

W0. Introduction

W0.1

**(W0.1) Give a general description of and introduction to your organization.**

Freeport-McMoRan Inc. (Freeport-McMoRan or the company) is a leading international mining company with headquarters in Phoenix, Arizona. The company operates large, long-lived, geographically diverse assets with significant proven and probable reserves of copper, gold and molybdenum. We are the world's largest publicly traded copper producer. In 2017, copper accounted for approximately 74% of our revenues. Additional information about Freeport-McMoRan is available on our website at "fcx.com".

The boundary of this response includes the operations of Freeport Minerals Corporation (FMC), Atlantic Copper and Kokkola Refinery.

Our use of water is mostly correlated to increases or decreases in site-specific mining production, which is generally related to global commodity prices and specific operating characteristics of our mines. We utilize a water management system to determine near and longer-term water use requirements, as well as to seek sustainable water sources based on catchment factors such as drought exposure and rights to access. Our system begins with using operational-based water models to understand our water use in order to minimize water losses (such as evaporation or seepage), maintain quality standards and identify recycling opportunities. This allows us to seek a reduction in water needs where operational efficiencies allow, depending on production requirements.

CAUTIONARY STATEMENT - This report contains forward looking statements in which we discuss factors we believe may affect our performance in the future. Forward looking statements other than statements of historical fact, such as statements regarding projected production and sales volumes. We caution readers that our actual results may differ materially from those anticipated or projected in forward looking statements. Important factors that can cause our actual results to differ are described in Freeport-McMoRan's Annual Report Form 10-K for the year ended December 31, 2017, filed with the Securities and Exchange Commission and available on our website at fcx.com.

W-MM0.1a

**(W-MM0.1a) Which activities in the metals and mining sector does your organization engage in?**

Activity	Details of activity
Mining	Copper
Processing metals	Other non-ferrous metal mining

W0.2

**(W0.2) State the start and end date of the year for which you are reporting data.**

Reporting year	Start date	End date
Reporting year	January 1 2017	December 31 2017

W0.3

**(W0.3) Select the countries/regions for which you will be supplying data.**

- Chile
- Finland
- Netherlands
- Peru
- Spain
- United Kingdom of Great Britain and Northern Ireland
- United States of America

W0.4

**(W0.4) Select the currency used for all financial information disclosed throughout your response.**

USD

## W0.5

**(W0.5) Select the option that best describes the reporting boundary for companies, entities, or groups for which water impacts on your business are being reported.**

Companies, entities or groups over which financial control is exercised

## W0.6

**(W0.6) Within this boundary, are there any geographies, facilities, water aspects, or other exclusions from your disclosure?**

Yes

### W0.6a

**(W0.6a) Please report the exclusions.**

Exclusion	Please explain
Oil and gas assets (business unit exclusion)	Our remaining oil and gas assets are excluded from this response boundary. While our oil and gas operations are excluded from the boundary of this report, we operate them in accordance with Freeport-McMoRan policies and governance structures. Operating in a highly-regulated industry in the U.S., our oil and gas operations maintain audited safety and environmental management systems and emergency response procedures.
PT Freeport Indonesia	As previously announced, the company has entered into a Heads of Agreement with the Indonesian state-owned enterprise PT Indonesia Asahan Aluminium (Inalum) and PT Freeport Indonesia's (PT-FI) joint venture partner Rio Tinto. Under the terms of the agreement, Inalum's share ownership will approximate 51 percent of PT-FI (subject to an agreement between shareholders to replicate the Joint Venture economics), and Freeport-McMoRan's ownership will approximate 49 percent. Due to company's expected minority interest stake, PT-FI is excluded from the response boundary

## W1. Current state

### W1.1

**(W1.1) Rate the importance (current and future) of water quality and water quantity to the success of your business.**

	Direct use importance rating	Indirect use importance rating	Please explain
Sufficient amounts of good quality freshwater available for use	Vital	Neutral	Our mining operations require water for mining, ore processing and related support facilities. Most of our mining operations in North and South America are in arid regions. Continuous production at our mines is dependent on our ability to maintain our water rights and claims, and the continuing physical availability of good quality water supplies
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Neutral	In 2017, we used approximately 1,431,000 megaliters of water in our operating processes, of which over 80% was recycled water. The majority of our recycled water originates from reclaimed water capture at tailings storage facilities and leach pads. Our overall water use has remained relatively constant over the past five years.

### W1.2

**(W1.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?**

	% of sites/facilities/operations	Please explain
Water withdrawals – total volumes	100%	This data is collected and reported annually.
Water withdrawals – volumes from water stressed areas	100%	This data is collected and reported annually.
Water withdrawals – volumes by source	100%	This data is collected and reported annually.
Produced water associated with your metals & mining sector activities - total volumes	Not relevant	The company does not produce water in its mine operations.
Produced water associated with your oil & gas sector activities - total volumes	<Not Applicable>	<Not Applicable>
Water withdrawals quality	Not monitored	
Water discharges – total volumes	100%	This data is collected and reported annually. Most of the company mining operations are managed are zero-discharge facilities, so there are only a few facilities that actually discharge water.
Water discharges – volumes by destination	100%	This data is collected and reported annually.
Water discharges – volumes by treatment method	100%	This data is collected and reported annually.
Water discharge quality – by standard effluent parameters	100%	This data is collected and reported annually.
Water discharge quality – temperature	100%	
Water consumption – total volume	100%	This data is collected and reported annually.
Water recycled/reused	100%	This data is collected and reported annually.
The provision of fully-functioning, safely managed WASH services to all workers	100%	This data is collected and reported annually.

## W1.2b

(W1.2b) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, and how do these volumes compare to the previous reporting year?

	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Total withdrawals	225500	Lower	Lower withdrawals primarily due to the sale of our interest in the Tenke Fungurume mine in the Democratic Republic of Congo in November 2016.
Total discharges	63300	Much lower	Mostly related to temporary maintenance activities affecting operations at the Atlantic Copper operation in Spain.
Total consumption	1431000	Lower	Lower withdrawals primarily due to the sale of our interest in the Tenke Fungurume mine in the Democratic Republic of Congo in November 2016.

## W1.2d

(W1.2d) Provide the proportion of your total withdrawals sourced from water stressed areas.

	% withdrawn from stressed areas	Comparison with previous reporting year	Identification tool	Please explain
Row 1	100	This is our first year of measurement	Other, please specify (company knowledge)	All of the company's mining operations within the boundary of this report are located in water-stressed regions.

## W1.2h

(W1.2h) Provide total water withdrawal data by source.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water, including rainwater, water from wetlands, rivers, and lakes	Relevant	126500	About the same	
Brackish surface water/seawater	Relevant	0	Please select	The company did not use any brackish surface water or seawater in 2017.
Groundwater – renewable	Relevant	72200	Lower	Lower renewable groundwater withdrawals primarily due to the sale of our interest in the Tenke Fungurume mine in the Democratic Republic of Congo in November 2016.
Groundwater – non-renewable	Relevant	0	Please select	
Produced water	Not relevant	<Not Applicable>	<Not Applicable>	The company does not produce water at its operations
Third party sources	Relevant	26800	Lower	In response to the CDP's recent changes water to withdrawal categories, the company now consolidates its reported withdrawals of municipal water and wastewater delivered from another organization into this single category of third party sources. The overall total is lower in 2017 due to lower demand as a result of increased water recycling and reuse at its facility in Peru.

## W1.2i

(W1.2i) Provide total water discharge data by destination.

	Relevance	Volume (megaliters/year)	Comparison with previous reporting year	Please explain
Fresh surface water	Relevant	63300	Lower	lower discharges due to the sale of the Tenke Fungurume mine in the Democratic Republic of Congo and the removal its reported water discharges from our CDP water disclosure reporting
Brackish surface water/seawater	Not relevant	<Not Applicable>	<Not Applicable>	
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	
Third-party destinations	Not relevant	<Not Applicable>	<Not Applicable>	

## W1.2j

**(W1.2j) What proportion of your total water use do you recycle or reuse?**

	% recycled and reused	Comparison with previous reporting year	Please explain
Row 1	76-99%	About the same	We aim to maximize recycling rates to achieve a reduced water footprint and we continuously analyze the sources of our water and seek to place our operations on renewable and recycled sources.

**W-MM1.2j**

**(W-MM1.2j) For your metals and mining operations, provide details of the volume of water recycled or reused by your organization and the proportion of total water use this represents.**

	Volume of water recycled or reused by your organization (megaliters/year)	% of total water use recycled or reused	Please explain
Row 1	1205500	76-99	We aim to maximize recycling rates to achieve a reduced water footprint and we continuously analyze the sources of our water and seek to place our operations on renewable and recycled sources.

**W-MM1.3**

**(W-MM1.3) Do you calculate water intensity information for your metals and mining activities?**

Yes

**W-MM1.3a**

**(W-MM1.3a) For your top 5 products by revenue, provide the following intensity information associated with your metals and mining activities.**

Product	Numerator: Water aspect	Denominator: Unit of production	Comparison with previous reporting year	Please explain
copper	Total water withdrawals	Ton of final product	This is our first year of measurement	Copper units measured in copper equivalency units that includes byproducts such as molybdenum; the use of total water withdrawals is used to represent the amount of new (make-up) water required to produce each ton of final copper product; this water intensity metric includes joint-venture portions of production at company facilities.

