, ethnicity, religion and gender. In 2016, of the reports

made through the Freeport-McMoRan Compliance Line, 29 included allegations of some form of discriminatory or harassing conduct. Two of these reports included allegations that were substantiated, and disciplinary and remedial actions were taken.

## LABOR RELATIONS

As of December 31, 2016, our workforce consisted of approximately 30,000 employees and 29,100 contractors. We work cooperatively with 12 unions in seven locations worldwide. Approximately 47 percent of our employee population is covered by collective bargaining agreements and 34 percent of our employees are covered by agreements that will be renegotiated during 2017, including the collective labor agreement at PTFI. During 2016, we reached a new four-year Collective Bargaining Agreement at our El Abra operation in Chile. Our policy is to ensure fair treatment and work conditions for all employees, including rights to freedom of association and collective bargaining. Employees have the right to exercise freedom of association at all of our operations.

Due to market conditions, we revised our production plans to adjust for the lower commodity prices beginning in 2015. These revisions continued into 2016, with layoffs affecting both our mining and oil and gas operations in North America. We adopted a multi-stage process for determining layoffs at our mining operations, including these elements:

- Eligible employees were offered the opportunity to participate in early retirement programs
- Employees at specific operations were offered a voluntary resignation package
- Employees were encouraged to transfer to other locations to fill openings they were qualified to perform, and special relocation assistance was provided in these situations
- Employees who were laid off were offered severance packages and outplacement services including career coaching and resume-writing assistance

## PERCENTAGE OF EMPLOYEES UNDER COLLECTIVE BARGAINING AGREEMENTS

By Operating Region

Indonesia	Europe/Other	South America	North America	Company-wide
78%	66%	67%	0%	47%

At year-end 2016

# SAFETY AND HEALTH

Safety is integral to all Freeport-McMoRan operations; the responsibility of every employee is managed by a formal structure starting with our Health and Safety Policy. Our philosophy of Safe Production is demonstrated by the integration of health and safety practices in all aspects of our operational activities. Our Board of Directors requires comprehensive audits to assure the safety management system is effective and resources are applied to achieve the company's policy objectives.

Our Health and Safety Management System is a framework from which we manage risks and compliance obligations. As of November 2016, the system is certified at the corporate-level in accordance with the internationally recognized OHSAS 18001 standard. The process for attaining our corporate group certification in 2016 included internal audits at 17 operations with six operations receiving independent, third-party audits. Surveillance audits will continue to be conducted annually by the internal audit team and independent audits will be conducted at select operations on a rotating basis.

No distinction is drawn between contractors and our own employees with regard to health and safety performance and reporting. The Freeport-McMoRan Contractor Safety Manual defines the minimum expectations and requirements for contractors working at our operations. Site-specific health and safety training is conducted with each contractor and tailored to their work location, task-specific hazard identification and critical control implementation.

We measure progress toward achieving our objective against regularly established benchmarks, including measuring company-wide TRIR across our businesses. Our TRIR (including contractors) was 0.64 per 200,000 man-hours worked in 2016, exceeding (missing) our target of 0.56. We worked 153.1 million hours in 2016 compared to 200.5 million hours in the prior year, and we recorded a total of 492 reportable injuries in 2016 compared to 564 in 2015.



*Historical Mine Opening Safety Program (HMOSP) team members locate and close inactive historic mine openings (shafts and adits) on and near company properties for the safety of employees and recreational land users. Despite traversing rugged terrain every day, the HMOSP team has completed over 2,100 days without a reportable safety incident. Since 2008, 1,380 historical mine openings have been closed.*

## FATALITY PREVENTION

During the year, we continued to work with peers within our sector, as well as external experts to further improve our Fatality Prevention Program, specifically, the Fatal Risk Management (FRM) program element. It consists of a suite of tools to assist supervisors in planning for, and communicating to the broader workforce, the management requirements associated with the potentially fatal risks of daily activities. Included are tools to verify, at the work task location, that critical controls are fully understood and properly implemented. This includes utilizing basic icons for visualizing potentially fatal risks and critical control checklists for in-field verifications. Personnel at several Freeport-McMoRan operations were directly involved in developing the FRM, including a small pilot group at PTFI. Direct operational involvement in the development not only enhances the program but also provides a sense of ownership in the processes.

In 2016, we created a Critical Control Improvement Team comprised of multiple engineering disciplines. The effort is focused on the quality and reliability of engineered controls and the reduction in risks associated with specific tasks. The team consists of multi-disciplinary engineers from our global operations whom are specifically dedicated to facilitate the identification, development and sharing

## SAFETY AND HEALTH SUMMARY DATA

Including Contractors

	2012	2013	2014	2015	2016
Workplace Fatalities	6	35	7	3	6
Total Recordable Incident Rate	0.58	0.74	0.56	0.56	0.64
Occupational Illness Cases	25	41	46	43	26

Includes oil and gas assets except 2012

TRIR = [(Fatalities + Lost Time Incidents + Restricted Duty Incidents + Medical Treatment) x 200,000] / Total Hours Worked





*PTFI is developing and utilizing improved critical controls including water cannons to effectively move large boulders that may obstruct ore draw points while the operator maintains a safe distance.*

of engineered critical controls. The team has recently evaluated in detail, risks associated with safe access for working at heights, fly metal hazards associated with stacker operations and elimination of human pinch points. The team's success is measured by improved safety performance as demonstrated by the reduction in HEHI (high energy high impact) events at our operations.

The reviews and updates of Global Significant Risk Policies continue with the support of operations, maintenance and safety experts throughout the company. A new Material Handling Conveyance Management Policy was developed to establish best practices for safely operating and maintaining material handling systems. In addition, independent experts assisted the company with the development of an Electrowinning(EW)/Electrorefining(ER) Electrical Safety Policy.

## FATAL RISK MANAGEMENT PROGRAM

Vehicle Collision or Rollover  
 Vehicle Impact on Person  
 Fall from heights  
 Entanglement and Crushing  
 Uncontrolled Release of Energy  
 Lifting Operations  
 Fire  
 Contact with Electricity  
 Falling Objects  
 Exposure to Hazardous Substances  
 Confined Spaces  
 Blasting  
 Drowning  
 Ground Failure  
 Rail Collision  
 Rail Impact on person  
 Contact with Molten Material  
 Underground Rock fall  
 Underground Hazardous Atmosphere  
 Underground Inrush  
 Personnel Hoisting  
 Aircraft Operation

In 2016, operations in North America developed Safe Production plans, which included leading metrics. Proactive metrics identified and implemented include critical control improvements, auditing of critical controls, effective use of risk registers, and reduction of high risk tasks performed.

## 2016 WORKPLACE FATALITIES

Including Contractors

OPERATION	EVENT DESCRIPTION
PTFI Papua, Indonesia	A lineman received a fatal electrical shock while working on a twin circuit 230kV Transmission Line.
	A mill electrician was troubleshooting maintenance work on power cables in an overhead cable tray when the cable tray collapsed.
	A warehouse employee was walking through the warehouse yard when he walked in front of and was fatally struck by a moving 988H wheel loader forklift.
	An operational lead hand and a dozer operator were moving a dozer across a catch bank, when the lead hand began operating the dozer and the dozer operator rode unsecured on the platform outside of the cabin. As the dozer moved, the crest of the narrow catch bank gave away and the dozer fell, fatally injuring the dozer operator.
FM Americas Safford, Arizona, USA	An employee was found unresponsive leaning against a return line outside of the EW tankhouse. The cause of death was determined to be probable electrocution.
FM Americas El Abra, Calama, Chile	A contract locomotive consisting of two locomotive engines and seven flatbed cars loaded with copper cathode entered the acid unloading terminal without notice or approval at a high rate of speed. It collided with a line of ten parked acid tanker cars, fatally injuring one employee.

