

W0. Introduction

W0.1

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

Gold Fields Limited is a globally diversified producer of gold with seven operating mines in Australia, Ghana, Peru and South Africa with attributable annual gold-equivalent production of approximately 2.2 million ounces. It has attributable gold Mineral Reserves of around 49 million ounces and gold Mineral Resources of around 104 million ounces. Attributable copper Mineral Reserves total 764 million pounds and Mineral Resources 5,813 million pounds. Gold Fields is reporting on the following mining operations:

- South Deep (South Africa)
- Damang (Ghana)
- Tarkwa (Ghana)
- Cerro Corona (Peru)
- Agnew (Australia)
- Darlot (Australia) – sold in third quarter of 2017
- Granny Smith (Australia)
- St Ives (Australia)

Gold Fields has a primary listing on the Johannesburg Stock Exchange (JSE) Limited, with secondary listings on the New York Stock Exchange (NYSE) and the Swiss Exchange (SWX).

Foreword by Nick Holland, CEO Gold Fields:

Water is a particular focus of Gold Fields' environmental strategy, as it is becoming an increasingly scarce and expensive resource globally. Managing the risks around current and anticipated water security, which includes the quantity and quality of supply as well as associated costs, is essential to ensure sustainable production for existing operations and the future viability of projects. Water and energy costs and supply are critical inputs for our operations. This is not only an operational imperative, but is aligned to our objective of being a responsible company.

As a mining business, Gold Fields recognises that its operations have a material impact on the surrounding environment. To manage this, Gold Fields remains committed to responsible environmental stewardship. Internally, Gold Fields has recently revised a number of policy statements and Group level guidelines, which reflect its environmental priorities. These included, water management and tailings management, amongst others. The Group Water Management Guideline has been updated to incorporate the ICMM Water Position Statement commitments and requires operations to:

- Apply strong and transparent corporate water governance
- Manage water at operations effectively
- Collaborate to achieve responsible and sustainable water use
- Measure and report on water management performance;
- Integrate water management into mine planning;

- Comply with regulatory requirements and, where feasible, go beyond compliance requirements; and
- Identify opportunities to enhance water reuse, recycling and conservation practices.

Gold Fields is committed to responsible water stewardship, both for the benefit of host communities and for its own operations. Clean water is a basic human right, and a vital resource for its processing activities. Gold Fields' approach to managing its impact on and access to water is essential to maintaining its licence to operate. Through careful management, Gold Fields is able to reduce our environmental impact through responsible use, storage and release of water, while also reducing our costs, thereby benefiting all stakeholders.

In recognition of the fact that responsible water management is a vital component of Gold Fields' licence to operate, Gold Fields has, since 2011, voluntarily submitted information relating to our water usage, goals and water-related risks to CDP Water. We remain committed to responsible leadership to mitigate the impact that Gold Fields has on the water resources we use at our mines. Underpinning this is a commitment to transparent reporting on these impacts.

W-MM0.1a

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

Activity	Details of activity
Mining Processing metals	Copper Gold

W0.2

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

	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.

Australia
Ghana
Peru
South Africa

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?

No

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	Vital	DIRECT: Primary use of fresh water is vital during every stage of mine life. Freshwater is used in mining and milling. It is important for transporting tailings, dust suppression, ore washing, underground cooling & processing. It is critical for our employees' health. Alternative sources of non-fresh water are not readily available or viable and thus freshwater sources are vital to direct operations. INDIRECT: Use of freshwater in our supply chain is vital. The production of electricity, cyanide and diesel require high volumes of freshwater, it is also vital for gold refining. South Africa's coal-fired electricity is highly dependent on freshwater along with the hydro-powered grid in Cerro Corona and Ghana. Insufficient freshwater can affect our supply chain and in turn our production & thus is classified as vital. Future water dependency will not differ in direct/indirect operations as it remains vital for production and alternative sources are generally not available.
Sufficient amounts of recycled, brackish and/or produced water available for use	Vital	Important	DIRECT: Primary use of non-freshwater is vital in mining activities. Majority of our operational water needs are met by recycled water. During the dry season, Cerro Corona relies totally on recycled water for production, & thus is vitally important for production. Two of our Australian operations, Granny Smith & St Ives, withdraw brackish (hypersaline) water. INDIRECT: Use of non-freshwater in our supply chain is important. In South Africa, we purchase electricity from Eskom (national power utility). Eskom has introduced desalination of polluted mine water for use at its power plants, to reduce the freshwater used for electricity production. Thus the rating of important is given, as it is a secondary water source, with freshwater the primary source. Future water dependency on non-freshwater will increase in direct/indirect operations, as Gold Fields operates in water stressed areas & there is a need to source alternative non-fresh water.

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%	All of the operations owned by Gold Fields (100%) are required to measure, monitor and report the total volume of water withdrawn on a monthly basis. Gold Fields defines operations as its mines. The total withdrawal volumes are measured for water performance metrics. The metric used by Gold Fields is the volume of water withdrawn per ounce of gold produced. Gold Fields' total water withdrawals are reported as part of the GRI Standards reporting guidelines under Standard 303-1. Measuring and monitoring water withdrawals at frequent intervals is required to ensure that the withdrawal volumes fall within the water use license boundaries. Monitoring methods include volumes recorded in third party invoices and meters at withdrawal sources. Water is continuously monitored with meters. Withdrawal volumes are recorded in the detailed water balances at each site.
Water withdrawals – volumes from water stressed areas	100%	Gold Fields withdraws water from water stressed areas at the following operations: South Deep, Cerro Corona, St. Ives, Granny Smith, Darlot and Agnew, this corresponds to 75% of our operations. Gold Fields defines operations as its mines. Gold Fields measures and monitors all withdrawals from these operations. Therefore, we monitor 100% of our operations that make use of water from these areas. These water sources are vulnerable with respect to environmental integrity and as such are actively measured and monitored at every operation. Monitoring methods include volumes recorded in third party invoices and meters at withdrawal sources. Water is continuous monitored with meters. Withdrawal volumes are recorded in the detailed water balances at each site. This allows Gold Fields to monitor withdrawal trends and make informed management decisions based on this data.