**W1.4**

**(W1.4) Do you engage with your value chain on water-related issues?**

No, we do not engage on water with our value chain

**W1.4d**

**(W1.4d) Why do you not engage with any stages of your value chain on water-related issues and what are your plans?**

	Primary reason	Please explain
Row 1	Other, please specify (Based on internal risk analysis)	Mining is at the bottom of the manufacturing value chain and therefore we directly evaluate water use, risk and management as a core component of our own business. We have reviewed public disclosures of our key suppliers and from that review we have not identified any water-related risks that could materially impact our business. Supply chain exposure to water-related risks may include changes in precipitation patterns/sea levels/storm intensities, water shortages, and new or modified regulations. Severe weather events in recent years have had short-term impacts (for example, reduced cash flow at a particular site for three months) on transportation systems that impact getting operational supplies to our mines as well as getting our concentrates and cathodes to our customers.

**W2. Business impacts**

**W2.1**

**(W2.1) Has your organization experienced any detrimental water-related impacts?**

Yes

## W2.1a

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(W2.1a) Describe the water-related detrimental impacts experienced by your organization, your response, and total financial impact.

**Country/Region**

Peru

**River basin**

Other, please specify (Chili River)

**Type of impact driver**

Physical

**Primary impact driver**

Flooding

**Primary impact**

Changing revenue mix and sources

**Description of impact**

During first quarter 2017, Cerro Verde's operations were unfavorably impacted by unusually heavy rainfall. This resulted in lower than planned mining rates and a reduction of approximately 80 million pounds of copper in Cerro Verde's estimated 2017 sales volumes.

**Primary response**

Engage with local communities

**Total financial impact**

**Description of response**

The company assisted the local community in repairing the damage due to the extensive flooding and landslides that occurred during the first quarter of 2017.

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## W2.2

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(W2.2) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

No

## W3. Procedures

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### W-MM3.2

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(W-MM3.2) By river basin, what number of active and inactive tailings dams are within your control?

**Country/Region**

United States of America

**River basin**

Colorado River (Pacific Ocean)

**Number of tailings dams in operation**

15

**Number of inactive tailings dams**

41

**Comment**

"inactive" category includes 20 inactive + 41 reclaimed tailings dams; 5 dams are upstream of reservoirs which divert flows to Mississippi River.

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**Country/Region**

United States of America

**River basin**

Mississippi River

**Number of tailings dams in operation**

0

**Number of inactive tailings dams**

4

**Comment**

"inactive" category includes 4 reclaimed tailings dams

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**Country/Region**

Peru

**River basin**

Other, please specify (Chili River (Arequipa region))

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**Number of tailings dams in operation**

1

**Number of inactive tailings dams**

0

**Comment**

Cerro Verde Mine has two tailings dams, one of which is in the Chili River watershed, which drains to Pacific Ocean.

**Country/Region**

Peru

**River basin**

Other, please specify (Tambo River (Arequipa region))

**Number of tailings dams in operation**

1

**Number of inactive tailings dams**

0

**Comment**

Cerro Verde Mine has two tailings dams, one of which is in the Rio Tambo watershed which drains to Pacific Ocean.

**Country/Region**

United States of America

**River basin**

Other, please specify (Mimbres River (closed basin))

**Number of tailings dams in operation**

1

**Number of inactive tailings dams**

10

**Comment**

"inactive" category includes 3 inactive + 7 reclaimed tailings dams

**Country/Region**

United States of America

**River basin**

Other, please specify (Whitwater Draw, Gulf of Mexico)

**Number of tailings dams in operation**

0

**Number of inactive tailings dams**

2

**Comment**

"inactive" category includes 2 inactive reclaimed tailings dams

**W-MM3.2a**

**(W-MM3.2a) To manage the potential impacts to human health or water ecosystems associated with the tailings dams in your control, what procedures are in place for all of your dams?**

Procedure	Detail of the procedure	Please explain
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Procedure	Detail of the procedure	Please explain
Acceptable risk levels	<p>Establishment of site-level guidance and standards for acceptable risk levels for occupational health and safety</p> <p>Establishment of site-level guidance and standards for acceptable risk levels for third party safety</p> <p>Establishment of site-level guidance and standards for acceptable risk levels after mine closure</p> <p>Establishment of company-wide standards for acceptable risk levels</p> <p>Other, please specify (dust management procedures)</p>	<p>Our FCX Occupational Health and Safety Management System (OHSMS) is the framework under which we prioritize and manage health and safety risks. Each site applies the framework and develops critical controls for managing to acceptable risk levels. Site Risk Registers maintain focus and drive action plan execution for priority risks.</p>
Operating plan	<p>An operating plan that includes the operating constraints of the dam and its construction method</p> <p>An operating plan that includes the consequences of breaching its operating constraints</p> <p>An operating plan that includes application of appropriate engineering practices to the slope materials</p> <p>An operating plan that includes application of appropriate engineering practices to the foundation materials</p> <p>An operating plan that includes periodic review of the foundations and slope materials</p>	<p>We have Operations &amp; Maintenance (O&amp;M) Manuals for all of our active TSFs and Monitoring and Maintenance (M&amp;M) Manuals for select inactive and reclaimed TSFs. We also produce annual reports for all active TSFs, which include updates to operating plans and life of facility planning. These manuals include site-specific guidance on operating plans. Operating plans are based on design criteria and risk management procedures that are developed with consideration of the consequences of breach. Qualified internal tailings-dedicated engineers and onsite leaders manage TSF stability. Roles, responsibilities and competencies are clearly defined for these professionals. We employ qualified external Engineer(s) of Record (EoRs) for analyses, designs, inspections and reviews for stability. Our EoRs inspect our operating TSFs at least four times a year (monthly in some cases). EoRs are actively engaged with our operating teams to review ongoing operations, performance on stability indicators, and planning for life of mine tailings requirements. We regularly inspect and monitor phreatic level trends and adhere to deposition plans, good operational construction practices, water management controls, seepage management strategies and stability monitoring. We also periodically review as built conditions through field and laboratory geotechnical testing programs under the guidance of our EoRs. Water management is a key aspect of tailings management to maintain structural stability. Our corporate and site tailings and water teams regularly quantify water balance and oversee water management as appropriate to each facility.</p>
Life of facility plan	<p>A life of facility plan that considers the operating and closure phases</p> <p>A life of facility plan that considers design and construction phases</p> <p>A life of facility plan that considers closure and decommissioning phases</p> <p>A life of facility plan that considers post-closure</p>	<p>Our life of facility plans are initially developed during TSF design phases by our EoRs with input from our engineers. The plans are updated regularly throughout TSF life cycle and consider construction, operations, closure, and post-closure stages of life. Our TMSG document, O&amp;M Manuals, and task-specific work instructions provide guidance to our engineers for updating these plans with support from our EoRs. Plans provide sufficient detail for good practice for the life of the facility while including greater consideration for construction materials, resources, and five-year horizon schedules.</p>

Procedure	Detail of the procedure	Please explain
Assurance program	<p>An assurance program for the operating phase of the facility that details the procedures for the inspections, audits and reviews</p> <p>An assurance program for each phase of the facilities' life that includes the frequency of the various levels of inspections, audits and reviews</p> <p>An assurance program for each phase of the facilities' life that includes the scope of the various levels of inspections, audits and reviews</p> <p>An assurance program that details the competence requirements for the persons undertaking the inspections, audits and reviews</p>	<p>Freeport-McMoRan's objective is to have zero catastrophic structural failures of tailings storage facilities (TSFs). We maintain a tailings management and stewardship program designed for continual improvement and assurance. Our stewardship program is mature, having been under continuous improvement since initiated in 2004. The terms of reference of our third party inspectors, reviewers, and assurance providers is formally documented and is being incorporated into our TMSG and supporting standard operating procedures. The competence expectations for third-party inspectors and reviewers as well as frequency of inspections and reviews are referenced in our documents. An important feature of our program is that our corporate tailings team provides direction and support for implementation of program guidance, procedures and operational engineering good practices. Corporate tailings engineers are assigned as "Points-of-Contact" for specific operations to actively support operations, engineering and surveillance, and facilitate communications between site teams, the corporate tailings team and EoRs. 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 and inspects all active and select inactive TSFs annually and other inactive and closed TSFs on a site-specific schedule. In 2017, our TST conducted annual field inspections at 19 active and 32 inactive TSFs. Sites have achieved 95 percent completion on TST recommended activities for TSFs (2004 to 2017). We also seek the advice of Technical Review Boards / External Tailings Review Boards (TRBs), composed of internationally recognized independent experts, regarding our EoRs' design and analysis, as well as management of TSF stability and water controls. The TRBs provide a layer of assurance that our practices are aligned with good practices. We utilize TRBs for all of our active TSFs in North America and South America. We implement the elements of the ICMM Position Statement on Preventing Catastrophic Failure of Tailings Storage Facilities published in December 2016: accountability, responsibility and competency; planning and resourcing; risk management; change management; emergency preparedness and response; and review and assurance.</p>
Change management process	<p>Inclusion of a formal change management process for the construction phase of the facility</p> <p>Inclusion of a formal change management process for the operating phase of the facility</p> <p>Inclusion of a formal change management process for the closure and decommissioning phase of the facility</p> <p>Inclusion of change management process in the assurance program</p>	<p>Our stewardship program terms of reference includes specific guidance on tailings change management (MoC) for assurance program elements. Our TMSG includes guidance on our MoC process through the life of our TSFs, and site-specific MoC processes are referenced in the site O&amp;M manuals. Our tailings MoC process ties into our corporate and site-wide Health and Safety MoC processes. We continue to refine and improve our MoC processes at the TSF level.</p>
Approval	<p>The operating plan and the life of facility plan are approved by the EHS manager</p> <p>The operating plan and the life of facility plan are approved by a C-suite manager</p> <p>The results of the assurance program and the change management process are approved by the EHS manager</p> <p>The results of the assurance program and the change management process are approved by a C-suite manager</p> <p>Other, please specify (Regular corporate review/support)</p>	<p>The FCX Corporate Responsibility Committee assists the FCX Board of Directors in fulfilling its oversight responsibilities with respect to the management of risks associated with our safety and health policies and programs, environmental policy and implementation programs among other responsibilities. The FCX Board of Directors and FCX Corporate Responsibility Committee delegate authority and responsibility for our operating plans and assurance programs to our Chief Officers. Our Chief Operating Officer and Chief Administrative Officer review and approve overarching life of mine plans as well as our assurance program plans and outcomes. The Chief Officers further delegate responsibility for details of operating plans, life of mine and facility plans, assurance and stewardship program implementation, and MoC process implementation to regional Presidents, site General Managers and Managers, as well as corporate Environmental and Sustainable Development Vice President, Technical Services Vice President, and dedicated Tailings &amp; Water Directors and Managers.</p>