# BUSINESS ETHICS

We are committed to the highest level of ethical and legal conduct. The Freeport-McMoRan Principles of Business Conduct (PBC) are a commitment to integrity and define the expected behavior of all employees and our board. We conduct comprehensive training on our PBC, including annual certification of management-level employees (approximately 97 percent were trained in 2016). This process consisted of computer-based training, as well as a signed certification that the employee understands the PBC and is not aware of cases of non-compliance. Beginning in 2017, the PBC training is provided annually to all employees.

## ANTI-CORRUPTION

Corruption is sometimes widespread in local government systems and cultures near our operations. We do not tolerate the offering or payment of bribes, kickbacks or other similar payments to any person or organization or government official to secure advantages for our business.

Likewise, we do not accept any of these payments. Our Anti-Corruption Policy and Guidelines require compliance with the U.S. Foreign Corrupt Practices Act of 1977 (FCPA) and other relevant anticorruption laws, including local laws.

The company is deploying a new anti-corruption online training module in 2017. The training is mandatory for annual completion by select groups of employees utilizing a risk-based approach. For example, senior-level employees who may interact with government officials are required to complete the training. The online training does not replace our existing classroom training programs; rather, it has been developed to supplement existing systems and extend the reach of the company's overall compliance efforts.

During 2016, we held in-person classroom training at our Phoenix corporate offices, Cerro Verde, Atlantic Copper, PTFI and TFM. Training was also conducted for support functions, including the Accounting, Communications, Environmental Services, Global Supply Chain, Human Resources, Legal, and Sales and Marketing departments

along with senior management responsible for approval procedures and internal controls. In addition, classes were held for contractors at PTFI.

In recognition of the potential legal liability that could result from actions of our business partners under the FCPA and other laws, the company has implemented its online due diligence platform, the Freeport Compliance eXchange (FCeX). FCeX is a survey-based software platform designed to assess risk in the areas of anti-corruption, international trade and human rights. FCeX has significantly enhanced the company's ability to identify, assess and mitigate compliance risks.

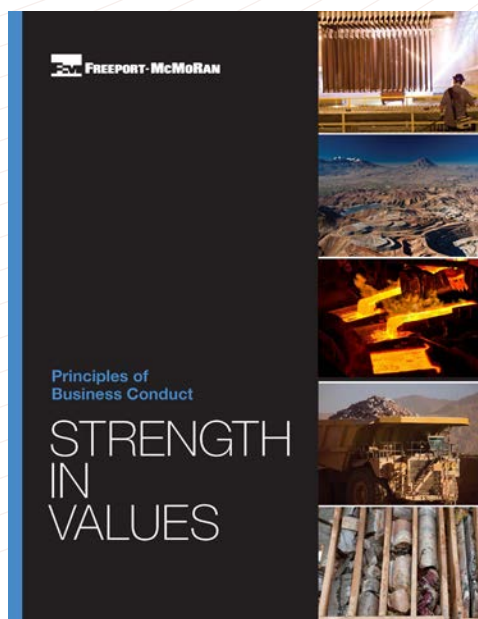
Annually, Freeport-McMoRan performs company-wide audits with the assistance of our internal audit firm to assess risk and plan for the following year's audit strategy. Formal fraud risk assessments have been implemented at Atlantic Copper, corporate offices and PTFI, and mapped with business controls, which are tested and reviewed annually. The fraud risk assessments consist of more than 100 risk scenarios spanning across more than

15 process areas, such as Asset Management, Purchasing, Payables and Financial Reporting. All of these risk assessments include corruption as a risk factor.

## INFORMATION AND REPORTING

Among other reporting mechanisms, Freeport-McMoRan maintains a Compliance Line to provide guidance and assistance to workforce members with any questions or concerns related to our PBC, policies or procedures. To encourage our workforce to raise any potential violations of business conduct, we also provide anonymous reporting through our compliance system.

Spain, which prohibits anonymous reporting in accordance with Spain's Data Protection Act (Organic Law 15/1999 on the Protection of Personal Data), is an exception. During 2016, 220 reports were made through the Freeport-McMoRan Compliance Line relating to various topics, including employee workplace conduct; environment, health and safety; protecting company assets; and conflicts of interest. All reports are investigated and, if substantiated, appropriate disciplinary action is taken including possible termination of employment.







President and Chief Operating Officer – Americas, Red Conger, addresses delegates at the EITI 7th Global Conference in Lima, Peru. Freeport-McMoRan's Cerro Verde operation has participated in Peru's EITI process since the country became a member in 2007.

## TRANSPARENCY OF GOVERNMENT PAYMENTS

Freeport-McMoRan has endorsed and committed to support the Extractive Industries Transparency Initiative (EITI) since 2008. EITI is a global standard to promote transparent and accountable management of natural resources. The initiative is a commitment by governments to disclose



revenues received, and by oil, gas and mining companies to disclose natural resource

payments to governments in an annual EITI report. In implementing countries, the initiative is led by governments, extractives companies and civil society working together in a multi-stakeholder group forum.

Today, Freeport-McMoRan maintains significant mining operations in Indonesia, Peru and the United States, all EITI implementing countries. Senior-level Freeport-McMoRan employees are representatives on these countries' multi-stakeholder groups or are actively supporting the in-country processes. A company executive also serves on

the EITI International Board of Directors. To help support a successful seventh EITI Global Conference in Lima, Peru in February 2016, the company provided a financial sponsorship and multiple employees from across our global operations attended as delegates.

The payments our company makes to host governments via taxes, royalties and other obligations are a significant contribution to national, regional and local development. We believe that increased transparency of natural resource revenues and payments promotes better governance and accountability regarding the distribution of natural resource revenues. In addition to our country-level EITI commitments, our practice is to report annual cash payments to governments, including sub-national payments, in all countries where we conduct business, as presented below.



Freeport-McMoRan's Cerro Verde operation was one of six winners of the U.S. Department of State's Bureau of Economic and Business Affairs 2016 Secretary of State's Awards for Corporate Excellence in Transparent Operations.

## CASH PAYMENTS TO GOVERNMENTS<sup>a</sup>

For the year ended December 31, 2016 (\$ millions)	U.S.	Chile	Peru	Indonesia	DRC	Other Countries <sup>b</sup>	Total
Corporate Income Taxes, Net of Refunds	\$ (163)	\$ 11	\$ 16	\$ 60	\$ 33	\$ 12	\$ (31)
Withholding Taxes on Foreign Dividends	-	9	-	-	-	-	9
Employee Payroll Taxes <sup>c</sup>	372	9	31	37	37	27	513
Royalties and Net Severance Taxes	156	4	14	116	21	-	311
Property Taxes	163	-	-	31	-	2	196
Other Taxes and Fees	51	8	77	191	113	(10)	430
<b>Total</b>	<b>\$ 579</b>	<b>\$41</b>	<b>\$138</b>	<b>\$435</b>	<b>\$204</b>	<b>\$31</b>	<b>\$1,428</b>

a. This schedule reflects a voluntary effort by Freeport-McMoRan to capture its cash payments to governments (net of refunds). Schedule includes sub-national payments.

b. Represents cash payments to governments by Freeport-McMoRan's other business groups that are located outside of the countries where Freeport-McMoRan conducts its primary operations.

c. Includes payroll taxes collected on behalf of employees and paid to governments.

# HUMAN RIGHTS

Respect for human rights is a long-standing commitment of our company. Our Human Rights Policy, first established in the late 1990s and most recently updated in 2015, requires us to conduct business in a manner consistent with the Universal Declaration of Human Rights, and to align our human rights due diligence practices with the United Nations Guiding Principles on Business and Human Rights (UN Guiding Principles).

We promote human rights awareness through engagement with host governments and local communities, as well as by providing training to employees and contractors. We protect the confidentiality of anyone who reports suspected violations. Our site-specific human rights programs and systems are consistent with our corporate Human Rights Policy, in-country laws and regulations, and the Voluntary Principles on Security and Human Rights (Voluntary Principles). Our human rights compliance officers oversee compliance and training, as well as grievance mechanisms for reporting, documenting and investigating allegations that are reported in our areas of operation.