	% of sites/facilities/operations	Please explain
Water withdrawals – volumes by source	100%	Gold Fields measures and monitors all withdrawals (100% of operations) per abstraction source. Gold Fields' operations are mines. All operations withdraw renewable groundwater. St Ives and Granny Smith withdraw brackish groundwater. Agnew and Darlot withdraw both fresh and brackish groundwater. South Deep, Tarkwa, Damang and Cerro Corona withdraw fresh groundwater. Municipal water is withdrawn by South Deep, Tarkwa, St Ives and Granny Smith. Fresh surface water is withdrawn by South Deep, Damang, Tarkwa, St Ives and Cerro Corona. Granny Smith withdraws brackish surface water. Monitoring methods include volumes recorded in third party invoices and meters at withdrawal sources. Water is monitored continuously with meters. Withdrawal volumes are recorded in the detailed water balances at each operation.
Produced water associated with your metals & mining sector activities - total volumes	Not relevant	Produced water is not relevant to any of Gold Fields' operations. Gold Fields defines operations as its mines. Water that enters Gold Fields boundary is fissure water, which is as a result of mining into water bodies. This water is clean renewable groundwater and is included and reported under water withdrawals. Groundwater is monitored using pumps and meters at withdrawal sources. Monitoring is continuous where there are meters. Withdrawal volumes are recorded in the detailed water balances at each site.
Produced water associated with your oil & gas sector activities - total volumes	<Not Applicable>	<Not Applicable>
Water withdrawals quality	Not relevant	Water withdrawals are measured in terms of volumes and not quality.
Water discharges – total volumes	100%	Gold Fields measures and monitors the total discharge volumes across all operations (100%). Gold Fields defines operations as its mines. During 2017 only 62.5% (5/8) of Gold Fields' operations discharged water. The total discharge volumes require measurement and monitoring to ensure that each operation's discharged water falls within the required qualitative and quantitative parameters stipulated in its water use permit. . Monitoring methods include meters at discharge destinations. The frequency of monitoring is continuous using meters. Additionally, total discharge volumes are tracked to ensure that water balances are accurate and updated regularly.
Water discharges – volumes by destination	100%	Gold Fields requires all of its operations that discharge water (62.5% of operations) to measure and monitor the water volume discharged to each discharge destination. Gold Fields defines operations as its mines. This is done to ensure that sufficient treatment of the discharged water is maintained and that volumes discharged to each source do not exceed the licensing boundaries and regulations. Fresh surface water discharge destinations are utilised by South Deep, Tarkwa and Cerro Corona. Granny Smith is the only operation that discharges water to a hypersaline destination. Agnew, St Ives and Darlot all operate within closed water cycles which result in zero water discharges. The Damang operation did not discharge any water during the reporting year. Monitoring methods include meters at discharge destinations. The frequency of monitoring is continuous using meters.
Water discharges – volumes by treatment method	100%	As Gold Fields' operations have numerous processes, the volume of water discharged per treatment method is measured and monitored for all operations (100% of operations). Gold Fields defines operations as its mines. This is done to ensure that the quality and volume of the discharged water meets the licensing requirements. Monitoring methods include meters at discharge destinations. The frequency of monitoring is continuous using meters. In addition the volume per treatment method is measured and monitored to ensure the maintenance of an accurate water balance between all processes.
Water discharge quality – by standard effluent parameters	100%	Water discharge quality data is measured and monitored at all Gold Fields' operations that discharge water. The operations that discharged water in the reporting year were South Deep, Tarkwa, Cerro Corona and Granny Smith (62.5% of operations). Gold Fields defines operations as its mines. This is done to ensure that the quality of the water which is discharged is kept within the range permitted by the licensing requirements. Monitoring methods include sampling at discharge destinations. Frequency of sampling is determined by the licence conditions of the operation. Additionally, the measurement of discharge quality is reported in the Global Reporting Initiative questionnaire which requires water discharge quality as a parameter per discharge source.
Water discharge quality – temperature	100%	Water discharge quality data is measured and monitored at all Gold Fields' operations that discharge water. The operations that discharged water in the reporting year were South Deep, Tarkwa, Cerro Corona and Granny Smith (62.5% of operations). Gold Fields defines operations as its mines. This is done to ensure that the temperature of the water which is discharged is kept within the range permitted by the licensing requirements. Monitoring methods include meters at discharge destinations. The frequency of monitoring is continuous using meters.
Water consumption – total volume	100%	Gold Fields measures and monitors the total amount of water consumed at each of its eight operations (100% of operations). Gold Fields defines operations as its mines. Water consumption per ounce of gold produced is a performance metric that Gold Fields utilises continually to ensure that its operations are running as efficiently as possible. Monitoring methods include recorded withdrawal volumes in third party invoices and meters withdrawal and discharge sources. The frequency of monitoring is continuous using meters. Withdrawal and discharge volumes are recorded in the detailed water balances at each site and used to calculate water consumptions.
Water recycled/reused	100%	Gold Fields measures and monitors the total volume of water recycled at each of its operations (100% of operations). Gold Fields defines operations as its mines. The amount of water recycled provides vital information as to the environmental impact of the operations as well as providing information on water savings due to the lowering of the water withdrawals required. Monitoring methods include onsite meters. The frequency of monitoring is continuous using meters. Recycled/Reused volumes are recorded in the detailed water balances at each site.

	% of sites/facilities/operations	Please explain
The provision of fully-functioning, safely managed WASH services to all workers	100%	At Gold Fields, employee health is considered to be a vital aspect of business. As such, all operations (100% of operations) ensure that employees are provided with sufficient volumes and adequate access to clean and potable wash water for drinking and sanitation services. Gold Fields defines operations as its mines. The licence conditions of all Gold Fields' operations require the provision of fully-functioning, safely managed WASH services to all workers. Health and safety-based processes and policies, such as those related to WASH facilities, are monitored at the Board's Safety, Health and Sustainable Development (SHSD) Committee. The frequency of monitoring at this level occurs on a quarterly basis. In addition, the Health and Safety Manager at each operation ensures on a continuous basis that fully-functioning, safely managed WASH services are provided to all workers.