Procedure	Detail of the procedure	Please explain
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### W3.3

#### (W3.3) Does your organization undertake a water-related risk assessment?

Yes, water-related risks are assessed

### W3.3a

#### (W3.3a) Select the options that best describe your procedures for identifying and assessing water-related risks.

##### Direct operations

###### Coverage

Full

###### Risk assessment procedure

Water risks are assessed as part of other company-wide risk assessment system

###### Frequency of assessment

Annually

###### How far into the future are risks considered?

>10 years

###### Type of tools and methods used

Other

###### Tools and methods used

Internal company methods

###### Comment

Water is integrated into a comprehensive company-wide risk assessment process incorporating both direct operations and our value chain (upstream and downstream). The company relies on its Sustainable Development (SD) Risk Register process to assess risks in our value chain, include water uses as applicable. The company takes both a current and long-term view on securing water supplies that address changing water use patterns and changing risks and opportunities for future sources of water.

##### Supply chain

###### Coverage

None

###### Risk assessment procedure

<Not Applicable>

###### Frequency of assessment

<Not Applicable>

###### How far into the future are risks considered?

<Not Applicable>

###### Type of tools and methods used

<Not Applicable>

###### Tools and methods used

<Not Applicable>

###### Comment

##### Other stages of the value chain

###### Coverage

Full

###### Risk assessment procedure

Water risks are assessed as part of other company-wide risk assessment system

###### Frequency of assessment

Annually

###### How far into the future are risks considered?

>10 years

###### Type of tools and methods used

Other

###### Tools and methods used

Internal company methods

###### Comment

The company's SD Risk Register is being updated in 2018 to include additional topics, such as climate-related impacts, with more extensive categorical definitions for risk evaluation. This update is due in part to reflect due diligence priorities of downstream consumer-facing companies in our value chain, including members of the Responsible Minerals Initiative.

W3.3b

(W3.3b) Which of the following contextual issues are considered in your organization's water-related risk assessments?

	Relevance & inclusion	Please explain
Water availability at a basin/catchment level	Relevant, always included	The company's Sustainable Development framework is based on operation-specific factors and influences, including regional context, type and stage of operation, and social setting. Essential to this framework is the SD Risk Register process, which prioritizes risks that have the potential for negative consequences to our business, our regional partners, and our stakeholders as it relates to areas including health and safety, respect for human rights, the environment, community stability and economic impacts. The Sustainable Development Department and senior multi-disciplined personnel coordinate with operations to ensure prioritization processes are consistent with corporate procedures and provide associated guidance. Sustainability focus areas identified through this process are reviewed by our Sustainable Development Leadership Team and communicated to the Board of Directors. We recognize the importance of efficiently 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. The company maintains a global water management program designed to increase water use efficiency in our processes while minimizing the use of freshwater.
Water quality at a basin/catchment level	Relevant, always included	See explanation above regarding the SD Risk Register process.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	See explanation above regarding the SD Risk Register process.
Implications of water on your key commodities/raw materials	Relevant, always included	See explanation above regarding the SD Risk Register process.
Water-related regulatory frameworks	Relevant, always included	See explanation above regarding the SD Risk Register process.
Status of ecosystems and habitats	Relevant, always included	See explanation above regarding the SD Risk Register process.
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	See explanation above regarding the SD Risk Register process.
Other contextual issues, please specify	Relevant, always included	See explanation above regarding the SD Risk Register process.

W3.3c

**(W3.3c) Which of the following stakeholders are considered in your organization's water-related risk assessments?**

	Relevance & inclusion	Please explain
Customers	Relevant, always included	Certain customers at various downstream layers of the value chain request information concerning water use and management, including specific operations. This engagement helps inform our assessment of water related risks.
Employees	Relevant, always included	The SD Risk Register process described above takes into account our employees. In addition, our employees conduct and maintain our assessments and resulting actions with respect to water.
Investors	Relevant, always included	Our Corporate Sustainability Department process engages frequently with the socially responsible investment community, including dialogue on our water programs and projects. Viewpoints and suggestions are considered on an ongoing basis including directly into our SD Risk Register process as well as our GRI G4 materiality prioritization process. The feedback we receive is important to continually inform and improve our reporting on sustainability programs, including our work with respect to water.
Local communities	Relevant, always included	Communities are often primary stakeholders whose input we evaluate in our SD Risk Register process at the local level. For example, our Cerro Verde operation completed construction of a wastewater treatment plant for Arequipa, Peru as part of its large-scale expansion, and obtained authorization to reuse an annual average of one cubic meter per second of the treated water. Through local stakeholder engagement, the outcome has been a "win-win" for the local community, regional government and Cerro Verde. The company has also supported multiple projects to sustain and improve the Gila, San Francisco and Blue River watersheds in Arizona by improving infrastructure and increasing community education and engagement around water conservation.
NGOs	Relevant, always included	The SD Risk Register process described above takes into consideration the views of NGOs and the work of certain NGOs with respect to water issues.
Other water users at a basin/catchment level	Relevant, always included	The SD Risk Register process described above takes into consideration the views and plans of any stakeholder group, as applicable, including other municipal, industrial, tribal/other indigenous communities and agricultural water users.
Regulators	Relevant, always included	The SD Risk Register process takes into account the water laws and regulations that are applicable to the development and preservation of sustainable water supplies for our mine operations. As part of this effort and where applicable, we interact with local, state and federal regulatory agencies along with tribal governments as key stakeholders whose input and views we evaluate through our SD Risk Register process. In some cases, we participate in stakeholder groups led by these agencies or governments.
River basin management authorities	Relevant, always included	Where applicable, river basin management authorities are key stakeholders, in the same manner as regulatory agencies and tribal governments, whose inputs and views we evaluate through our SD Risk Register process. In some cases, we participate in stakeholder groups led by river basin management authorities.
Statutory special interest groups at a local level	Relevant, always included	Local and regional stakeholders are often primary stakeholders whose inputs and views we evaluate in our SD Risk Register process at the local operating level. We monitor actions of others that create either risk to our operations or future water supplies as well as evaluate our actions and the impact that will have on regional water users.
Suppliers	Relevant, always included	The SD Risk Register process assists in prioritizing safety, environmental, social, economic and value chain challenges and opportunities. Through this process, we monitor the potential for risks in the value chain (upstream supplier and downstream consumer influences), including water related risks if applicable.
Water utilities at a local level	Relevant, always included	The SD Risk Register process described above takes into consideration the views of water utilities and suppliers with respect to water issues.
Other stakeholder, please specify	Relevant, always included	The SD Risk Register process described above takes into account the views of indigenous peoples with respect to water issues. 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.

**W3.3d**

**(W3.3d) Describe your organization's process for identifying, assessing, and responding to water-related risks within your direct operations and other stages of your value chain.**

The company utilizes a water management system to determine near and longer-term water use requirements, as well as to seek sustainable water sources based on catchment factors such as drought exposure and rights to access. Our system begins with utilizing operational-based water models to understand our water use in order to minimize water losses, maintain quality standards and identify recycling opportunities. In aggregate, this allows us to seek a reduction in water needs where operational efficiencies allow, depending on production requirements.

**W4. Risks and opportunities**

**W4.1**

**(W4.1) Have you identified any inherent water-related risks with the potential to have a substantive financial or strategic impact on your business?**

Yes, only within our direct operations

**W4.1a**

**(W4.1a) How does your organization define substantive financial or strategic impact on your business?**

A substantial risk could include, but may not be limited to, a curtailment or disruption of mine production, prevention of mine expansion opportunities, increased capital expenditure and operational maintenance costs associated with development of alternate and renewable water supplies, or increased capital expenditures and increased operating costs associated with water quality programs and technologies.

Please see additional information in the Risk Factors section of our 2017 Form 10-K.

W4.1b

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(W4.1b) What is the total number of facilities exposed to water risks with the potential to have a substantive financial or strategic impact on your business, and what proportion of your company-wide facilities does this represent?

	Total number of facilities exposed to water risk	% company-wide facilities this represents	Comment
Row 1	11	100	All of our active mine operations are exposed to various types of water risks.

W4.1c

---

(W4.1c) By river basin, what is the number and proportion of facilities exposed to water risks that could have a substantive impact on your business, and what is the potential business impact associated with those facilities?

**Country/Region**

United States of America

**River basin**

Colorado River (Pacific Ocean)

**Number of facilities exposed to water risk**

9

**% company-wide facilities this represents**

51-75

**Production value for the metals & mining activities associated with these facilities**

2156

**% company's annual electricity generation that could be affected by these facilities**

<Not Applicable>

**% company's global oil & gas production volume that could be affected by these facilities**

<Not Applicable>

**% company's total global revenue that could be affected**

26-50

**Comment**

The production value is reflected as the copper equivalent production (presented in millions of pounds) that is produced by our active mine operations in the United States; this number reflects 100% of the production, including any minority interest portions.