In 2016, we continued to advance integration of the UN Guiding Principles into our business. Activities included:

- Coordination between corporate resources and operational teams to review sustainable development risk registers from a human rights perspective and to identify related risks, beyond traditional security matters

- Monitoring implementation of Action Plans that were developed to investigate, mitigate and/or remedy adverse human rights impacts (both actual and potential) identified in the 2015 TFM Human Rights Impact Assessment (TFM HRIA) via the site's risk register process
- Initiating a process to update Freeport Compliance eXchange (FCeX), our online supplier due diligence platform, to include additional human rights topics

Our multi-sector industry dialogue on human rights continued through the Business for Social Responsibility human rights working group and Sustainability 50, an executive-level peer to peer sharing forum. In addition, our team regularly engages with the financial community, customers, civil society and value chain partners to discuss and receive feedback on our human rights program, in particular, overall progress on implementation of UN Guiding Principles and associated reporting.

## PLANNING THE CERRO VERDE HUMAN RIGHTS IMPACT ASSESSMENT

Preliminary work on a site-level HRIA for our Cerro Verde operation in Peru (Cerro Verde HRIA) was initiated in 2016. The "dashboard" of human rights topics to be addressed will build on that used for the Corporate and TFM HRIAs - but with additional emphasis on the local/domestic value chain. This is in response to one of the lessons learned from the TFM HRIA, namely the need for further transparency around conditions in the local/domestic supply chain.

## HUMAN RIGHTS IMPACT ASSESSMENT SCOPE OR "DASHBOARD"

Topics reflected in the dashboard have been mapped against recognized international human rights

EMPLOYEES	VALUE CHAIN	COMMUNITY	ENVIRONMENT	THIRD PARTIES
Working conditions	Working conditions	Standards of living / quality of life	Pollution	Conduct of private security forces
Safe and healthy working conditions	Safe and healthy working conditions	Community health and safety	Water security	Conduct of government security forces
Discrimination	Discrimination	Economic activity / livelihoods	Waste and hazardous materials management	Contribution to conflict
Freedom of association and collective bargaining	Freedom of association and collective bargaining	Minorities and indigenous peoples	Increased exposure to natural hazards	Presence of artisanal / small-scale miners
Child labor	Child labor	Displacement / resettlement		Corruption
Privacy	Privacy	Cultural heritage		NGOs and civil society groups
Forced and compulsory labor	Forced and compulsory labor	Children's rights, including access to education		Judicial system (access to remedy)





*PTFI's Human Rights Compliance Officer conducts a training session on the Voluntary Principles on Security and Human Rights for host government security personnel prior to their deployment to the project area.*

Topics reflected in the dashboard have been mapped against recognized international human rights to ensure a comprehensive, rights-driven approach while being organized in a way that is relevant to our mining related activities. Certain dashboard topics (like artisanal mining and indigenous peoples) are not applicable at every operating location.

Preliminary work on the Cerro Verde HRIA included an initial desk-based assessment of human rights risks based on Verisk Maplecroft's proprietary Human Rights Risk Indices and Cerro Verde's operational sustainable development risk register, media and NGO reports, as well as public input into a recent EISA process. A HRIA Self-Assessment Questionnaire was also completed at both a corporate and site level.

We plan to complete the Cerro Verde HRIA in 2017. Like the TFM HRIA, the Cerro Verde HRIA will include extensive on-the-ground engagement with the workforce, the community and third parties both in and around Cerro Verde as well as in the broader Arequipa region. This will help us:

- Verify the initial desk-based assessment of potential human rights risks and impacts
- Ensure less "visible" risks and impacts are captured (e.g. where rights holders are unable or unwilling to utilize Cerro Verde's established grievance mechanisms or to raise issues with third parties)
- Gain insight into broader human rights dynamics that may collectively affect local rights holders but not to a degree that any one individual or group has been compelled to raise a specific complaint
- Understand the specific impacts associated with identifiable vulnerable groups, such as women, children, minority groups and the very poor

Interviewees will be offered anonymity before engagement. Interviews will be conducted by a third party to encourage frank, transparent and constructive discussions. The Cerro Verde HRIA will apply the "but for" test in relation to the identification and assessment of human rights impacts caused by, contributed to or linked to Cerro Verde. Alleged impacts will be included in the assessment even if there is uncertainty around the supporting facts behind them and/or the causative relationship to Cerro Verde.

Action plans to address any risks and impacts will be embedded within Cerro Verde's sustainable development risk register process. These plans will support continuous improvement of existing systems and processes, and (where necessary) will establish new measures to investigate, avoid, mitigate and/or remedy identified human rights risks and impacts.

Like the TFM HRIA, the Cerro Verde HRIA will include a parallel exercise to identify the degree to which Cerro Verde positively maintains and/or advances human rights within its area of influence. While understanding that positive human rights impacts cannot offset negative impacts, this exercise will provide a more comprehensive view of our overall human rights performance. Lessons learned from the Cerro Verde HRIA will further shape our global human rights strategy as well as site-level HRIA work at other higher risk operations over time.

For more detailed information, please refer to the Human Rights section on our website.

## SECURITY

The Voluntary Principles on Security and Human Rights serve as guidelines for our security and human rights programs, interactions with host government police and



military personnel, and with private security contractors. We have

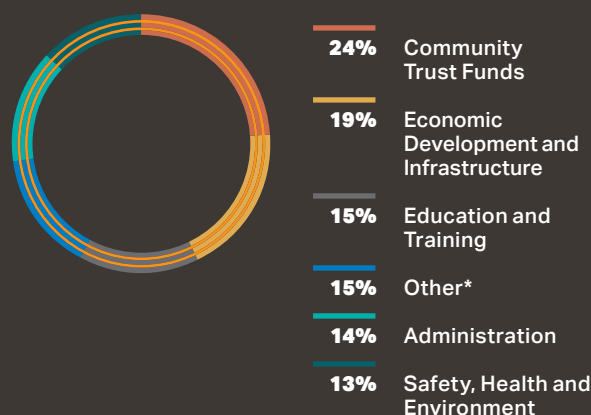
remained active in the Voluntary Principles Initiative since it was first established in 2000 and are currently serving a two-year term on the Voluntary Principles Initiative Steering Committee and Voluntary Principles Association Board of Directors. Our 2016 Report includes country implementation details for Indonesia, Peru, and the DRC as these countries represented our higher risk environments in terms of security and human rights.

# COMMUNITIES

Mining operations inevitably create economic, social and environmental impacts on local communities. Some of these impacts may include changes to land use and population influx, while others include economic opportunities and development in the areas of infrastructure, health and education. We engage with local stakeholders throughout project lifecycles to build the relationships and trust needed to operate and grow our business. Our Community Policy requires collaboration with communities to minimize and mitigate unavoidable adverse impacts and to maximize opportunities to deliver value from our operations.

## 2016 COMMUNITY INVESTMENT

\$142 million



\* Includes arts, culture, resettlement, mitigation, stakeholder engagement and employee programs such as Matching Gifts and United Way

Transparent and consistent engagement ensures communities have input into our development projects and ongoing operations, promotes understanding of our business, and ultimately reduces risk to our plans. Communication with local stakeholders takes place via a number of channels, such as formally through open houses linked to regulatory processes, informally through interactions with our community development representatives in the field, or through community partnership panels and community investment funds or foundations.

## COMMUNITY INVESTMENT

Freeport-McMoRan's community investment strategy addresses high-priority needs and facilitates local capacity building with the aim of sustaining communities post-closure. Our social investment criteria are a set of guidelines designed to ensure that resources are used to decrease community dependencies on our operations and promote sustainable futures. Many of our community investment programs align with SDG objectives or help mitigate impediments to their realization.