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	32985	About the same	Total water withdrawals increased by 9% when compared to the previous reporting year. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher. The slight increase is due to the following reasons: <ul style="list-style-type: none"> Increased withdrawals at the following mines Agnew, St Ives, Granny Smith, Cerro Corona, Tarkwa and Damang. Agnew, St Ives, Granny Smith and Cerro Corona all experienced increased production levels while Tarkwa and Damang experienced marginally decreased production levels. South Deep and Darlot both decreased consumptions however these operations only contribute 11% towards the total withdrawals. Due to incidents in the first quarter that impacted production at South Deep, water withdrawal was lower due to the decreased production. Group water withdrawal per ounce of gold produced increased by 8% from 13.7 kl/oz to 14.8 kl/oz. It is anticipated that increased recycling targets will reduce demand and dependency on future withdrawal volumes.
Total discharges	8712	Much lower	The total water discharged decreased by 42% when compared to the previous reporting period, as such much lower was selected in accordance with Gold Fields' definition. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher. The 42% decrease is due to the following reasons: <ul style="list-style-type: none"> St Ives stopped discharging water from the previous reporting period to the current reporting period while maintaining a similar production to 2016 values. This resulted in a 100% decrease in discharge at the operation. Both the Tarkwa and Granny Smith operations experienced decreases in water discharge. These operations contribute the majority (79%) of the company's water discharge volumes. Tarkwa experienced a 0.35% decrease in production while Granny Smith experienced a 2% increase in production. Due to an increase in overall production, there was an increase in overall water consumption. This resulted in less water being discharged. Granny Smith's discharge into brackish water decreased by 13%. It is anticipated that increased recycling targets and the increased use of reverse osmosis plants will reduce future discharge volumes.
Total consumption	24273	Much higher	The net effect of the water withdrawal and discharge resulted in a total net consumption increase at Gold Fields. Since the water withdrawal increased by 9% and discharges decreased by 42%, this resulted in consumption increasing by 60% in 2017 when compared to 2016. As such much higher was selected in accordance with Gold Fields' definition. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher. The consumption is calculated as per the CDP guidance and therefore the total withdrawals = total discharge + total consumption. For this reason the volumes balance, $W = D + C$. It is anticipated that increased recycling targets and the increased use of reverse osmosis plants will reduce future withdrawal and discharge volumes, thereby reducing total consumption volumes.

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	80	About the same	WBCSD Global Water Tool	The water withdrawn from water stressed areas reduced slightly from 81% in 2016 to 80% in 2017. As per the Gold Fields definition, this year on year comparison is 'About the same' volumes of water was withdrawn from stressed areas. 6 out of 8 of Gold Fields' operations are situated in water stressed areas, this has been determined using the WBCSD Global Water Tool, WWF Water Risk Filter and the WRI Aqueduct tool. The data sets for the Gold Fields group were inputted into these tools. The tools then indicate whether the withdrawals are from a water stressed area or not. For example, the WBCSD Global Water Tool identifies the baseline water stress as being high (40%-80%) in South Africa, Peru and Australia, and therefore classifies these areas as a water stressed area. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher.

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	9248	Higher	The total fresh surface water withdrawals increased in this reporting year by 16% when compared to the previous reporting year's figure as such higher was selected in accordance with Gold Fields' definition. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher. This source is relevant as Gold Fields withdraws 28% of our water from fresh surface water surfaces. The decrease in consumption at South Deep (92%) was offset by the large increase of fresh surface water withdrawal at Cerro Corona (104%), followed by Damang (8%) and Tarkwa (15%). At Cerro Corona, all new water is rain water, which is collected and stored in the tailings pond even if the site does not need it. It gets used first, therefore reducing the need to South Deep reduced withdrawals from 1112 ML to 93 ML while Cerro Corona increased withdrawals from 1619 ML to 3307 ML. Future demand will likely decrease.
Brackish surface water/seawater	Relevant	1438	Higher	The Granny Smith and St Ives operations are the only Gold Fields operations that withdraw brackish surface water. Brackish surface water withdrawal increased during 2017 by 100% at St Ives and by 15% at Granny Smith. As such higher was selected in accordance with Gold Fields' definition: 10% change is considered lower/higher and above 40% change is considered much lower/much higher. This source is relevant as Gold Fields' withdraws brackish water at two of our mines and it forms 4% of our total withdrawals. In 2017, St Ives switched from withdrawing from a fresh surface water source to a brackish water source. It is important to mention that the St Ives operation's renewable groundwater is also of a brackish nature. Due to it not being surface water, it is reported under the renewable groundwater category and fully accounted for in that category. It is anticipated that future withdrawals from brackish surface water sources will decrease due to increased recycling targets.
Groundwater – renewable	Relevant	20674	Higher	The withdrawal of renewable groundwater at Gold Fields' operations increased by 11% when compared to the withdrawals made in the previous reporting period as such higher was selected in accordance with Gold Fields' definition. Gold Fields defines above 10% change is considered lower/higher and above 40% change is considered much lower/much higher. This source is relevant as 63% of Gold Fields' total withdrawals come from this source. This increase was due to the increase in production at several Gold Fields operations. St Ives operations the amount of ore processed increased by 6% resulting in an increase of 17% in water withdrawals from groundwater sources. The St Ives operation contributes the largest portion to the total withdrawals of the company. It is anticipated that future renewable ground water withdrawals will decrease due to increased recycling targets.
Groundwater – non-renewable	Not relevant	<Not Applicable>	<Not Applicable>	The withdrawal of renewable groundwater at Gold Fields' operations increased by 11% when compared to the withdrawals made in the previous reporting period as such higher was selected in accordance with Gold Fields' definition. Gold Fields defines above 10% change is considered lower/higher and above 40% change is considered much lower/much higher. This source is relevant as 63% of Gold Fields' total withdrawals come from this source. This increase was due to the increase in production at several Gold Fields operations. St Ives operations the amount of ore processed increased by 6% resulting in an increase of 17% in water withdrawals from groundwater sources. The St Ives operation contributes the largest portion to the total withdrawals of the company. It is anticipated that future renewable ground water withdrawals will decrease due to increased recycling targets.
Produced water	Not relevant	<Not Applicable>	<Not Applicable>	None of Gold Fields' operations make use of produced water from a third-party source. This trend is expected to remain the same in the future.
Third party sources	Relevant	1625	Much lower	The use of municipal water decreased by 40% as such much lower was selected in accordance with Gold Fields' definition. Gold Fields defines above 40% change as much lower/much higher. This source is relevant as 5% of Gold Fields' total withdrawals come from this source. This decrease is due to the following reasons: • Several operations including Damang (55%), Granny Smith (56%) and St Ives (21%) increased the volumes of water they recycled substantially. • St Ives (45%) and South Deep (42%) substantially reduced their withdrawals from these sources due to an increase in withdrawals from other sources such as renewable groundwater. • South Deep processed less ore in the reporting period which results in less water required. It is anticipated that future third party water withdrawals will decrease due to increased recycling targets.