---

**Country/Region**

Chile

**River basin**

Other, please specify (Ascotan salt flat drainage basin)

**Number of facilities exposed to water risk**

1

**% company-wide facilities this represents**

1-25

**Production value for the metals & mining activities associated with these facilities**

173

**% company's annual electricity generation that could be affected by these facilities**

<Not Applicable>

**% company's global oil & gas production volume that could be affected by these facilities**

<Not Applicable>

**% company's total global revenue that could be affected**

1-25

**Comment**

The production value is reflected as the copper equivalent production (presented in millions of pounds) that is produced by our active mine operation in Chile; this number reflects 100% of the production, including any minority interest portions.

---

**Country/Region**

Peru

**River basin**

Other, please specify (Chili River)

**Number of facilities exposed to water risk**

1

**% company-wide facilities this represents**

1-25

**Production value for the metals & mining activities associated with these facilities**

1199

**% company's annual electricity generation that could be affected by these facilities**

<Not Applicable>

**% company's global oil & gas production volume that could be affected by these facilities**

<Not Applicable>

**% company's total global revenue that could be affected**

1-25

**Comment**

The production value is reflected as the copper equivalent production (presented in millions of pounds) that is produced by our active mine operation in Peru; this number reflects 100% of the production, including any minority interest portions.

---

(W4.2) Provide details of identified risks in your direct operations with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.

**Country/Region**

United States of America

**River basin**

Colorado River (Pacific Ocean)

**Type of risk**

Regulatory

**Primary risk driver**

Regulatory uncertainty

**Primary potential impact**

Reduction or disruption in production capacity

**Company-specific description**

In the arid western U.S., water rights are often contested and disputes are generally time-consuming, expensive and not necessarily dispositive unless they resolve both actual and potential claims. The loss of a water right or a continued use of a currently available water supply, or the inability to expand our water resources could materially and adversely affect our mining operations by increasing costs, forcing us to curtail operations, or preventing time-sensitive expansions.

**Timeframe**

Unknown

**Magnitude of potential impact**

Unknown

**Likelihood**

Unknown

**Potential financial impact**

**Explanation of financial impact**

Because the timeframe, likelihood and magnitude of this risk is unknown, we are not able to quantify a specific financial impact.

**Primary response to risk**

Other, please specify

**Description of response**

In response to the business continuity risk, our company continues to explore opportunities to augment existing water supplies and to complete water right settlement agreements that secure existing water supplies. Mining sites in arid regions also maintain hydrologic and operational-based models to better understand water use, identify losses within the operation, and develop management practices that maximize efficient water use. The company also remains an active participant in ongoing water rights adjudication proceedings and in litigation over federal reserved water rights claims, both of which are currently ongoing in Arizona.

**Cost of response**

**Explanation of cost of response**

The nature of this response is long-term and continuously evolves with frequently changing regulatory, environmental and political circumstances, such that it is not possible to accurately quantify the costs of this response.

**Country/Region**

United States of America

**River basin**

Colorado River (Pacific Ocean)

**Type of risk**

Physical

**Primary risk driver**

Increased water scarcity

**Primary potential impact**

Reduction or disruption in production capacity

**Company-specific description**

In the arid western U.S., water rights are often contested and disputes are generally time-consuming, expensive and not necessarily dispositive unless they resolve both actual and potential claims. The loss of a water right or a continued use of a currently available water supply, or the inability to expand our water resources could materially and adversely affect our mining operations by increasing costs, forcing us to curtail operations, or preventing time-sensitive expansions.

**Timeframe**

Unknown

**Magnitude of potential impact**

Unknown

**Likelihood**

Unknown

**Potential financial impact**

**Explanation of financial impact**

Because the timeframe, likelihood and magnitude of this risk is unknown, we are not able to quantify a specific financial impact.

**Primary response to risk**

Other, please specify

**Description of response**

In response to the business continuity risk, our company continues to explore opportunities to augment existing water supplies and to complete water right settlement agreements that secure existing water supplies. Mining sites in arid regions also maintain hydrologic and operational-based models to better understand water use, identify losses within the operation, and develop management practices that maximize efficient water use. The company also remains an active participant in ongoing water rights adjudication proceedings and in litigation over federal reserved water rights claims, both of which are currently ongoing in Arizona.

**Cost of response****Explanation of cost of response**

The nature of this response is long-term and continuously evolves with frequently changing regulatory, environmental and political circumstances, such that it is not possible to accurately quantify the costs of this response.

---

**Country/Region**

United States of America

**River basin**

Colorado River (Pacific Ocean)

**Type of risk**

Physical

**Primary risk driver**

Flooding

**Primary potential impact**

Reduction or disruption in production capacity

**Company-specific description**

Potential short-term interruptions to business operations and potential safety hazard.

**Timeframe**

Unknown

**Magnitude of potential impact**

Unknown

**Likelihood**

Unknown

**Potential financial impact****Explanation of financial impact**

Because the timeframe, likelihood and magnitude of this risk is unknown, we are not able to quantify a specific financial impact.

**Primary response to risk**

Other, please specify

**Description of response**

While overall rainfall events can be infrequent and short-term in nature, large volumes of water can accumulate from isolated heavy rainfall events. Business interruption can also stem from higher intensity, short-duration storms. These isolated events can produce negative, but generally non-material effects on mining and production rates. Evaporation, source separation to reduce impairment and other water management activities have been developed to varying degrees at these sites to help reduce the volume of captured stormwater.

**Cost of response****Explanation of cost of response**

Because the frequency, nature and magnitude of these events is not possible to predict, and may vary in terms of the needed response between local geographic areas, it is not possible to accurately quantify the cost of this response.

---

**Country/Region**

United States of America

**River basin**

Colorado River (Pacific Ocean)

**Type of risk**

Reputation & Markets

**Primary risk driver**

Water-related litigation

**Primary potential impact**

Reduction or disruption in production capacity

**Company-specific description**

In the arid western U.S., water rights are often contested and disputes are generally time-consuming, expensive and not necessarily dispositive unless they resolve both actual and potential claims. The loss of a water right or a continued use of a currently available water supply, or the inability to expand our water resources could materially and adversely affect our mining operations by increasing costs, forcing us to curtail operations, or preventing time-sensitive expansions.

**Timeframe**

Unknown

**Magnitude of potential impact**

Unknown

**Likelihood**

Unknown

---

**Potential financial impact****Explanation of financial impact**

Because the timeframe, likelihood and magnitude of this risk is unknown, we are not able to quantify a specific financial impact.

**Primary response to risk**

Other, please specify

**Description of response**

In Arizona, we are a participant in one active general stream adjudication in which, for over 40 years, the Arizona courts have been attempting to quantify and prioritize surface water claims for the states largest river system, which affect our operating mines at Morenci, Safford, Sierrita and Miami. Litigation results could be material to the company as described in our 2017 Form 10-K, Part I, Item 3 (Legal Proceedings), page 52-54.

**Cost of response****Explanation of cost of response**

The nature of this response is long-term and continuously evolves with frequently changing regulatory, environmental and political circumstances, such that it is not possible to accurately quantify the costs of this response.

---

**Country/Region**

Chile

**River basin**

Other, please specify (Ascotan salt flat drainage basin)

**Type of risk**

Physical

**Primary risk driver**

Increased water scarcity

**Primary potential impact**

Other, please specify

**Company-specific description**

Curtailed mine production and prevention of mine expansion opportunities, increased capital expenditures and operational maintenance costs associated with development of alternative, renewable water supplies.

**Timeframe**

Unknown

**Magnitude of potential impact**

Unknown

**Likelihood**

Unknown

**Potential financial impact****Explanation of financial impact**

Because the timeframe, likelihood and magnitude of this risk is unknown, we are not able to quantify a specific financial impact.

**Primary response to risk**

Other, please specify

**Description of response**

El Abra has sufficient water rights to support current operations, but a change to the project, such as increased production or mill processing, would require additional water beyond our current groundwater pumping. In response, El Abra is conducting studies to assess the feasibility of constructing a seawater desalination plant on the Pacific Ocean, along with an accompanying 90-mile pipeline, to treat seawater for potential use in increased sulfide ore production or mill processing.

**Cost of response**

1400000000

**Explanation of cost of response**

The general costs of building a new desalination plant and delivery pipeline are preliminarily estimated at \$1.4 billion (USD).

---

**Country/Region**

Chile

**River basin**

Other, please specify (Ascotan salt flat drainage basin)

**Type of risk**

Regulatory

**Primary risk driver**

Regulatory uncertainty

**Primary potential impact**

Reduction or disruption in production capacity

**Company-specific description**

The loss of a water right or a continued use of a currently available water supply, or the inability to expand our water resources could materially and adversely affect our mining operations by increasing costs, forcing us to curtail operations, or prevent time-sensitive expansions.

**Timeframe**

Unknown

**Magnitude of potential impact**



Unknown

**Likelihood**

Unknown

**Potential financial impact**

**Explanation of financial impact**

Because the timeframe, likelihood and magnitude of this risk is unknown, we are not able to quantify a specific financial impact.

**Primary response to risk**

Other, please specify

**Description of response**

El Abra has sufficient water rights to support current operations, but a change to the project, such as increased production or mill processing, would require additional water beyond our current groundwater pumping. In response, El Abra is conducting studies to assess the feasibility of constructing a seawater desalination plant on the Pacific Ocean, along with an accompanying 90-mile pipeline, to treat seawater for potential use in increased sulfide ore production or mill processing.