In addition to direct community investment from operations and the corporate Freeport-McMoRan Foundation, we have established community trust funds or social funds in Chile, Indonesia, Peru and the U.S. These funds are managed by community members who determine the allocation of resources to programs that focus on education, health, economic development and the environment.

In both North America and South America, we increased our efforts and investments in local capacity-building through activities including specific training for current

## COMMUNITY INVESTMENT

## ADVANCING SDGs

### Community Trust Funds

### Economic Development and Infrastructure

### Education and Training

### Safety, Health and Environment

### Other (see chart footnote above)



Our social investments contribute positively to many of the United Nations Sustainable Development Goals (SDGs) while also mitigating impacts that may otherwise impede their realization. We are evaluating areas where we can have the most impact in advancing the SDGs.



and upcoming local leaders. In each of our operating communities in the U.S., we implemented another phase of our overall capacity development work with an initiative called "Leadership for Sustainable Communities", which aims to guide local civic leaders through a process designed to develop each community's ability to affect action that creates a sustainable future, especially post mining. The first phase of the program, which will conclude in 2017, has provided training for more than 120 current and future leaders.

During 2016, we continued to support improvement in science, technology, engineering and mathematics (STEM) education through teacher development and retention initiatives. Through our STEM Innovation Grant Program, we awarded funds to 18 innovative projects submitted by teachers across 17 schools near our operations. These grants provide resources not otherwise available for enhanced STEM learning. We also completed year two of a three-year professional development initiative for elementary and middle school math teachers in rural school districts. The initiative aims to increase their content knowledge and confidence in teaching math in order to improve students' ability to master core mathematical concepts by the eighth grade. Early results indicate better student math performance and preparedness. Our focus on STEM is aligned with the long-term technical requirements of our business. We continued our investment in the workforce pipeline supporting higher education programs that trained students in the trades, as well as four-year degree programs related to our business needs.



*PTFI and the Freeport Partnership Fund for Community Development support the Taruna Papua School and Dormitory near Timika. The fund also supports a comprehensive series of health and educational programs, skills training and small business development initiatives for indigenous Papuans.*



*Local women celebrate graduation from a literacy program supported by the TFM Social Community Fund and a local NGO partner. Initially planned for 300 participants, the program that teaches reading, writing, basic math and financial savings now reaches over 700 women and girls.*

We also have advanced our investments in women's economic empowerment programs, including "DreamBuilder: The Women's Business Creator," an online entrepreneurship skills training program that has now reached just over 17,000 women in Chile, Peru and the U.S. In 2016, via our partnership with Thunderbird School of Global Management and a network of 82 dedicated partners, we were able to increase the graduation rate to 11 percent, outpacing the (online learning) industry average of 4 percent for open enrollment courses. Evaluation of graduates a year or more after graduation indicated that 93 percent increased business sales, 46 percent hired additional employees and 76 percent paid themselves a salary versus only 22 percent who did so before participating in the program. As we work to increase the number of graduates, we are considering using a third party impact assessment to determine the program's impact on women, their families and the revenue generated for community-level development. This program is another example of how we are collaborating to advance the SDGs, particularly SDGs 4, 5 and 8.

We have committed to invest \$5 million to promote women's economic empowerment and address violence against women in Chile, Peru and Indonesia by 2021 as part of a "Girls, Women & the Global Goals" coalition of multi-sectoral partners convened by No Ceilings, Vital Voices, and WEConnect International. The coalition is working collectively to advance the fifth SDG goal of gender equality, particularly focused on promoting women's economic participation; addressing violence against girls and women; and advancing women's leadership in the private and public sectors.



*Utilizing its formal grievance system, Cerro Verde has successfully worked with community members, including within the Uchumayo District (photo background), to address 146 complaints regarding noise and vibrations from pumping stations (photo center). The stations are an integral component of the Arequipa Region's first ever wastewater treatment system which is designed to treat 90 percent of Arequipa's domestic and industrial wastewater. Grievance remedies ranged from home relocations to replacement of windows.*

In the DRC, the TFM Social Community Fund continued to support the literacy and life skills program for women and girls launched in 2015, which provided training on reading, writing, basic math, household savings, and other topics related to human rights, health and hygiene to more than 700 women and girls in 12 villages.

In 2016, PTFI signed a multi-year agreement with Bank Rakyat Indonesia (BRI) to increase Papuan entrepreneurs' access to financial capital in order to grow their small businesses. BRI will administer the micro-loans and PTFI will underwrite the loans and connect Papuan entrepreneurs from its Micro, Small, and Medium Enterprise Development (MSME) program to the bank. Since 2004, PTFI has made approximately \$3.5 million in loans to Papuan entrepreneurs through its revolving fund (YBUM: Yayasan Bina Utama Mandiri). This new partnership between PTFI and BRI will transition borrowers from YBUM to BRI and, as a result, increase the professional support and access to capital for over 160 Papuan entrepreneurs.

Through the Freeport Partnership Fund for Community Development, PTFI has committed to provide one percent of its annual revenue for the development of the indigenous Papuan community. PTFI's contributions to the Partnership Fund were approximately \$33 million in 2016 and over \$690 million since its inception in 1996.

Over the last few years, PTFI's annual contribution to the Partnership Fund has decreased because of declining company revenues that have resulted from factors such as declining commodity prices, export permit limitations, and labor productivity issues at PTFI. In 2016, in response to these trends, PTFI and LPMK signed an agreement that extends the funding arrangement between the two organizations until December 2018 and outlines how the two organizations will strengthen the management and positive impact of the Partnership Fund.

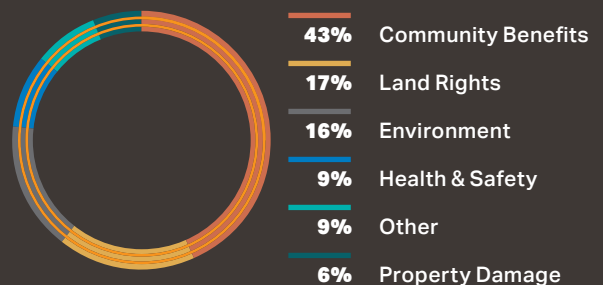
## GRIEVANCE MANAGEMENT SYSTEMS

Our operations utilize a community grievance management system for recording, processing and responding to local concerns. Grievances may be received by Community Liaison Officers in the field, through engagement at established company/community forums, via physical drop boxes, or via local hotlines. Site-level Community Grievance Officers ensure community grievances are handled in a timely and transparent manner. Our site-level community grievance mechanisms complement the global, publicly available anonymous reporting options associated with our Principles of Business Conduct and reflect our commitment to remedying impacts we cause or contribute to. They also help us manage and reduce community and company risks by effectively resolving issues before they escalate into larger conflicts. Use of our community grievance mechanism does not preclude access to judicial or other non-judicial grievance mechanisms.

In addition to grievances discussed in the photo caption above, 106 community grievances were recorded at our global operations (excluding TFM) during 2016.

### 2016 GRIEVANCES

By Category







*Miami, Arizona operations hosts approximately 30 members of the National Tribal Mining Workgroup, an EPA-funded program designed to provide Native American tribes with resources to learn about the mining industry. Miami is unique in that it includes an open pit mine, SX/EW facilities, a smelter and copper rod plant, as well as extensive reclamation activities.*

Regardless of the types and credibility of these allegations, all cases reported were documented, reviewed and closed, or are currently being processed.

In 2017, we are embarking on a project to review our global grievance management standard operating procedure against the UN Guiding Principles effectiveness criteria for non-judicial grievance mechanisms. Before finalization, the procedure will be reviewed with a set of community stakeholders to ensure effectiveness from their perspective. This will include surveying community stakeholders to determine if local mechanisms are well known, understood and fit for purpose based on the local context.