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	3842	Higher	Fresh surface water discharges increased by 16% which is primarily due to an increase of 445% in discharges at Cerro Corona. As such higher was selected in accordance with Gold Fields' definition. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher This destination is relevant as Gold Fields' discharges 44% of its total discharges to a fresh surface water destination. This large increase is due to less water recycled at the facility and larger amounts of rainfall in the area than usual. The higher rainfall results in more withdrawals at the facility and thus higher discharges. Due to construction on the dam wall at the tailings facilities more water had to be discharged. It is anticipated that increased recycling targets will reduce future demand for fresh surface water volumes.
Brackish surface water/seawater	Relevant	4870	Much lower	Granny Smith was the only Gold Fields facility that discharged water to a brackish surface water source in the reporting year. In the previous reporting period, 5597 ML was discharged from the Granny Smith facility. In the current reporting period, 4870 ML was discharged. This destination is relevant as Gold Fields' discharges 56% of its total discharges to a brackish surface water destination. Brackish surface water discharges decreased by 59% in the reporting year. This was largely on account of zero brackish surface water discharges from the St Ives operation in FY2017. The decrease in FY2017 is categorised as much lower. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher. It is anticipated that future withdrawals from brackish surface water sources will decrease due to increased recycling targets and continual efforts to improve safe mining practices.
Groundwater	Not relevant	<Not Applicable>	<Not Applicable>	No discharges are made to groundwater discharge destinations by any of Gold Fields' operations as such, not relevant is selected. As there is zero discharges to this source in FY2017 and FY2016 the comparison remains about the same. This trend is expected to remain the same in the future.
Third-party destinations	Not relevant	<Not Applicable>	<Not Applicable>	None of Gold fields' operations discharged water to municipal facilities for treatment. None of Gold Fields' operations discharged water to another organisation. As such, not relevant is selected in the relevance column. As there is zero discharges to this source in FY2017 and FY2016 the comparison remains about the same. This trend is expected to remain the same in the future.

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	51-75	About the same	By recycling or reusing water, Gold Fields reduces its impact on fresh water sources as well as stressed water areas. The percentage of water recycled or reused in 2017 account for 57%, this is 2% lower than what was recycled and reused in 2016. The percentage of water recycled or reused was thus 'about the same' when comparing 2017 data to 2016 data. It is envisaged that Gold Fields will continue to improve on its recycling initiatives, the company is aiming to reach the ICMM best practice target of recycling 60% or more of its total water use at all operations. This will thus increase the future trend of the volumes of water recycled and re-used.

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	43289	51-75	By recycling or reusing water, Gold Fields reduces its impact on fresh water sources as well as stressed water areas. The percentage of water recycled or reused in 2017 account for 57%, this is 2% lower than what was recycled and reused in 2016. The percentage of water recycled or reused was thus 'about the same' when comparing 2017 data to 2016 data. It is envisaged that Gold Fields will continue to improve on its recycling initiatives, the company is aiming to reach the ICMM best practice target of recycling 60% or more of its total water use at all operations. This will thus increase the future trend of the volumes of water recycled and re-used.

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
Gold	Total water withdrawals	Other, please specify (Ounce of final product (gold))	About the same	Gold Fields uses the water intensity metric to understand the relationship between how much their operations are producing and how much water the production requires. Any changes in the metric gives an indication of an increase in production or decrease in water withdrawals. This information is used to make informed management decisions. The metric forms part of the key sustainability indicators reported in their annual reports. In 2016 the intensity was 13.67 and in 2017 the intensity was 14.78. This is an 8% increase, as such about the same was selected in accordance with Gold Fields' definition. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher.

W1.4

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

No, not currently but we intend to within two years

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	We are planning to do so within the next two years	Gold Fields intends to engage with the group's value chain on water-related issues in the next years. The parties in the value chain will be determined using the group's established procedures for identifying "sustainability high-risk" stakeholders, defined as contractors, suppliers or stakeholder groups with the potential to significantly impact Gold Field's reputation, either through adverse economic, environmental or social impacts. Gold Fields intends to build and cultivate healthy relations with such partners in its value chain through various engagement and dialogue methods. Gold Fields will also engage through its established 'Third Party screening solution', which screens all active parties recorded on internationally recognised and published screening databases against an array of pre-defined criteria, including but not limited to regulatory, labour practice, environmental, health and safety, management and operational issues. This will assist the group in terms of generating awareness of the potential economic, social or environmental challenges facing the business, particularly regarding water issues.

W2. Business impacts

W2.1

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

Yes

W2.1a

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

Country/Region

Ghana

River basin

Other, please specify (Ankroba)

Type of impact driver

Physical

Primary impact driver

Flooding

Primary impact

Increased operating costs

Description of impact

During 2017 there were intense periods of precipitation at Gold Fields Ghanaian operations. The high levels of precipitation required active management of positive water balances at the mines. The impact was that the pits became flooded which disrupted the operations and required additional dewatering measures. The impact was considered substantive because it resulted in increased operational costs and reduced the productivity levels of the operations. The dewatering of the pits involved the use of pumps, which required additional diesel volumes to undertake the dewatering activities. Increased diesel consumption increased the mines' operational expenditures as well as their direct greenhouse gas emissions.

Primary response

Other, please specify (Increased water pumping activities)

Total financial impact

5000000

Description of response

Gold Fields increased dewatering activities at the Tarkwa and Damang sites in order to accommodate the increased rainfall levels. The pits must be dewatered to ensure that the operations may proceed in a safe and efficient manner. Dewatering activities typically require the use of diesel pumps. The financial impact was calculated the total costs for the pumping of water used on the Tarkwa and Damang operations (surface, groundwater, sea water, etc.) in FY2017. These costs are related to the energy used in

the pumping process. Gold Fields records these costs in an annual operating cost register. Additional measures that Gold Fields is considering include provision for rain delays in the 2018 operational plan; the staggering of pit floors where possible to aid drainage and the review of current catchment mapping against a one in 100-year rainfall event.