**Cost of response**

1400000000

**Explanation of cost of response**

The general costs of building a new desalination plant and delivery pipeline are preliminarily estimated at \$1.4 billion (USD).

**Country/Region**

Peru

**River basin**

Other, please specify (Chili River)

**Type of risk**

Physical

**Primary risk driver**

Increased water scarcity

**Primary potential impact**

Reduction or disruption in production capacity

**Company-specific description**

Water for our Cerro Verde operations comes from renewable sources through a series of storage reservoirs on the Chili River watershed that collect water primarily from seasonal precipitation.

**Timeframe**

Unknown

**Magnitude of potential impact**

Unknown

**Likelihood**

Unknown

**Potential financial impact**

**Explanation of financial impact**

Because the timeframe, likelihood and magnitude of this risk is unknown, we are not able to quantify a specific financial impact.

**Primary response to risk**

Other, please specify

**Description of response**

Cerro Verde has achieved full capacity operating rates for its recent major expansion of copper mining operations, located near Arequipa - Peru's second largest city. With a lack of adequate 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% of Arequipa's domestic sewage and industrial discharges that previously reported directly into the Chili River. Cerro Verde now uses an annual average of 1 cubic meter per second of the treated wastewater from the WWTP to support its expanded ore processing operation and the remaining treated wastewater is discharged back into the Chili River for downstream uses. The end result is that Cerro Verde has now replaced 50% of the freshwater needs for its mine operations with effluent from this newly constructed WWTP.

**Cost of response**

452000000

**Explanation of cost of response**

The company invested \$452 million dollars to fund the design and construction of the wastewater treatment plant (WWTP) that serves Arequipa and provides effluent to Cerro Verde and downstream water users on the Chili River.

**W4.2c**

**(W4.2c) Why does your organization not consider itself exposed to water risks in its value chain (beyond direct operations) with the potential to have a substantive financial or strategic impact?**

	Primary reason	Please explain
Row 1	Risks exist, but no substantive impact anticipated	Mining is at the base of the value chain and therefore we directly evaluate water use, risk and management as a core component of our own business. We have reviewed public disclosures of our key suppliers and from that we have not identified any water-related risks that could materially impact our business. Supply chain exposure to water-related risks may include changes in precipitation patterns, sea levels, storm patterns and intensities, water shortages, and new or modified regulations.

## W4.3

---

### (W4.3) Have you identified any water-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes, we have identified opportunities, and some/all are being realized

## W4.3a

---

### (W4.3a) Provide details of opportunities currently being realized that could have a substantive financial or strategic impact on your business.

#### Type of opportunity

Other

#### Primary water-related opportunity

Other, please specify (Peru)

#### Company-specific description & strategy to realize opportunity

Our Cerro Verde mining operation has replaced 50% of its freshwater needs with treated effluent from a newly constructed wastewater treatment plant (WWTP) in Arequipa, Peru. In 2015, Cerro Verde, as part of a large-scale mining expansion, completed construction of this WWTP, which has also benefitted the local community through improved regional water quality, reduced waterborne illnesses and enhanced the value of local agricultural products, while providing effluent for Cerro Verde's operational expansion. Cerro Verde also funded the development of an expandable domestic water treatment facility which now provides local residents with 24-hour access to potable water.

#### Estimated timeframe for realization

Current - up to 1 year

#### Magnitude of potential financial impact

High

#### Potential financial impact

#### Explanation of financial impact

The benefits to the local community can be measured in the general and widespread improvements made to water quality, health and sanitation, while the benefits to Cerro Verde are a reliable source of renewable water that offsets a significant portion of its demand for other freshwater sources.

---

#### Type of opportunity

Other

#### Primary water-related opportunity

Other, please specify (United States)

#### Company-specific description & strategy to realize opportunity

During 2017, the company stored about 17,100 acre-feet (21,000 megaliters) of renewable surface water supplies at Groundwater Savings Facilities (GSFs) within Arizona for the purpose of accruing Long-Term Storage Credits (LTSCs) that can later be withdrawn to support existing operations or potential future mine expansions at many of our Arizona operations. Through this effort, Freeport-McMoRan arranges to have a renewable surface water allocation (Central Arizona Project water), which is secured under long-term leases with Tribal entities or through federal subcontracts, delivered as "in lieu" water to a recipient within the GSFs who then agree to replace their own groundwater pumping with the in lieu water, thus creating a groundwater savings. In addition, the company ordered an additional 9,400 acre-feet (11,600 megaliters) of renewable surface water in 2017 for direct use at an Arizona operation under an existing water exchange agreement, and it further purchased approximately 3,000 acre-feet (3,700 megaliters) of LTSCs from other entities.

#### Estimated timeframe for realization

Current - up to 1 year

#### Magnitude of potential financial impact

High

#### Potential financial impact

#### Explanation of financial impact

Recharge is a means of storing excess renewable water supplies so that they may be used in the future. Artificial recharge and the use of GSFs is an increasingly important tool in the management of Arizona's water supplies. Storing water underground to ensure an adequate supply for the purposes of satisfying current and future needs is both practical and cost-effective in our desert environment. This exercise also results in reducing groundwater demands in the state while encouraging the development of beneficial partnerships between various entities across the diverse water use sectors in Arizona.

---

#### Type of opportunity

Other

#### Primary water-related opportunity

Other, please specify

#### Company-specific description & strategy to realize opportunity

During 2015, Freeport-McMoRan completed a water rights settlement agreement with the Hualapai Tribe, located in Arizona, along with other federal and state parties. This settlement secured legal rights to over 70 percent of the make-up water supplies that support the company's Bagdad operation.

#### Estimated timeframe for realization

Current - up to 1 year

#### Magnitude of potential financial impact

High

#### Potential financial impact

#### Explanation of financial impact

---

In December 2015, the U.S. Secretary of Interior Sally Jewel issued a Record of Decision that finalized the Bill Williams Water Rights Settlement Act of 2014 (Act). The Act provided for a settlement of water rights disputes between the Hualapai Tribe (Tribe), the United States (acting on behalf of the Tribe), Freeport's Bagdad operation, and the State of Arizona's Game and Fish Department in the Bill Williams River watershed in Arizona. The settlement provided the Tribe with the means to purchase future water supplies to Tribal members. Additionally, the settlement provided for the transfer of a portion of the company's Planet Ranch property and water rights to support the Multi-Species Conservation Program (MSCP). The MSCP is a multi-state program that sets aside land for species and habitat conservation to offset water and power operations in the Lower Colorado River Basin. The settlement further provides each party with protection against future water rights disputes and litigation. The company is now engaged in a second phase settlement with the various regulatory agencies to obtain high certainty for the remaining 30 percent of Bagdad's freshwater make-up supplies.

---

**Type of opportunity**

Other

**Primary water-related opportunity**

Other, please specify

**Company-specific description & strategy to realize opportunity**

During 2015, the company entered into an agreement with farmers in southern Arizona to build a pipeline to bring renewable Colorado River water to farm fields in close proximity to the company's Sierrita mine operation.

**Estimated timeframe for realization**

1 to 3 years

**Magnitude of potential financial impact**

High

**Potential financial impact****Explanation of financial impact**

During 2016, the company has worked with its farm partner to design and secure environmental permits to construct a water pipeline that will connect to the Central Arizona Project water delivery system to bring renewable Colorado River water to the farm fields located in proximity to the Sierrita operation, which will reduce the farmers' dependence on groundwater, benefit the regional aquifer, and provide the company with future renewable water supply storage credits that it can recover in the future to support existing Sierrita operations or any potential future mine expansion.

---

**W5. Facility-level water accounting**

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**W5.1**

**(W5.1) For each facility referenced in W4.1c, provide coordinates, total water accounting data and comparisons with the previous reporting year.**

**Facility reference number**

Facility 1

**Facility name (optional)**

Mining and metals processing facilities operating in the United States

**Country/Region**

United States of America

**River basin**

Colorado River (Pacific Ocean)

**Latitude****Longitude****Primary power generation source for your electricity generation at this facility**

<Not Applicable>

**Oil & gas sector business division**

<Not Applicable>

**Total water withdrawals at this facility (megaliters/year)**

113200

**Comparison of withdrawals with previous reporting year**

Lower

**Total water discharges at this facility (megaliters/year)**

14900

**Comparison of discharges with previous reporting year**

About the same

**Total water consumption at this facility (megaliters/year)**

675700

**Comparison of consumption with previous reporting year**

Lower

**Please explain**

Temporary production reductions and/or changes in local water accounting due to changes and updates to GRI/CDP/ICMM definitions that have occurred over time.

---

**Facility reference number**

Facility 2

**Facility name (optional)**

El Abra

**Country/Region**

Chile

**River basin**

Other, please specify (Ascotan salt flat drainage)

**Latitude**

**Longitude**

**Primary power generation source for your electricity generation at this facility**

<Not Applicable>

**Oil & gas sector business division**

<Not Applicable>

**Total water withdrawals at this facility (megaliters/year)**

7100

**Comparison of withdrawals with previous reporting year**

Higher

**Total water discharges at this facility (megaliters/year)**

0

**Comparison of discharges with previous reporting year**

About the same

**Total water consumption at this facility (megaliters/year)**

95400

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

---

**Facility reference number**

Facility 3

**Facility name (optional)**

Cerro Verde

**Country/Region**

Peru

**River basin**

Other, please specify (Chili)

**Latitude**

**Longitude**

**Primary power generation source for your electricity generation at this facility**

<Not Applicable>

**Oil & gas sector business division**

<Not Applicable>

**Total water withdrawals at this facility (megaliters/year)**

55500

**Comparison of withdrawals with previous reporting year**

Lower

**Total water discharges at this facility (megaliters/year)**

0

**Comparison of discharges with previous reporting year**

About the same

**Total water consumption at this facility (megaliters/year)**

590700

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

Increase in water recycling and reuse at the concentrator.