*New boat docks supplement the water transportation services provided to Kamoro community members whose estuary transport routes are impacted by sedimentation associated with PTFI's controlled riverine tailings management system.*

## INDIGENOUS PEOPLES

Our community engagement and local investment objectives are significantly focused on indigenous peoples in Papua, Indonesia; Native Americans in the United States; and the communities of Alto Loa in Chile (Chile's First People). Through community engagement, cultural promotion and preservation projects, as well as training and development programs, we seek to address the needs, cultures and customs of indigenous peoples near our operations. Engaging with groups focused on indigenous peoples' rights at the local, national and international levels also is important for sharing of information about approaches to indigenous peoples' topics in varying geographies.

PTFI has engaged with indigenous Papuan tribes for decades, including through multiple formal agreements to promote workforce skills training, health, education and basic infrastructure development. The desire of indigenous Papuans to preserve cultural heritage is shared by PTFI and continuously demonstrated through support for cultural festivals and books documenting the social uniqueness of the Amungme and Kamoro tribes.

In 2016, PTFI continued to work with Kamoro community members to review and mitigate the impacts of the West Levee Extension project via the water transportation program. The purpose of the West Levee Extension project is to contain the projected increase in tailings as PTFI transitions from an open pit to a fully underground operation. The extension project temporarily closed the Yamaima channel, which local communities have historically accessed. Several years ago, PTFI conducted a study on an alternative community transportation access and alternative economic activities for the impacted communities in Ayuka and Tipuka. As a result of the study and conversations with the impacted communities, PTFI excavated an alternative channel to mitigate the impact of the closure of the Yamaima channel. In addition, the boat service that PTFI had launched in 2014 was not optimally used by the community. PTFI consulted with the village members and identified an option to use smaller-sized fiberglass boats, re-route the service, and revise the schedule of boat service. As a result of this community feedback, PTFI is now operating passenger boats to provide regular water transportation services between coastal villages to the east of the tailings deposition area and the healthcare, education and economic trade facilities available in the Timika region to the west. In addition, new boat docks, jetties, and bus services to supplement the water transportation services were constructed and launched in 2016.



*El Abra operations received the 2016 National Environmental Award from the Recyclápolis Foundation for its part in a project that built Chile's first community hybrid power plant, delivering electricity and heat to 150 families in the indigenous community of Ollagüe.*

In November 2016, we experienced breakage of a water pipeline for our El Abra mining operation that passes through the Indigenous community of Taira. Water from the pipeline entered the Loa River on which the community of Taira depends for livelihoods. The community complained that resulting turbidity in the river created sedimentation and clogged its irrigation pipelines, and the salinity of water potentially impacted pastureland. Environmental analysis conducted by the company revealed no significant changes in salinity within the Loa River after the pipeline breakage. El Abra staff conducted two field visits with the community after the incident to further analyze the circumstances. The company provided 1,000 bundles of grass to the community for animal feed to mitigate any potential damage to pastureland. El Abra has begun a process to analyze the feasibility of sedimentation impacting irrigation pipes and the implementation of further preventive measures.

El Abra continued robust engagement with 10 indigenous communities and worked cooperatively to establish Community Development Agreements, including funding for projects made available through the Freeport-McMoRan Chile Foundation, that meet local needs. One of the most



*El Abra and the indigenous community of Ollagüe signed a collaborative environmental protection agreement to jointly monitor the Salar de Ascotán watershed.*

significant investments was in the Don Bosco Technical School, which opened to 600 students in 2016, allowing them to receive quality training needed to facilitate future employability. We further implemented or continued formalized engagement, assessment and management systems to address potential social impacts and community development topics within the corridor surrounding the operation where we have a potential expansion opportunity.

In the U.S., we continued our partnerships with Native American Tribes including the Hualapai Tribe, the San Carlos Apache Tribe, the Tohono O'odham Nation, and the White Mountain Apache Tribe. These partnership Tribes have maintained their focus on education as a top priority for their community members; the company continued its Native American Scholarship program, awarding 39 college scholarships in 2016 to Tribal Members who are enrolled Members of our partnership Tribes. In addition, support to Arizona State University helped address Native American student retention rates and related higher education efforts. The development of future youth leaders was the focus of an ongoing partnership with the United National Indian Tribal Youth (UNITY) organization.

We continue to provide grants to our Tribal partners and non-profit organizations that seek to service our partnership Tribes through our Native American Partnership Fund and the Native American Contributions Activities Fund. Nine programs were awarded funding through our Native American Partnership Fund including the GuVo Youth summer enrichment program, the Himdag Ki: Exhibition Space Renovation project and an Elder Empowerment program. Our support for these Native American initiatives exceeded \$2.7 million in 2016.



For more information on our community programs, please visit [freeportinmycommunity.com](http://freeportinmycommunity.com)





*The HRC 3000 at Morenci is the largest high pressure roll crusher in the world. It is estimated to consume 14 percent less power per ton than traditional HPRC's. High pressure roll crusher technology is being deployed as a highly energy efficient means of crushing ore compared to traditional mill circuits.*

## ENVIRONMENT

The Freeport-McMoRan Environmental Policy is based on our objective to be compliant with laws and regulations and to minimize environmental impacts using risk management strategies based on valid data and sound science. It requires that we review and take account of the environmental effects of each activity, whether exploration, mining or processing; and that we plan and conduct the design, development, operation and closure of each facility in a manner that optimizes the economic use of resources while reducing adverse environmental effects.

All of our mining and mineral processing operations maintain Environmental Management Systems (EMS) certified to ISO 14001, which are independently audited on an annual basis. As part of the EMS, employees and contractors are trained on environmental awareness in subject areas including chemical management, waste management, and spill prevention and response. In addition to job-specific training, workforce members receive annual environmental refresher training.

In December 2016, our Molybdenum Processing Facility in Rotterdam, Netherlands was the first site in our portfolio to secure Environmental Management System (EMS) certification under the new ISO 14,001:2015 standard. Our remaining operations will have until September 2018 to certify under that standard.

During 2016, we completed internal environmental audits at nine operations, and our facilities are routinely inspected by regulatory agencies. Since 1996, an independent environmental audit has been conducted at PTFI every three years, and an executive summary and responses to the 2014 audit recommendations are posted on our website. All operations have corrective action programs associated with the overarching EMS.

When operations have received a notice of an environmental violation from a regulatory agency such as shown in the table below, the citations typically have involved brief and minor exceedances of permit conditions or other recordkeeping violations which have no or minimal environmental impact. Notices of violation have also followed spills or releases related to tailings dust or impacted water. When our operations have been assessed penalties, they typically are individually below \$100,000.

### ENERGY MANAGEMENT

Our copper mining operations require significant energy inputs, principally diesel, purchased power, coal and natural gas, most of which is obtained from third parties under long-term contracts. Energy represented approximately 20 percent of our copper mine site operating costs during 2016.

Our worldwide total greenhouse gas (GHG) emissions, measured as carbon dioxide equivalent emissions, were approximately 10.4 million metric tons divided between direct (52 percent) and indirect (48 percent) emissions for 2016. Indirect emissions are primarily those emitted by our electricity providers. In 2016, approximately 63 percent of our purchased power was from low carbon sources, including natural gas and renewable energy.

### ENVIRONMENTAL COMPLIANCE INDICATORS

	2012	2013	2014	2015	2016
Reportable spills or releases of hazardous or toxic chemicals	12	16	14	13	23*
Notices of Violations related to permit exceedances, spills, releases or other compliance matters	4	10	11	2	5
Environmental Penalties	\$47,369	\$80,362	\$123,745	\$43,000	\$0

\* Year-over-year increase driven by PTFI (including three cases of pipeline sabotage)

Our direct emissions are primarily from fuel combustion in haul trucks, followed by the combustion of fuels to provide energy for roasting, smelting and other processes. The majority of our mining activity occurs in open pits. As an open pit matures, haul road length increases and haul trucks are required to move ore additional distances to the processing facility. When market conditions necessitate the mining and processing of lower grade ore, haul trucks must move more material per pound of processed metal.