Country/Region

Ghana

River basin

Other, please specify (Ankroba)

Type of impact driver

Physical

Primary impact driver

Pollution incident

Primary impact

Increased operating costs

Description of impact

During 2017 Gold Fields experienced a Level 3 environmental incident at Tarkwa mine, where seepage from a tailings embankment wall flowed into an adjacent control wetland on the mine's property. Fish died on account of cyanide in the seepage. Cyanide levels in the wetland quickly fell below prescribed regulatory limits and the seep from the embankment wall was contained. The contaminated water did not go beyond Tarkwa's boundary or into any water courses. The regulator was notified immediately.

Primary response

Pollution abatement and control measures

Total financial impact

156121

Description of response

Gold Fields amended the pollution abatement and control measures to reduce the risk of seepage through the embankment walls. The costs were incurred as part of Tarkwa response strategy aimed at implementing corrective and remedial and preventative controls as a consequence of the water related incident. The costs were derived from invoices supplied by consultants who implemented corrective actions.

W2.2

(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

W-MM3.2

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

Country/Region

South Africa

River basin

Orange

Number of tailings dams in operation

1

Number of inactive tailings dams

4

Comment

Country/Region

Australia

River basin

Other, please specify (Western Plateau)

Number of tailings dams in operation

5

Number of inactive tailings dams

12

Comment

Country/Region

Ghana

River basin

Other, please specify (Ankroba)

Number of tailings dams in operation

5

Number of inactive tailings dams

2

Comment

Country/Region

Peru

River basin

Other, please specify (Tingo)

Number of tailings dams in operation

1

Number of inactive tailings dams

0

Comment

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
Operating plan	Other, please specify <i>Gold Fields is in the process of developing relevant procedures.</i>	Gold Fields aligned its group-wide procedures with the ICMM's position statement on preventing catastrophic failure of tailings storage facilities in 2017. Implementation is currently ongoing. The financial and human resources needed to support continued tailings storage facilities management and governance are maintained throughout each operation's life cycle as well as in post-mine life. Gold Fields reviews the operating plans annually and makes provision for these resources in its short, medium and long term plans. One-year short-term plans are communicated per facility in Operations Plans. Medium-term plans are communicated per facility via the three-year Business Plans and five-year Strategic Plans. Long-term plans are communicated in the end-of-life plans, per operation. These plans have approved budgets.
Life of facility plan	A life of facility plan that considers the operating and closure phases A life of facility plan that considers design and construction phases A life of facility plan that considers closure and decommissioning phases A life of facility plan that considers post-closure	Gold Fields aligned its group-wide procedures with the ICMM's position statement on preventing catastrophic failure of tailings storage facilities in 2017. Implementation is currently ongoing. The financial and human resources needed to support continued tailings storage facilities management and governance are maintained throughout each operation's life cycle as well as in post-mine life. Gold Fields reviews the life of facility plans annually and makes provision for these resources in its short, medium and long term plans. One-year short-term plans are communicated per facility in Operations Plans. Medium-term plans are communicated per facility via the three-year Business Plans and five-year Strategic Plans. Long-term plans are communicated in the end-of-life plans, per operation. These plans have approved budgets.
Change management process	Other, please specify <i>Gold Fields is in the process of developing relevant procedures.</i>	Gold Fields aligned its group-wide procedures with the ICMM's position statement on preventing catastrophic failure of tailings storage facilities in 2017. Implementation is currently ongoing. Gold Fields' risk and change management processes are incorporated in the company's established risk identification and management processes which are applied across all the facilities. Gold Fields' Enterprise-wide Risk Management (ERM) process is aligned with the ISO 31000 risk management standard. Risks associated with potential tailings storage facility changes are assessed, controlled and communicated to avoid inadvertently compromising of tailings storage facilities integrity. The Safety, Health and Sustainable Development Committee (a Board subcommittee) and respective operations conduct quarterly assessments on business risks at operational and group levels, which are reported to the Board for consideration. Gold Fields' board meets biannually to assess, monitor and manage risks. The Board has oversight of Gold Fields' socio-economic, environmental, health and safety programs. This includes reviewing and guiding strategies; major plans of actions; risk management policies; annual budgets and business plans. The Board is also responsible for overseeing major capital and operational expenditures which may be required to manage changes that occur.
Approval	The operating plan and the life of facility plan are approved by a C-suite manager Other, please specify <i>Gold Fields is in the process of developing relevant procedures.</i>	Gold Fields aligned its group-wide procedures with the ICMM's position statement on preventing catastrophic failure of tailings storage facilities in 2017. Implementation is currently ongoing. The procedures ensure that each operation is accountability for the overall governance of tailings facilities. Gold Fields Ensures reviews and approves the operating plans in its short, medium and long term plans. One-year short-term plans are approved and communicated per facility in Operations Plans. Medium-term plans are approved and communicated per facility via the three-year Business Plans and five-year Strategic Plans. Long-term plans are approved and communicated in the end-of-life plans, per operation. These plans have approved budgets. Organisational structures and roles have been established to support management and accountability for the risks and governance associated with tailings storage facilities. Communication processes have also been developed to ensure that staff understand their responsibilities. Training is conducted to maintain currency of knowledge and skills. Roles are clearly defined with regards to the competency and experience levels that are required to undertake management of the facilities.

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 an enterprise risk management framework

Frequency of assessment

Six-monthly or more frequently

How far into the future are risks considered?

6 to 10 years

Type of tools and methods used

Tools on the market
Enterprise Risk Management
Databases
Other

Tools and methods used

WBCSD Global Water Tool
WRI Aqueduct
WWF-DEG Water Risk Filter
ISO 31000 Risk Management Standard
Other, please specify (Internal company methods)

Databases - Other: ICMM's Mining Climate Assessment Tool

Comment

Supply chain

Coverage

Full

Risk assessment procedure

Water risks are assessed as part of an enterprise risk management framework

Frequency of assessment

Six-monthly or more frequently

How far into the future are risks considered?