---

**Facility reference number**

Facility 4

**Facility name (optional)**

Atlantic Copper

**Country/Region**

Spain

**River basin**

Other, please specify (Odiel)

**Latitude**

**Longitude**

**Primary power generation source for your electricity generation at this facility**

<Not Applicable>

**Oil & gas sector business division**

<Not Applicable>

**Total water withdrawals at this facility (megaliters/year)**

46500

**Comparison of withdrawals with previous reporting year**

Lower

**Total water discharges at this facility (megaliters/year)**

45000

**Comparison of discharges with previous reporting year**

Lower

**Total water consumption at this facility (megaliters/year)**

49500

**Comparison of consumption with previous reporting year**

Lower

**Please explain**

Decreased water demand and use due to the impact of maintenance activities on normal operations.

---

**Facility reference number**

Facility 5

**Facility name (optional)**

Kokkola

**Country/Region**

Finland

**River basin**

Other, please specify (Perhonjoki)

**Latitude**

**Longitude**

**Primary power generation source for your electricity generation at this facility**

<Not Applicable>

**Oil & gas sector business division**

<Not Applicable>

**Total water withdrawals at this facility (megaliters/year)**

3100

**Comparison of withdrawals with previous reporting year**

About the same

**Total water discharges at this facility (megaliters/year)**

3300

**Comparison of discharges with previous reporting year**

About the same

**Total water consumption at this facility (megaliters/year)**

16400

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

---

**Facility reference number**

Facility 6

**Facility name (optional)**

Rotterdam

**Country/Region**

Netherlands

**River basin**

Rhine

**Latitude**

---

**Longitude**

**Primary power generation source for your electricity generation at this facility**

<Not Applicable>

**Oil & gas sector business division**

<Not Applicable>

**Total water withdrawals at this facility (megaliters/year)**

130

**Comparison of withdrawals with previous reporting year**

About the same

**Total water discharges at this facility (megaliters/year)**

30

**Comparison of discharges with previous reporting year**

About the same

**Total water consumption at this facility (megaliters/year)**

130

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

---

**Facility reference number**

Facility 7

**Facility name (optional)**

Stowmarket

**Country/Region**

United Kingdom of Great Britain and Northern Ireland

**River basin**

Other, please specify (Gipping)

**Latitude**

**Longitude**

**Primary power generation source for your electricity generation at this facility**

<Not Applicable>

**Oil & gas sector business division**

<Not Applicable>

**Total water withdrawals at this facility (megaliters/year)**

10

**Comparison of withdrawals with previous reporting year**

About the same

**Total water discharges at this facility (megaliters/year)**

0

**Comparison of discharges with previous reporting year**

About the same

**Total water consumption at this facility (megaliters/year)**

10

**Comparison of consumption with previous reporting year**

About the same

**Please explain**

---

**W5.1a**

---

**(W5.1a) For each facility referenced in W5.1, provide withdrawal data by water source.**

**Facility reference number**

Facility 1

**Facility name**

Mining and metals processing facilities operating in the United States

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

44700

**Brackish surface water/seawater**

0

**Groundwater - renewable**

65600

---

**Groundwater - non-renewable**

0

**Produced water****Third party sources**

2900

**Comment**

In response to CDP changing water withdrawal source type classifications in 2018, we now report combined surface water and rainwater as surface water, and combined municipal water and municipal wastewater as third party sources. All water withdrawal volumes displayed in section W.5 of this report are rounded to the nearest 100 megaliters for all quantities above 1,000 megaliters and to the nearest 10 megaliters for volumes below 1,000 megaliters.

---

**Facility reference number**

Facility 2

**Facility name**

El Abra

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

1100

**Brackish surface water/seawater**

0

**Groundwater - renewable**

5900

**Groundwater - non-renewable**

0

**Produced water**

0

**Third party sources**

0

**Comment**

In response to CDP changing water withdrawal source type classifications in 2018, we now report combined surface water and rainwater as surface water, and combined municipal water and municipal wastewater as third party sources. All water withdrawal volumes displayed in section W.5 of this report are rounded to the nearest 100 megaliters for all quantities above 1,000 megaliters and to the nearest 10 megaliters for volumes below 1,000 megaliters.

---

**Facility reference number**

Facility 3

**Facility name**

Cerro Verde

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

31100

**Brackish surface water/seawater**

0

**Groundwater - renewable**

700

**Groundwater - non-renewable**

0

**Produced water**

0

**Third party sources**

23700

**Comment**

In response to CDP changing water withdrawal source type classifications in 2018, we now report combined surface water and rainwater as surface water, and combined municipal water and municipal wastewater as third party sources. All water withdrawal volumes displayed in section W.5 of this report are rounded to the nearest 100 megaliters for all quantities above 1,000 megaliters and to the nearest 10 megaliters for volumes below 1,000 megaliters.

---

**Facility reference number**

Facility 4

**Facility name**

Atlantic Copper

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

46500

**Brackish surface water/seawater**

0

**Groundwater - renewable**

0

**Groundwater - non-renewable**

0

**Produced water**

0

**Third party sources**

40

**Comment**

In response to CDP changing water withdrawal source type classifications in 2018, we now report combined surface water and rainwater as surface water, and combined municipal water and municipal wastewater as third party sources. All water withdrawal volumes displayed in section W.5 of this report are rounded to the nearest 100 megaliters for all quantities above 1,000 megaliters and to the nearest 10 megaliters for volumes below 1,000 megaliters.

---

**Facility reference number**

Facility 5

**Facility name**

Kokkola

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

3100

**Brackish surface water/seawater**

0

**Groundwater - renewable**

0

**Groundwater - non-renewable**

0

**Produced water**

0

**Third party sources**

0

**Comment**

In response to CDP changing water withdrawal source type classifications in 2018, we now report combined surface water and rainwater as surface water, and combined municipal water and municipal wastewater as third party sources. All water withdrawal volumes displayed in section W.5 of this report are rounded to the nearest 100 megaliters for all quantities above 1,000 megaliters and to the nearest 10 megaliters for volumes below 1,000 megaliters.

---

**Facility reference number**

Facility 6

**Facility name**

Rotterdam

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

130

**Brackish surface water/seawater**

0

**Groundwater - renewable**

0

**Groundwater - non-renewable**

0

**Produced water**

0

**Third party sources**

0

**Comment**

In response to CDP changing water withdrawal source type classifications in 2018, we now report combined surface water and rainwater as surface water, and combined municipal water and municipal wastewater as third party sources. All water withdrawal volumes displayed in section W.5 of this report are rounded to the nearest 100 megaliters for all quantities above 1,000 megaliters and to the nearest 10 megaliters for volumes below 1,000 megaliters.

---

**Facility reference number**

Facility 7

**Facility name**

Stowmarket

**Fresh surface water, including rainwater, water from wetlands, rivers and lakes**

0

**Brackish surface water/seawater**

0

**Groundwater - renewable**

0

**Groundwater - non-renewable**

0

**Produced water**

0



**Third party sources**

10

**Comment**

In response to CDP changing water withdrawal source type classifications in 2018, we now report combined surface water and rainwater as surface water, and combined municipal water and municipal wastewater as third party sources. All water withdrawal volumes displayed in section W.5 of this report are rounded to the nearest 100 megaliters for all quantities above 1,000 megaliters and to the nearest 10 megaliters for volumes below 1,000 megaliters.

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**W5.1b**

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**(W5.1b) For each facility referenced in W5.1, provide discharge data by destination.**

**Facility reference number**

Facility 1

**Facility name**

Mining and metals processing facilities operating in the United States

**Fresh surface water**

14900

**Brackish surface water/Seawater**

0

**Groundwater**

0

**Third party destinations**

0

**Comment**

---

**Facility reference number**

Facility 2

**Facility name**

El Abra

**Fresh surface water**

0

**Brackish surface water/Seawater**

0

**Groundwater**

0

**Third party destinations**

0

**Comment**

---

**Facility reference number**

Facility 3

**Facility name**

Cerro Verde

**Fresh surface water**

0

**Brackish surface water/Seawater**

0

**Groundwater**

0

**Third party destinations**

0

**Comment**

---

**Facility reference number**

Facility 4

**Facility name**

Atlantic Copper

**Fresh surface water**

45000

**Brackish surface water/Seawater**

0

**Groundwater**

0

---

**Third party destinations**

0

**Comment**

---

**Facility reference number**

Facility 5

**Facility name**

Kokkola

**Fresh surface water**

3300

**Brackish surface water/Seawater**

0

**Groundwater**

0

**Third party destinations**

0

**Comment**

---

**Facility reference number**

Facility 6

**Facility name**

Rotterdam

**Fresh surface water**

30

**Brackish surface water/Seawater**

0

**Groundwater**

0

**Third party destinations**

0

**Comment**

---

**Facility reference number**

Facility 7

**Facility name**

Stowmarket

**Fresh surface water**

0

**Brackish surface water/Seawater**

0

**Groundwater**

0

**Third party destinations**

0

**Comment**

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W5.1c

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(W5.1c) For each facility referenced in W5.1, provide the proportion of your total water use that is recycled or reused, and give the comparison with the previous reporting year.