Crushing, milling, pumping and electrowinning are the most significant power-consuming processes at our facilities. We have achieved significant improvements in energy efficiency with our new processing facilities, including new mills at Morenci and Cerro Verde. The Cerro Verde concentrator expansion, for example, includes a High Pressure Grinding Roll circuit that is approximately 40 percent more energy efficient than a traditional Semi-



Hundreds of used oil samples are analyzed daily at the company's Oil Analysis Lab and Reliability Center. Technicians prepare samples for an analytical ferrograph instrument that separates wear and contaminant particles from fluid samples that can help mechanics maintain high-efficiency machinery.



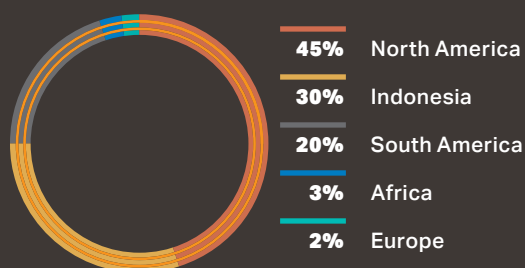
Our direct GHG emissions are primarily from fuel combustion in haul trucks.

Autogenous Grinding mill circuit. We continue to invest annually in energy-related research and development through our technology center, technical services and operational improvement groups. We provide mining-related property for solar power generation.

Our mining operations are currently not located in jurisdictions where there is a direct cost associated with our GHG emissions. As countries implement programs to meet objectives stemming from the COP 21 agreement, from a medium to long-term perspective we may experience increased costs relating to changes in energy sources for, and GHG emissions from, our mining operations. In addition, the cost of electricity and other inputs that we purchase may increase if our suppliers incur increased costs from the regulation of their GHG emissions. We have modeled a hypothetical carbon tax of \$50 per metric ton on our GHG emissions (both Scope I and II) associated with our global copper mines. The associated hypothetical increase in operating costs would not necessitate operating plan

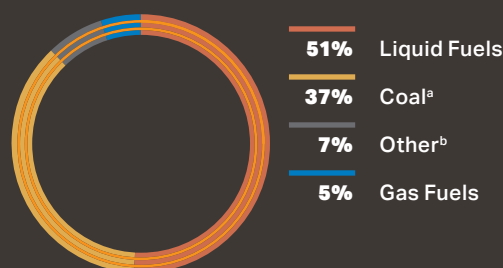
## 2016 TOTAL (SCOPE I AND II) CARBON DIOXIDE EQUIVALENT EMISSIONS

10.4 Million Metric Tons



## 2016 TOTAL (SCOPE I) CARBON DIOXIDE EQUIVALENT EMISSIONS

By Fuel Type



a. Associated with the self-generating coal-fired power facility at PTFI.

b. Emissions from non-energy consumption processes including leaching of calcite-containing ore, lime manufacturing, iron removal and refrigerants.





*Safford's comprehensive groundwater management program includes fallowing at least 200 acres annually, retaining an estimated 480 acre-feet of water in the Gila River riparian habitat.*

changes as it is similar to possible fluctuations in mined ore grades. Applying this model to our forecasted emissions profile and five-year copper production plans does not alter our current operating plans.

#### WATER SUPPLY AND MANAGEMENT

We recognize the importance of responsibly managing water resources across the portfolio of mining operations in both arid and wet regions. While all our mining operations require secure and reliable quantities of water for mining and ore processing, most of our operations are located in the arid regions of North America and South America.

We used approximately 1,740 million cubic meters of water in our operating processes in 2016, of which approximately 81 percent was recycled water. The majority of our recycled water originates from reclaimed water capture at tailings storage facilities and leach pads. Mining operations in

arid regions use both a hydrological modeling analysis to evaluate long-term water supply availability and regional water supply risks and operational-based water models to understand water use, identify recycling opportunities and operational losses such as evaporation. The models help us develop management practices that maximize the efficient use of water. Through this process we have identified additional operational practices where recycled water is being used that was not quantified in prior reporting, which in turn has contributed to the overall increase in percentage of total recycled water use.

The company maintains a global water management program designed to (1) support metal production by supplying required water to process operations; (2) minimize water supply and water storage risks associated with operational, climatic, social, regulatory and environmental conditions; (3) minimize costs associated with the acquisition and distribution of water; and (4) promote innovation and implement technologies that increase water use efficiency. Operational water teams, who are supported by corporate policy and technical experts, work toward completing operation-specific goals by identifying and managing resources; communicating and coordinating with key stakeholders; monitoring, managing and analyzing water data; reporting and accounting for water use and consumption; and developing forecasting tools to support future conditions and closure. Although the potential physical impacts of climate change on our operations are highly uncertain, operations in arid regions also conduct annual scenario planning to evaluate hypothetical reductions in total water availability and hypothetical extreme precipitation events.

With local support, we are pleased to now have achieved full capacity operating rates at the major expansion of our Cerro Verde copper mining operation near Arequipa – Peru's second largest city. With a lack of adequate



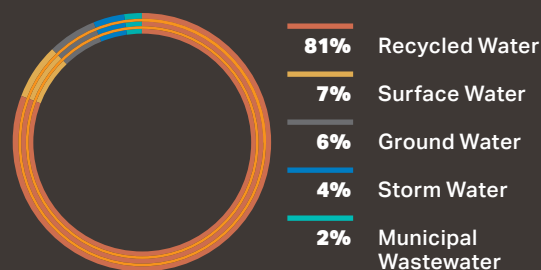
*Cerro Verde continues to provide financial and technical support for water-efficient crop irrigation systems in nearby communities. More than 440 local farming families are now utilizing over 27 kilometers of lined irrigation channels to prevent excess water loss.*

wastewater treatment infrastructure in the city, Cerro Verde financed the design and construction of one of the most advanced wastewater collection systems and treatment plants (WWTP) in the country through a public/private partnership. The WWTP is designed to treat approximately 90 percent of Arequipa's domestic sewage and industrial discharges that previously reported directly into the Rio Chili. An annual average of one cubic meter per second of the processed wastewater is now available for use at Cerro Verde, while the remainder of the treated water is returned to the river.

During 2016, the company continued to store renewable surface water supplies at underground recharge facilities within Arizona for future use in support of existing mine operations, drought backup or to support future mine expansions. The company has begun design and construction of a water pipeline in partnership with farmers in southern Arizona that will bring renewable Colorado River water to farm fields, thereby reducing the farmer's dependence on groundwater while at the same time providing the company with future renewable water supply credits. Additionally, the company, in conjunction with the Bureau of Reclamation, completed an environmental study during 2016 that allows the company's Miami operation to schedule its first water exchange in 2017 that will result in the operation's long-term utilization of renewable surface water supplies.

## 2016 WATER USE BY SOURCE

1,738 Million Cubic Meters



*The new Linga TSF and existing Enlozada TSF at Cerro Verde continue to be examples of Good Practice in TSF design and operations for stability measures and efficient water management.*

## TAILINGS

The tailings and waste rock (including overburden) that we produce represent our largest volume of waste. Managing these volumes produced in our mining operations presents significant environmental, safety and engineering challenges. In 2016, we produced approximately 204 million and 231 million metric tons of tailings and waste rock, respectively. The primary risks associated with managing waste rock stockpiles and tailings relate to structural stability, geochemistry, water quality and dust generation. Management of this waste is regulated in the jurisdictions where we operate, and our programs are designed to be in compliance with applicable national, state and local laws, permits and approved Environmental Impact Studies.

Freeport-McMoRan's objective is to have zero catastrophic structural failures of tailings storage facilities (TSFs). We maintain an active and robust tailings management and stewardship program designed for continual improvement and assurance, currently operating 18 TSFs and managing 52 TSFs that are inactive or have been reclaimed. Our two newest TSFs – the Linga Tailings Dam at our Cerro Verde operation in Peru and the East-West Tailings Dam at our Morenci operation in Arizona are now fully operational. The Tailings Stewardship Program includes inspection and management processes associated with water dams and crush leach stockpiles.