6 to 10 years

Type of tools and methods used

Tools on the market
Enterprise Risk Management
Databases
Other

Tools and methods used

WBCSD Global Water Tool
WRI Aqueduct
WWF-DEG Water Risk Filter
ISO 31000 Risk Management Standard
Other, please specify (ICMM's Mining Climate Assessment Tool)

Other: Internal company methods

Comment

Gold Fields uses the WRI Aqueduct; WBCSD Global Water and WWF Water Risk Filter Tools; an Enterprise-wide Risk Management process (aligned with ISO 31000); the ICMM's Climate Data Viewer Tool and internal company methods. Internal methods are aligned to the risk management requirements of the King IV Code. Each operation implements an ISO14001 certified Environmental Management System to ensure that all identified risks have the necessary control measures and mitigating strategies in place.

Other stages of the value 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

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	All Gold Fields' operations are required to report on risks related to water availability. The group level tool used to identify water availability risks includes Gold Fields' Enterprise Risk Management system, which is ISO 31000 aligned. All operations have operational and predictive water balances in place for understanding current and future water management requirements, including water availability levels. In addition, all operations have ISO14001 certified Environmental Management Systems (EMS) which enable them to assess, manage, monitor and report on water availability. Internal company knowledge (ISO14001 certified EMS); the WRI Aqueduct Tool; the WBCSD Global Water Tool; the WWF Water Risk Filter Tool and the ICMM's Climate Data Viewer Tool are also used to assess this issue. This includes identifying key water quality issues and risks. Reporting of these risks is undertaken on a quarterly basis to the Safety, Health and Sustainable Development Committee of the Board. Water availability issues form part of the input to the company risk register.
Water quality at a basin/catchment level	Relevant, always included	Water licences at the operations require water quality be monitored. Gold Fields' operations are therefore required to report on water quality. The group level tool used to identify water quality risks includes Gold Fields' Enterprise Risk Management system, which is ISO 31000 aligned. All operations have operational and predictive water balances in place for understanding current and future water management requirements, including water quality of both withdrawals and discharges. In addition, all operations have ISO14001 certified Environmental Management Systems (EMS) which enable them to assess, manage, monitor and report on water quality withdrawals and discharges. Internal company knowledge and methods (e.g. the ISO14001 certified EMS); the WRI Aqueduct Tool; the WBCSD Global Water Tool; the WWF Water Risk Filter Tool and the ICMM's Climate Data Viewer Tool are also used to assess this issue. This includes identifying key water quality issues and risks. Reporting of these risks is undertaken on a quarterly basis to the Safety, Health and Sustainable Development Committee of the Board. Water quality issues form part of the input to the company risk register.
Stakeholder conflicts concerning water resources at a basin/catchment level	Relevant, always included	Mining companies face increasing pressures over their social licence to operate. Formal permission to operate is ultimately granted by host governments but the practical reality is that many operations also need the permission of host communities and other influential stakeholders to carry out their operations effectively and profitably. The group level tool used to identify stakeholder conflicts concerning water resources includes Gold Fields' Enterprise Risk Management system, which is ISO 31000 aligned. Internal company knowledge, which utilises the ISO14001 certified Environmental Management Systems (EMS) at each operation, is also used to assess existing stakeholder conflicts. In 2017 the Board approved the updated Stakeholder Engagement, Sustainable Development and Climate Change policy statements. All operations have prepared community relations and stakeholder engagement strategies. The different regions are progressing with implementation of their three-year community relations and stakeholder engagement plans. All Gold Fields' mines have mechanisms through which communities can voice their grievances and complaints about the group. Internal company methods and knowledge used to assess such water related issues.
Implications of water on your key commodities/raw materials	Relevant, always included	The implications of water on key commodities/raw materials is assessed as part of Gold Fields' Enterprise Risk Management system, which is ISO 31000 aligned. Key commodities/raw materials include diesel, LPG, blasting agents, cyanide, cement, caustic soda, water and lime. The assessment of water risks associated with key commodities is conducted if there are indications that water supply/quantity might be an issue. Water risks also take into account water scarce areas and areas that have been previously exposed to water impacts. Internal company knowledge; the WRI Aqueduct Tool; the WBCSD Global Water Tool; the WWF Water Risk Filter Tool and the ICMM's Climate Data Viewer Tool are also used to assess this issue as they provide climate projections related to different regions and are used to assess the issue of current implications of water on key commodities/raw materials.
Water-related regulatory frameworks	Relevant, always included	Regulatory changes as well as potential tariff changes are managed through the following group and regional/operational level processes: 1. Operational risk management registers, which feed into the group risk register on a quarterly basis through the Group Enterprise Wide Risk Management Process (which is ISO 31000 aligned). 2. Group wide tracking of all key legislative changes through a centralised compliance system. 3. Implementation of the Group Water Management Guideline (which is an internal company method). Any regulatory changes affecting availability and price of water are reported quarterly to the Safety, Health and Sustainable Development Committee of the Board. Proactive identification, management and reporting of future potential regulatory changes forms part of the quarterly reporting to the Board's Safety, Health and Sustainable Development Committee. Once risks have been identified, various approaches are put in place to manage these. The internal methods/ knowledge used to assess such risks also include the development and annual review of production plans that specify water requirements. These plans assess the impact of regulatory and tariff changes so that adequate actions and resources may be provided. Gold Fields also participates actively in national and state/provincial Chambers of Mines and other industry and professional bodies enabling a thorough understanding of likely regulatory changes.
Status of ecosystems and habitats	Relevant, always included	All Gold Fields operations are required to comply with applicable environmental regulations. Gold Fields' operations are therefore required to report on the status of ecosystems and habitats. Part of the environmental compliance consists of assessing water related risks and the potential impacts on ecosystems and habitats. Environmental Impact Assessments and the ISO 14001 certified environmental management systems are the tools used to assess such risks. Water related impacts on ecosystems and local habitats are also assessed as part of the Group Enterprise Wide Risk Management Process (which is ISO 31000 aligned).
Access to fully-functioning, safely managed WASH services for all employees	Relevant, always included	Water is an important vector for the potential spread of pollution, making it a critical compliance issue as well as being a risk to the environment and human health if not responsibly managed. As employee health is vitally important to Gold Fields, all operations ensure that the workforce obtain access to clean potable and wash water for sanitation services. Internal company knowledge, which utilises the ISO14001 certified Environmental Management Systems (EMS) at each operation, is also used to assess access to fully functioning, safely managed WASH services for all employees.
Other contextual issues, please specify	Not relevant, explanation provided	Not applicable to Gold Field operations