**Facility reference number**

Facility 1

**Facility name**

Mining and metals processing facilities operating in the United States

**% recycled or reused**

76-99%

**Comparison with previous reporting year**

About the same

**Please explain**

The company maintains a global water management system designed to increase water use efficiency in our processes while minimizing the use of freshwater. During 2017, over 80% of the total water used in our global mining operations was recycled or reused.

---

**Facility reference number**

Facility 2

**Facility name**

El Abra

**% recycled or reused**

76-99%

**Comparison with previous reporting year**

About the same

**Please explain**

The company maintains a global water management system designed to increase water use efficiency in our processes while minimizing the use of freshwater. During 2017, over 80% of the total water used in our global mining operations was recycled or reused.

---

**Facility reference number**

Facility 3

**Facility name**

Cerro Verde

**% recycled or reused**

76-99%

**Comparison with previous reporting year**

About the same

**Please explain**

The company maintains a global water management system designed to increase water use efficiency in our processes while minimizing the use of freshwater. During 2017, over 80% of the total water used in our global mining operations was recycled or reused.

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## W5.1d

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(W5.1d) For the facilities referenced in W5.1, what proportion of water accounting data has been externally verified?

**Water withdrawals – total volumes**

**% verified**

Not verified

**What standard and methodology was used?**

Our water data is aggregated to the Freeport-McMoRan level (company-wide) in our 2017 Working Toward Sustainable Development (WTSD) Report. The 2017 WTSD Report has been prepared according to the GRI G4 Core Option and assured by an independent third party. The assurance statement for our 2017 WTSD Report can be found at [www.fcx.com/sd](http://www.fcx.com/sd).

**Water withdrawals – volume by source**

**% verified**

Not verified

**What standard and methodology was used?**

Our water data is aggregated to the Freeport-McMoRan level (company-wide) in our 2017 Working Toward Sustainable Development (WTSD) Report. The 2017 WTSD Report has been prepared according to the GRI G4 Core Option and assured by an independent third party. The assurance statement for our 2017 WTSD Report can be found at [www.fcx.com/sd](http://www.fcx.com/sd).

**Water withdrawals – quality**

**% verified**

Not verified

**What standard and methodology was used?**

Our water data is aggregated to the Freeport-McMoRan level (company-wide) in our 2017 Working Toward Sustainable Development (WTSD) Report. The 2017 WTSD Report has been prepared according to the GRI G4 Core Option and assured by an independent third party. The assurance statement for our 2017 WTSD Report can be found at [www.fcx.com/sd](http://www.fcx.com/sd).

#### Water discharges – total volumes

##### % verified

Not verified

##### What standard and methodology was used?

Our water data is aggregated to the Freeport-McMoRan level (company-wide) in our 2017 Working Toward Sustainable Development (WTSD) Report. The 2017 WTSD Report has been prepared according to the GRI G4 Core Option and assured by an independent third party. The assurance statement for our 2017 WTSD Report can be found at [www.fcx.com/sd](http://www.fcx.com/sd).

#### Water discharges – volume by destination

##### % verified

Not verified

##### What standard and methodology was used?

Our water data is aggregated to the Freeport-McMoRan level (company-wide) in our 2017 Working Toward Sustainable Development (WTSD) Report. The 2017 WTSD Report has been prepared according to the GRI G4 Core Option and assured by an independent third party. The assurance statement for our 2017 WTSD Report can be found at [www.fcx.com/sd](http://www.fcx.com/sd).

#### Water discharges – volume by treatment method

##### % verified

Not verified

##### What standard and methodology was used?

Our water data is aggregated to the Freeport-McMoRan level (company-wide) in our 2017 Working Toward Sustainable Development (WTSD) Report. The 2017 WTSD Report has been prepared according to the GRI G4 Core Option and assured by an independent third party. The assurance statement for our 2017 WTSD Report can be found at [www.fcx.com/sd](http://www.fcx.com/sd).

#### Water discharge quality – quality by standard effluent parameters

##### % verified

Not verified

##### What standard and methodology was used?

Our water data is aggregated to the Freeport-McMoRan level (company-wide) in our 2017 Working Toward Sustainable Development (WTSD) Report. The 2017 WTSD Report has been prepared according to the GRI G4 Core Option and assured by an independent third party. The assurance statement for our 2017 WTSD Report can be found at [www.fcx.com/sd](http://www.fcx.com/sd).

#### Water discharge quality – temperature

##### % verified

Not verified

##### What standard and methodology was used?

Our water data is aggregated to the Freeport-McMoRan level (company-wide) in our 2017 Working Toward Sustainable Development (WTSD) Report. The 2017 WTSD Report has been prepared according to the GRI G4 Core Option and assured by an independent third party. The assurance statement for our 2017 WTSD Report can be found at [www.fcx.com/sd](http://www.fcx.com/sd).

#### Water consumption – total volume

##### % verified

Not verified

##### What standard and methodology was used?

Our water data is aggregated to the Freeport-McMoRan level (company-wide) in our 2017 Working Toward Sustainable Development (WTSD) Report. The 2017 WTSD Report has been prepared according to the GRI G4 Core Option and assured by an independent third party. The assurance statement for our 2017 WTSD Report can be found at [www.fcx.com/sd](http://www.fcx.com/sd).

#### Water recycled/reused

##### % verified

Not verified

##### What standard and methodology was used?

Our water data is aggregated to the Freeport-McMoRan level (company-wide) in our 2017 Working Toward Sustainable Development (WTSD) Report. The 2017 WTSD Report has been prepared according to the GRI G4 Core Option and assured by an independent third party. The assurance statement for our 2017 WTSD Report can be found at [www.fcx.com/sd](http://www.fcx.com/sd).

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## W6. Governance

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### W6.1

#### (W6.1) Does your organization have a water policy?

Yes, we have a documented water policy that is publicly available

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### W6.1a

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**(W6.1a) Select the options that best describe the scope and content of your water policy.**

	Scope	Content	Please explain
Row 1	Company-wide	Other, please specify (company-wide qualitative goals)	As a member of the International Council on Mining and Metals (ICMM), we are committed to implementing ICMM's Water Stewardship Position Statement. As outlined in our 2017 Working Toward Sustainability Report, the company utilizes a water management system to determine near and longer-term water use requirements, as well as to seek sustainable water sources based on catchment factors such as drought exposure and rights to access. The company also seeks to minimize its reliance on freshwater. To achieve a reduced water footprint within local communities, we continuously analyze the sources of our water and seek to place our operations on renewable and recycled water sources.

**W6.2**

**(W6.2) Is there board level oversight of water-related issues within your organization?**

Yes

**W6.2a**

**(W6.2a) Identify the position(s) of the individual(s) on the board with responsibility for water-related issues.**

Position of individual	Please explain
Other, please specify (board of individuals and committees)	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 facing the company. Our non-executive chairman regularly meets 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. The Corporate Responsibility Committee of the board assists the board of in fulfilling its oversight of management responsibilities that includes a nexus with water risks and opportunities.

**W6.2b**

**(W6.2b) Provide further details on the board's oversight of water-related issues.**

	Frequency that water-related issues are a scheduled agenda item	Governance mechanisms into which water-related issues are integrated	Please explain
Row 1	Sporadic - as important matters arise	Other, please specify (see explanation)	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. 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.

**W6.3**

**(W6.3) Below board level, provide the highest-level management position(s) or committee(s) with responsibility for water-related issues.**

**Name of the position(s) and/or committee(s)**

Other committee, please specify (SD Leadership Team)

**Responsibility**

Both assessing and managing water-related risks and opportunities

**Frequency of reporting to the board on water-related issues**

As important matters arise

**Please explain**

The company's Sustainable Development Leadership Team considers both imminent matters and emerging trends while providing strategic guidance for our sustainability 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. Members of the Sustainable Development Leadership Team periodically engage executive management and the CRC on important sustainability matters, including climate-related risks and opportunities. Water related risks and opportunities are a standing agenda item for the monthly SD Leadership Team meetings.

**W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4**

**(W-FB6.4/W-CH6.4/W-EU6.4/W-OG6.4/W-MM6.4) Do you provide incentives to C-suite employees or board members for the management of water-related issues?**

No, and we do not plan to introduce them in the next two years

## W6.5

### (W6.5) Do you engage in activities that could either directly or indirectly influence public policy on water through any of the following?

Yes, direct engagement with policy makers

## W6.5a

### (W6.5a) What processes do you have in place to ensure that all of your direct and indirect activities seeking to influence policy are consistent with your water policy/water commitments?

Water availability and regulation varies greatly among our operations. No singular policy standard can effectively be applied for all circumstances. The company relies on its SD Risk Register process to develop appropriate responses after conducting detailed assessments of local conditions at each operation. We also maintain a global water management program designed to (1) support metal production by supplying required water to process operations; (2) minimize water supply and storage risks associated with operational, climatic, social, regulatory and environmental conditions; (3) minimize costs associated with the acquisition and distribution of water as much as possible; and (4) promote innovation and implement technologies that increase water use efficiency. Operational water teams, supported by corporate policy and technical experts, develop 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. Operations in arid regions conduct annual scenario planning to evaluate hypothetical reductions in water availability and extreme precipitation events. Our water management includes development and continuous updating of hydrologic models and identifying actions to help operations address possible water shortages or surpluses.

## W7. Business strategy

### W7.1

#### (W7.1) Are water-related issues integrated into any aspects of your long-term strategic business plan, and if so how?