At the operational level, qualified internal tailings-dedicated engineers and onsite leaders manage TSF stability. We employ qualified external Engineer(s) of Record (EoRs) for analyses, designs, inspections, and reviews for stability. We also follow established operations, maintenance and communication protocols. In this process, we regularly inspect and monitor phreatic level trends, deposition plans and adherence to good operational construction practices, water management controls, seepage management, decant systems and other stability components. In addition,





*PTFI overburden stockpiles are re-vegetated using a variety of native plants with a goal of establishing an alpine ecosystem similar to pre-mining conditions.*

we periodically review as-built conditions through field and laboratory geotechnical testing programs under the guidance of our EoRs.

Water balance management is incorporated with tailings management as a key driver of structural stability. Tailings engineers also coordinate with environmental experts on water quality management and closure planning associated with our TSFs. At TSFs located in arid regions, our tailings management program includes measures to reduce fugitive dust emissions from the surface of tailings impoundments and increase reclaimed water capture to reduce freshwater consumption. Our efforts to limit dust generation include the application of magnesium chloride, polymers, watering and wind fencing.

At the corporate level, we manage TSF stability through our Tailings Stewardship Program, which includes multiple levels of inspection and review. In the Americas, the Tailings Stewardship Team (TST), a multi-disciplinary group of internal and external experts, evaluates the design, operation and maintenance of TSFs to ensure that we are following and internally sharing good practices. The TST documents, prioritizes and tracks progress on recommended actions. The TST inspects all active and select inactive TSFs annually (including Cerro Verde in 2017). Inactive and closed TSFs are inspected on a site-specific schedule (every two, three, or four years). Our EoRs inspect our operating TSFs at least quarterly, and monthly in some cases. Our corporate tailings experts communicate frequently with all of our operations with TSFs and follow-up on recommended actions regularly. In 2016, our TST conducted annual field inspections at 17 active and 20 inactive TSFs. Sites have achieved 98 percent completion on TST recommended activities for TSFs (2004 to 2016).

In the Americas, we also seek the advice of Technical Review Boards / External Tailings Review Boards (TRBs), composed of internationally recognized external experts retained by us, regarding our EoRs' design and analysis, as well as our management of TSF stability. The TRBs provide a layer of assurance beyond our TST that our practices are in alignment with industry-leading TSF good practices. We utilize functioning Boards for all of our active TSFs in North America and South America and will be implementing Boards at certain inactive sites in the future.

The TSF failures at the Imperial Metals-owned Mount Polley Mine in British Columbia in 2014, and the Samarco Mineração S.A.-owned mine in Minas Gerais, Brazil, in 2015, were among the largest unplanned discharges of tailings in history, with significant loss of life, environmental and social impacts. We have studied the published investigation and technical panel reports related to these failures. Our TSFs have been reviewed by internal and external experts to confirm that processes and systems are well aligned with resulting recommendations.

We participated in the ICMM Tailings Working Group and support the ICMM Position statement on preventing catastrophic failure of tailings storage facilities published in December 2016. Freeport-McMoRan utilizes all elements of the Tailings Governance Framework: accountability, responsibility, and competency; planning and resourcing; risk management; change management; emergency preparedness and response; and review and assurance.

We continued to enhance our programs and documentation around TSF governance and management systems during 2016. We clarified essential functions and associated roles and responsibilities for TSF planning, operations,



*Members of the TST inspect the Henderson Tailings Dam in Colorado.*



*Birds, such as the Australian pelican (*Pelecanus conspicillatus*), are indicators of overall estuarine habitat quality as they depend on the flora and fauna for food, roosting and nesting. Since PTFI began quarterly monitoring programs of birds inhabiting Ajkwa Island in 2009 and Waii Island in 2012, the number of species observed annually has increased from 46 to 122, including a tripling of migratory bird species.*

surveillance, oversight and improvements. This effort included drafting competency requirements for tailings engineers and managers.

Regarding our operations, surveillance, and critical controls systems, we have implemented a Key Performance Indicator Dashboard for internal communication between multiple levels of operations, engineering, and management as a minimum standard for all active operations' surveillance activities. Example topics include beach width, freeboard, embankment material quality, and status of completing recommendations made by the site engineer, EoR, TST, and TRB.

During 2017, we are drafting an "umbrella" TSF Framework Management document that connects all of the associated programs and procedures together for more effective internal communications. We will also begin a pilot of mobile data entry and visualization platforms for inspections and operational data. Among other enhancements, we are also continuing to implement training tools and identifying opportunities for strengthening technical resources at our operations.

PTFI's controlled riverine tailings management system, which has been approved by the Indonesian government, uses the unnavigable river system in the mountainous highlands near our mine to transport tailings to an engineered area in the lowlands where the tailings and natural sediments are managed in a deposition area referred to as the ModADA. Levees have been and continue to be constructed to laterally contain the footprint of the tailings and to limit their impact in the lowlands.

Whereas our North American and South American TSFs utilize the TST and TRB for review and inspection, PTFI uses the ModADA Management Board (MMB) for oversight. The MMB is a multi-disciplinary expert panel that meets on-site approximately twice each year to assess performance and risks associated with the ModADA and coastal zone area. The MMB focuses on the structural integrity of the levees and the geochemical stability of the deposition area, as well as associated stakeholder engagement. The MMB provides recommendations to PTFI leadership and engineering teams on priority activities and tracks progress on all associated detailed recommendations. The MMB follows –up on actions related to all recommendations during its onsite reviews.

PTFI has a tailings and river management department with dedicated management, engineers, lab services and operations for tailings activities. Members of PTFI's external design team and internal management and engineering experts have been involved with its tailings management system for decades, providing continuity of services and support for the operating team while continuing to add resources to stay abreast of good practices.

We manage waste rock and overburden in stockpiles for possible future mineral recovery, reclamation or other projects. These stockpiles are regularly monitored and evaluated for structural stability in accordance with local seismic design criteria. At PTFI, overburden stockpiles are subject to erosion caused by the large amounts of rainfall in the region (average annual rainfall is 200 inches). The eroded stockpile material is eventually deposited in the



*PTFI Environmental Team members conduct water quality and biological monitoring activities in the Modified Ajkwa Deposition Area.*



tailings management area in the lowlands. This additional material, while predicted in our environmental studies, influences both the amounts and timing of deposition of finer tailings material in the estuary.

Impacts associated with controlled riverine tailings management include the smothering of vegetative cover inside the boundary of the ModADA, as well as sedimentation impacts to benthic (bottom-dwelling) organisms. The fraction of tailings and non-tailings sediment that are not retained within the deposition area, along with natural sediment from the adjacent Minajerwi watershed, are building new islands and wetland areas in the Ajkwa estuary below the ModADA. Several independent lines of evidence show that these impacts on the benthic community are physical in nature, temporary and reversible at the end of mine life.

The monitoring of terrestrial areas that are now outside the active tailings management area, but which received tailings for several years, shows rapid establishment and colonization by native plants. These areas of natural succession are abundant and are routinely monitored to determine plant community composition and recolonization rates. Areas now more than ten years removed from deposition are in secondary growth. Data from biological sampling continue to also demonstrate that the estuaries downstream of the tailings deposition area are functioning ecosystems, based on both the number of species and the number of specimens collected of nektonic, or free-swimming, organisms such as fish and shrimp. Large-scale demonstration projects show that several land use options are possible after final closure of the deposition area. When

mining is completed, the deposition area will be reclaimed with natural vegetation or used for agriculture, forestry, grazing of livestock or aquaculture.