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

	Relevance & inclusion	Please explain
Customers	Not relevant, explanation provided	Gold Fields does not factor customers into the company's water risk assessments. Gold Fields delivers product to refineries and does not engage directly with customers beyond a refinery level. Refineries are not major water users. They are therefore not factored into the company's water risk assessments and are not expected to be relevant in the future.
Employees	Relevant, always included	All employees at a corporate, regional and operational level are engaged with and included as stakeholders in Gold Fields' water risk assessments. The group level tool used to identify water risks, including risks related to employees, is the Gold Fields' Enterprise Risk Management system which is ISO 31000 aligned. In addition, all operations have ISO14001 certified Environmental Management Systems (EMS) which enable them to assess, manage, monitor and report on water risks related to employees. An example of a potential water risk related to employees is the risk of increased precipitation in Gold Fields operations in Ghana. Higher than usual precipitation levels have the potential to flood the mining pits, which puts the health and safety of employees at risk. Gold Fields' method of engagement with employees includes comprehensive employee surveys, which provide a holistic view of employee concerns. These are run every second year with shorter surveys taken annually.
Investors	Relevant, always included	Investors, specifically Environmental, Social and Governance investors, seek proof of sound water management practices. They are therefore relevant stakeholders and as water management is of interest to these stakeholders, they are always factored into the company's water risk assessments. An example of a potential investor risk is the risk that Gold Fields' reputation could be damaged should the company be perceived as being anything less than an environmental stewardship leader, particularly in respect to water issues. Gold Fields' reputation as an environmental stewardship leader is particularly important considering that water is a shared resource and three out of the four regions in which the company operates are classified as water stressed regions. Gold Fields recognises that reputational risk affects the company's social licence to operate which affects the company's sustainability. Gold Fields recognises that the social licence to operate from its host communities is one of the group's key social and relationship capitals. Risks to Gold Fields' reputation therefore have the potential to materially affect operations and investor confidence. Gold Fields' method of engagement with investors is via the Investor Charter, which aims at regaining and growing investor confidence in Gold Fields.
Local communities	Relevant, always included	Gold Fields recognises that local communities are an integral part of water management practices. An example of a potential water risk related to local communities is the risk that despite Gold Fields' appropriate plans and management of its own water requirements, the company runs a risk of losing its social license to operate if local communities are exposed to water related impacts. Therefore, local communities are factored in as a stakeholder and form part of water management practices, planning and risk assessments. Gold Fields' method of engagement with local communities includes formal and informal meetings with community-based organisations, traditional authorities and local businesses and government. All Gold Fields' operations have mechanisms through which communities can voice their grievances and complaints about the group. Gold Fields then aims to have the issues assessed and resolved.
NGOs	Relevant, always included	Gold Fields engages with key NGOs on water risks and water management practices, where appropriate. Gold Fields actively identifies and engages with the representatives of NGOs. An example of a potential water risk related to NGOs is the risk that despite Gold Fields' appropriate plans and management of its own water requirements, the company runs a risk of losing its social license to operate if local communities are exposed to water related impacts and Gold Fields is not seen to be assisting the communities in which it operates. Gold Fields' method of engagement includes formal and informal exchanges on a regular basis. For example in South Africa, Gold Fields engages on a formal basis with the Federation for a Sustainable Environment, which has a strong focus on water issues.
Other water users at a basin/catchment level	Relevant, always included	Where relevant, other water users at a local level are also incorporated in water risk assessments. Examples of other water users with whom Gold Fields engages at a local level are farmers and communities of nearby towns. An example of a potential water risk related to other water users at a basin/ catchment level is the risk that despite Gold Fields' appropriate plans and management of its own water requirements, the company runs a risk of losing its social license to operate if other water users at a basin/ catchment level are exposed to water related impacts and Gold Fields is not seen to be assisting such users with which it shares water resources. Gold Fields' method of engagement with other water users at a local level includes formal and informal meetings with community-based organisations, traditional authorities and local businesses. In South Africa, Gold Fields engages with communities in nearby towns such as Westonaria, Bekkersdal and Simunye. In Australia however, the remote locations of the operations means that there are few nearby water users.
Regulators	Relevant, always included	Regulators are considered key stakeholders because they have ability to impact Gold Fields' operational licences to operate. An example of a potential water risk related to regulators is the risk environmental incidents, particularly those related to water such as the level 3 incidents that occurred at the St Ives and Tarkwa mines in 2017. For example, water incidents may cause the regulators to investigate the operations, which could damage the company's reputation (social licence), or in a worst-case scenario, cause Gold Fields operations to be suspended or shut down. Gold Fields engages with regulators at a local, regional and national level to gain insight into local, regional and national water concerns and possible future regulatory changes. Through this engagement, regulators are factored into water related risk assessments. All of Gold Fields' regions have representatives that regularly engage with Government, via associations or directly, on water issues and potential regulatory changes.
River basin management authorities	Relevant, always included	Gold Fields engages with river basin management authorities at a local level to gain insight into possible water quality and availability risks as well as future regulatory changes. An example of a potential water risk related to authorities is the risk environmental incidents, particularly those related to water such as the level 3 incidents that occurred at the St Ives and Tarkwa mines in 2017. For example, water incidents may cause the river basin management authorities to investigate the operations, which could damage the company's reputation (social licence), or in a worst-case scenario, cause Gold Fields operations to be suspended or shut down. Through this engagement, river basin management authorities at a local level are factored into water related risk assessments. South Deep is a member of the Rietspruit Catchment Forum. The mine's environmental department attends the Forum's meetings and shares water monitoring data. In addition, South Deep works together with a neighbouring mine on restoring the Leeuspruit River, which forms part of the Rietspruit catchment.