	Are water-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	Yes, water-related issues are integrated	> 30	Water related issues are integrated through the SD Risk Register process and for project-specific SD risk and opportunity analysis.
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	> 30	Water related issues are integrated through the SD Risk Register process and for project-specific SD risk and opportunity analysis.
Financial planning	Yes, water-related issues are integrated	> 30	Water related issues are integrated through the SD Risk Register process and for project-specific SD risk and opportunity analysis.

### W7.2

#### (W7.2) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

	Water-related CAPEX (+/- % change)	Anticipated forward trend for CAPEX (+/- % change)	Water-related OPEX (+/- % change)	Anticipated forward trend for OPEX (+/- % change)	Please explain
Row 1					While Freeport continuously evaluates regional water solutions and opportunities, water CAPEX related costs are episodic and based on the needs of the company at the time. Water-related OPEX costs are generally consistent over time, although they can incrementally increase with each new water supply resource. As an example, the recent completion and startup of the Cerro Verde wastewater treatment increased our water-related OPEX costs.

### W7.3

#### (W7.3) Does your organization use climate-related scenario analysis to inform its business strategy?

	Use of climate-related scenario analysis	Comment
Row 1	Yes	This is an ongoing and recurring process. To help with this continual effort, the company maintains a global water management program that includes improved metering, development and continuous updating of hydrologic and operational-based water models using different climate scenarios, identification of operational losses such as evaporation, and development of management practices that maximize efficient water use.

## W7.3a

**(W7.3a) Has your organization identified any water-related outcomes from your climate-related scenario analysis?**

Yes

**W7.3b**

**(W7.3b) What water-related outcomes were identified from the use of climate-related scenario analysis, and what was your organization’s response?**

	Climate-related scenario(s)	Description of possible water-related outcomes	Company response to possible water-related outcomes
Row 1	Other, please specify (water stewardship)	The company is taking a long-term view on securing additional water supplies that address changing user patterns, climate issues, and changing opportunities for future sources of water.	In 2017, the company stored, acquired, or directly used via exchange, about 29,500 acre-feet (36,400 megaliters) of renewable surface water supplies at underground recharge facilities in Arizona for future use in support of existing mine operations as drought back-up supply or to support future mine expansions. The company continues in its efforts to secure an annual allocation of Colorado River water, considered a renewable water source in Arizona, where the company operates in an arid climate. These efforts are focused on obtaining long-term water supply contracts with multiple Native American tribes who have senior water rights in the state. These agreements reduce our reliance on local groundwater and surface water and helps Arizona accomplish its goal of moving industrial users away from groundwater resources. Water for our current El Abra processing operations in Chile comes from the Salar de Ascotan aquifer pursuant to regulatory approval. We continue to evaluate a major expansion at El Abra to process additional sulfide material and achieve higher recoveries. Advancement of the feasibility of this expansion includes the evaluation of a desalination plant on the Pacific coast along with an accompanying 90-mile pipeline.

**W7.4**

**(W7.4) Does your company use an internal price on water?**

Row 1

**Does your company use an internal price on water?**

No, and we do not anticipate doing so within the next two years

**Please explain**

Because water availability and regulation varies greatly among our operations, there is not a singular internal price on water that can be used to develop company-wide valuation practices. Even at the regional level, these circumstances can fluctuate and evolve over time and be subject to a large number of influences. As opportunities to secure or purchase new water sources occur, they are reviewed on a case-by-case basis within the company’s existing corporate governance structure.

**W8. Targets**

**W8.1**

**(W8.1) Describe your approach to setting and monitoring water-related targets and/or goals.**

	Levels for targets and/or goals	Monitoring at corporate level	Approach to setting and monitoring targets and/or goals
Row 1	Other, please specify (company-wide qualitative goals)	Goals are monitored at the corporate level	The company maintains a global water management program designed to increase water use efficiency in our processes while minimizing the use of freshwater. Our system begins with utilizing operational-based water models to understand our water use in order to minimize water losses, maintain quality standards and identify recycling opportunities. In aggregate, this allows us to seek a reduction in water needs where operational efficiencies allow, depending on production requirements. Minimizing our reliance on freshwater is only one part of our management program. To achieve a reduced water footprint within local communities, we continuously analyze the sources of our water and seek to place our operations on renewable and recycled sources. Over the last five years, we have successfully made progress in achieving this management objective.

**W8.1b**

**(W8.1b) Provide details of your water goal(s) that are monitored at the corporate level and the progress made.**

**Goal**

Other, please specify (water management)

**Level**

Company-wide

**Motivation**

Water stewardship

**Description of goal**

The company is taking a long-term view on securing water supplies that address changing user patterns, climate issues, and changing opportunities for future sources of water. We aim to maximize water recycling rates when feasible in order to minimize freshwater reliance and reducing our water footprint within local catchments are primary water management goals of the company.

**Baseline year**

**Start year**

**End year**

**Progress**

Operations are prioritized using the SD Risk Register process to implement water management activities. This is an ongoing and recurring process. To help with this continual effort, the company maintains a global water management program that includes improved metering, development and continuous updating of hydrologic and operational-based water models, identification of recycling opportunities, identification of operational losses such as evaporation, and development of management practices that maximize efficient water use. During 2018, and through these efforts, 82% of the total water used by the company was recycled or reused, consistent with its goal of reducing freshwater reliance.

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**Goal**

Other, please specify (water supply development)

**Level**

Company-wide

**Motivation**

Other, please specify (water supply development)

**Description of goal**

Develop sustainable and renewable water supplies to support of current mine operations and potential future mine expansions

**Baseline year**

**Start year**

**End year**

**Progress**

In 2017, the company stored, acquired, or directly used via exchange, about 29,500 acre-feet (36,400 megaliters) of renewable surface water supplies at underground recharge facilities in Arizona for future use in support of existing mine operations as drought back-up supply or to support future mine expansions.

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**W9. Linkages and trade-offs**

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**W9.1**

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**(W9.1) Has your organization identified any linkages or tradeoffs between water and other environmental issues in its direct operations and/or other parts of its value chain?**

Yes

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**W9.1a**



**(W9.1a) Describe the linkages or tradeoffs and the related management policy or action.**

**Linkage or tradeoff**

Linkage

**Type of linkage/tradeoff**

Decreased energy use

**Description of linkage/tradeoff**

The company uses water in its various mining processes and recognizes that reduced water use decreases energy use, which thereby reduces our carbon footprint. At our operations, water is pumped to a process circuit, then recovered and re-circulated to conserve water. However, pumping does consume power in the process.

**Policy or action**

To the extent possible, the company concentrates water pumping in the off-peak hours to avoid additional additional demand to the power grid during peak consumption periods. Pumps are often powered by high-efficiency motors to reduce energy consumption.

**Linkage or tradeoff**

Linkage

**Type of linkage/tradeoff**

Increased energy efficiency

**Description of linkage/tradeoff**

The company uses technological advances in its processes to reduce water and power consumption. In some cases, the use of renewable energy can offset higher consumptive uses of water that are typically supplied by conventional (coal-fired) energy sources. The company is actively working with electric utilities in the United States that are under a regulatory obligation to increase the percentage of renewable energy in their production portfolios. The company is seeking opportunities to purchase power from additional renewable energy sources while balancing the need for reliable, cost-effective power.

**Policy or action**

In 2010, our Bagdad, Arizona operation formed an alliance with Recurrent Energy to facilitate the construction of a 15.5 megawatt solar energy generation facility on property owned by Bagdad. Under the arrangement, Bagdad leases a portion of this land for the operation of a 75,000 solar panel system. The generated power is being sold to a regional electrical utility (Arizona Public Service) who then sells the renewable energy to the Bagdad operation under a separate power purchase agreement. Similarly, a 4.5 megawatt solar energy facility has been constructed at our presently discontinued operation in Ajo, Arizona. These projects are part of our efforts to identify opportunities for generating renewable energy on our mining related properties and to assist local power utilities to reduce water consumption for power generation.

**Linkage or tradeoff**

Tradeoff

**Type of linkage/tradeoff**

Other, please specify (water conservation and water rights)

**Description of linkage/tradeoff**

In parts of the southwestern United States, some regulatory provisions encourage water right holders to maximize use of irrigation water rights even when not required, to avoid risk of water right forfeiture or abandonment. The company owns certain irrigation water rights that are subject this type of regulation. The unintended consequence is to penalize efficient irrigation water uses that reduce their overall water footprint but jeopardize unused portions of their water rights.

**Policy or action**

The company has responded to this inadvertent trade-off by working with some of its lessees to either develop rotational field fallowing to ensure that all applicable water rights are used in a manner that preserves their long-term regulatory integrity and in other instances has placed currently inactive water rights into conservation plans that serve to protect and preserve the water rights for future uses.

**W10. Verification**

**W10.1**

**(W10.1) Do you verify any other water information reported in your CDP disclosure (not already covered by W5.1d)?**

No, we do not currently verify any other water information reported in our CDP disclosure

**W11. Sign off**

**W-FI**

**(W-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

**W11.1**

**(W11.1) Provide details for the person that has signed off (approved) your CDP water response.**

	Job title	Corresponding job category
Row 1	Vice President of Environmental Services and Sustainable Development	Other, please specify (Senior Manager/Officer)

W11.2

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(W11.2) Please indicate whether your organization agrees for CDP to transfer your publicly disclosed data on your impact and risk response strategies to the CEO Water Mandate's Water Action Hub [applies only to W2.1a (response to impacts), W4.2 and W4.2a (response to risks)].

No

Submit your response

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In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	Public or Non-Public Submission	I am submitting to
I am submitting my response	Public	Investors

Please confirm below

I have read and accept the applicable Terms