## BIODIVERSITY

Freeport-McMoRan is committed to minimizing adverse environmental effects of our operations and supports biodiversity programs and scientific research. Our corporate Biodiversity Task Force provides oversight and technical assistance for biodiversity programs across the portfolio. In an effort to promote biodiversity, all operating mines implement Biodiversity Management Plans and Land Management Plans. The Biodiversity Management Plans establish a process through which operations identify and prioritize voluntary biodiversity projects while Land Management Plans ensure that biodiversity considerations are incorporated into project planning and design in order to minimize adverse impacts to significant biodiversity resources where practicable. Most biodiversity projects include partnerships with one or more stakeholders such as government agencies, local schools, universities and NGOs as well as formal educational and outreach elements.

In 2016, several operations conducted programs focused on conservation of imperiled species. Safford continued restoration of riparian habitats along the Gila River in Arizona, which will ultimately benefit several endangered native fish and bird species. Tyrone, New Mexico and Morenci and Miami, Arizona implemented management plans that benefit a number of endangered native fish and bird species such as the yellow-billed cuckoo and



*Migratory birds can attempt to utilize water features at mining locations. Some company mines in the southwestern U.S. use mechanical predator Bird Advert Systems (right) along with monofilament lines (left) to deter birds from landing on processed water.*

# REPTILES EN CHILE

Diego Demangel Miranda



*The Gruñidor de Valeria (Pristidactylus valeriae) is one of numerous endemic reptiles catalogued in the El Abra sponsored book by Diego Demangel. Freeport-McMoRan has assisted in publishing over 20 books that promote research and conservation of the flora and fauna inhabiting areas that surround our global operations.*

southwestern willow flycatcher. Henderson, Colorado continued to monitor the local boreal toad population and documented successful reproduction for the first time in 3 years. In South America, Cerro Verde continued programs to protect species listed as endangered under Peruvian law (guanaco and Peruvian long-snouted bat) while El Abra implemented programs to benefit endemic fish and native vegetation at the Salar de Ascotán. In Africa, Tenke-Fungurume expanded the conservation program for endangered and endemic plants ("copper flora"), and revised the copper flora conservation strategy to incorporate lessons learned, long-term monitoring results, and new scientific information. The company also collaborated with agencies and academic institutions on a variety of studies and research projects across the portfolio such as studies on aquatic ecology and trophic systems in Arizona.

We continued to participate in the Wildlife Habitat Council (WHC) Conservation Certification program, which formally recognizes meaningful biodiversity conservation and environmental education and community outreach programs. As of December 2016, a total of 15 operating sites and facilities had received gold tier certification, which represents WHC's highest level of recognition. WHC also presented Freeport-McMoRan with two prestigious wildlife conservation awards in 2016: the Avian Project Award and the Grasslands Project Award. Safford

received the Avian Project Award for their Burrowing Owl conservation program, which involved construction of artificial burrows, relocation of burrowing owls displaced by urban development, and regular monitoring to determine burrow occupancy and reproductive success. The project involves collaboration with two local NGOs and provides the basis for environmental education activities for local schoolchildren. Tyrone received the Grasslands Project Award for demonstrating exemplary management of reclaimed lands as wildlife habitat. Tyrone reclaimed over 3,500 acres of impacted lands utilizing native annual and perennial plants to re-establish a self-sustaining ecosystem as demonstrated through regular monitoring of vegetation growth and wildlife use in the reclamation area. The reclamation design includes ecological benefits such as minimizing potential for soil erosion and releasing stormwater runoff into the natural drainage systems.

While the company's biodiversity projects vary in scope and size, each provides unique benefit and value for both the environment as well as the communities in which we operate. These collaborations often serve as the basis for community outreach and STEM education opportunities for learners of all ages. For instance, Cyprus Tohono Corporation (discontinued operation) staff shared lessons learned from their pollinator habitat enhancement and buffelgrass management efforts with over 300 Tohono O'odham Nation school students at Earth Day and youth engagement events. Safford staff led and implemented a Conservation Day education event that reached over 200 students from local schools. Students conducted hands-on activities on myriad wildlife topics including bats, burrowing owls, bighorn sheep, pollinators and native fish.

The company continued to work with industry groups and closely monitor developing concepts, including no net loss and ecosystem services. In 2016, our staff participated in numerous working groups, workshops, and webinars sponsored by various groups including Business for Social Responsibility, Cross Sector Biodiversity Initiative, and ICMM Biodiversity Working Group. We will continue to enhance communications on our biodiversity systems and initiatives as new developments occur.



## 2016 WINNING BIODIVERSITY PHOTOS

Since 2011, Freeport-McMoRan employees have participated in the company's annual biodiversity photo contest. Each year approximately 400 photos are submitted by employees, and the contest successfully engages our workforce on biodiversity appreciation and to promote habitats at our worldwide operations. Winning photos from the popular contest are showcased within the Wildlife Habitat Council's Corporate Homes for Wildlife calendar, which is distributed internationally. The calendar showcases efforts by member companies to enhance and conserve wildlife habitat on corporate lands. Winning photos selected by the company's Biodiversity Task Force are presented on this page.



*Thistledown Velvet Ant by Gerald Briggs  
Near the Bagdad mine*



*Baby Javelina by Bill Sircy  
Near the Morenci mine*



*Roadrunner by Jeff Ladderud  
Near the Oro Valley office*

## TREND DATA

	2012	2013	2014	2015	2016
<b>Workforce<sup>a</sup></b>					
Employees	34,000	36,100	35,000	34,500	30,000
Contractors	27,100	38,400	46,300	37,500	29,100
Percent Employees Under Collective Bargaining Agreements	48%	49%	48%	48%	47%
<b>Safety &amp; Health<sup>a</sup></b>					
Fatalities	6	35	7	3	6
Total Recordable Incident Rate <sup>b</sup>	0.58	0.74	0.56	0.56	0.64
Occupational Illness Cases	25	41	46	43	26
<b>Environment</b>					
Direct Greenhouse Gas Emissions (million metric tons)	5.7	5.9	5.2	6.0	5.5
Indirect Greenhouse Gas Emissions (million metric tons)	4.0	4.3	4.3	4.6	4.9
Total Water Consumption <sup>c</sup> (million cubic meters)	648	689	1,326	1,459	1,738
Percent Recycled Water <sup>c</sup>	69%	69%	79%	80%	81%
Reportable spills or releases of hazardous or toxic chemicals	12	16	14	13	23 <sup>d</sup>
Notices of Violations related to permit exceedances, spills, releases or other compliance matters	4	10	11	2	5
Environmental Penalties <sup>e</sup> (\$ thousands)	\$ 47	\$ 80	\$ 124	\$ 43	0
<b>Social</b>					
Community Investments (\$ millions)	\$ 173	\$ 173	\$ 198	\$ 165	\$ 142
Cash Payments to Governments <sup>a,f</sup> (\$ millions)	\$ 2,984	\$ 2,814	\$ 3,355	\$ 1,993	\$ 1,428
Direct Economic Contributions <sup>a,f</sup> (\$ millions)	\$14,470	\$17,283	\$17,030	\$14,475	\$13,414

a. Includes oil and gas assets beginning June 1, 2013

b. TRIR = [(Fatalities + Lost Time Incidents + Restricted Duty Incidents + Medical Treatment) x 200,000] / Total Hours Worked

c. Excludes all facilities located in Arizona for years 2012-2013 due to water rights litigation

d. Year-over-year increase driven by PTFI (including three cases of pipeline sabotage)

e. Penalties are typically paid in periods subsequent to the year of the environmental event and/or enforcement action

f. Please see detailed information in our WTSD reports published on [fcx.com/sd](http://fcx.com/sd)

Note: As a result of methodology changes or corrections, prior year data may be updated. Data presentation and comparisons may not meet the direct needs of all stakeholders, and we encourage users of this information to contact our Sustainable Development Department at [sustainability@fmi.com](mailto:sustainability@fmi.com) with inquiries.