	Relevance & inclusion	Please explain
Statutory special interest groups at a local level	Relevant, always included	Relevant local statutory special interest groups are factored into Gold Fields' water risk assessments. An example of a potential water risk is the risk that despite Gold Fields' appropriate plans and management of its own water requirements, the company runs a risk of losing its social license to operate if local communities are exposed to water related impacts and Gold Fields is not seen to be assisting the communities in which it operates. Gold Fields actively identifies and engages with the representatives of statutory special interest groups at a local level on a regular basis through formal and informal meetings. An example is Gold Fields' engagement with the Minerals Council of South Africa (previously known as the Chamber of Mines).
Suppliers	Relevant, always included	Water availability and quality are typically important components of the operations belonging to Gold Fields' suppliers. An example of a potential water risk is that the supply of good and materials (such as diesel, which is a key component of Gold Fields' operations) or the provision of supplier services suppliers could be negatively affected by issues related to water scarcity in the regions in which the suppliers operate. Gold Fields' method of engagement is through supplier sustainability policies and region-specific compliance standards. Standard supplier evaluation templates and weightings are determined on a case by case basis, based on the value and risk profiles of the vendor category. The evaluation covers commercial and non-commercial sustainability aspects like compliance, quality, safety, environment, human resources and social.
Water utilities at a local level	Relevant, always included	Water utilities and suppliers are an important stakeholder for Gold Fields due to the importance of ensuring water security. Therefore, these stakeholders are factored into water related risks assessments and engagement takes place regularly. An example of a potential water risk is that price increases have impacts on Gold Fields' operational expenditures, which can affect the profitability of the operation in question. Gold Fields actively identifies and engages with the representatives of water utilities/suppliers at a local level on a regular basis through formal and informal meetings.
Other stakeholder, please specify	Not relevant, explanation provided	Not applicable

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.

Gold Fields recognises that clean water is a basic human right and a vital company resource. At a group level, the responsibility for identifying and assessing water-related risks lies with Gold Fields' Risk Committee of the Board which undertakes and reviews company-wide risk assessments twice a year. Water risks are also assessed on a quarterly basis at operational levels and by Gold Fields' Safety, Health and Sustainable Development Committee and the Risk Committee, which provide feedback to the Board. Gold Fields has complete detailed climate risk vulnerability assessments for each of the operations, which consider water risks. The Group Risk Manager is responsible for risk management at company level.

Gold Fields uses a set of well-defined, GRI aligned, criteria and processes to assess its risks, opportunities and material issues. Gold Fields' processes are aligned with the ICMM's SD Framework, Principles, Position Statements and Reporting Requirements, with additional reference to the ICMM's report on 'Adapting to a changing climate: implications for the mining and metals industry'.

Gold Fields uses the WRI Aqueduct, WBCSD Global Water and the WWF Water Risk Filter tools; an Enterprise-wide Risk Management process (aligned with ISO 31000); the ICMM's Climate Data Viewer Tool as well as internal company methods. Internal methods are aligned to the risk management requirements of South Africa's King IV Code. Each operation implements an ISO14001 certified Environmental Management System to ensure that all identified risks have the necessary control measures and mitigating strategies in place. These tools are applied and implemented at all Gold Fields' operations.

Gold Fields uses these tools to assess water risks in the short, medium and long-term, across its operations. The results are incorporated into short-term (1-year) Operations Plans; medium-term Business Plans (3-years) and Strategic Plans (5-years) and long-term end-of-life plans (over 5 years).

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, both in direct operations and the rest of our value chain

W4.1a

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

Each of Gold Fields' operations are exposed to water related risks with potentially substantive business impacts. Water risks form part of Gold Fields' company-wide risk register. Risks are classified as strategic and operational, as the materiality of the two differ. Therefore, separate matrices are used for strategic and operational risks. The two risk matrices are used to assess the severity and probability of each risk. Depending on the risk score when re-rated in a Group context, Gold Fields will decide if the risk warrants a position on the Group Risk Register.

Gold Fields' definition of 'substantive change' is any change (i.e. related to the direct operations or further along the value chain) that will cause one or more day's loss of production, if the probability of the incident occurring is once every fortnight or less. The average financial loss of revenue for 1 day's production loss is USD 1 million. This equates to 0.04% of the group revenue in 2017, which has the potential to significantly impact Gold Fields revenues considering that the group comprises 8 operations. Therefore, the probability of such risks materialising is considered to be likely. This definition applies to Gold Fields' direct operations as well as further along the value chain, where impacts have direct consequences on Gold Fields' operational performance. Substantive risks, particularly those on operational performance, increase the potential for shareholder concerns. Losses of shareholder confidence can impact the Group's share price. A decrease in the market cap share for Gold Fields by 1% would result in lost revenue of about USD 31.5million.

Water pollution, supply and cost were ranked among the top 10 group risks in 2017. In particular, the water risks in Gold Fields' operations in South Africa, Peru and Australia are key, and potentially substantive, as these regions are classified by the WBCSD tool as water stressed. The remote Cerro Corona and water scarce South Deep operations are particularly susceptible to the risks of drought. All Gold Fields' operations require water to operate and therefore physical risks such as reduced availability (and quality), that could occur for instance due to drought conditions, have the potential to constrain production in a potentially substantive manner.

In addition, water risks have strategic business impacts because they may also impact our social licence to operate and community acceptance, which were also ranked among the top 10 group risks in 2017. For example, a lack of community acceptance may cause work stoppages at operations (as per incidences in the past at the South Deep operation), which could have substantive impacts on productivity levels and revenues. The establishment and maintenance of a strong social licence to operate from Gold Fields' host communities, regional and national governments is therefore essential for the sustainability and growth of the business.

W4.1b

(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	8	100	

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

South Africa

River basin

Orange

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

354196380

% 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

Country/Region

Australia

River basin

Other, please specify (Western Plateau)

Number of facilities exposed to water risk

4

% company-wide facilities this represents

26-50

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

1127434905

% 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

Country/Region

Ghana

River basin

Other, please specify (Ankroba)

Number of facilities exposed to water risk

2

% company-wide facilities this represents

26-50

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

893990152

% 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

Country/Region

Peru

River basin

Other, please specify (Tingo)

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

386178563

% 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

W4.2

(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

South Africa

River basin

Orange

Type of risk

Physical

Primary risk driver

Acid rock drainage and metal leaching

Primary potential impact

Reduction or disruption in production capacity

Company-specific description

Water stress is an ongoing threat for significant parts of South Africa. Water availability and management are therefore sensitive public issues that are highly prioritized by Gold Fields. The method for identifying this risk included the internal risk management process (which are aligned with ISO 31000) and use of the ISO14001 certified Environmental Management Systems. South Deep is situated in an area which suffers from the impacts of more than 100 years of intensive, deep-level gold mining which have caused high levels of acid rock drainage (ARD). South Deep is not contributing to local ARD. However, as the mine is likely to be one of the last operating mines in Gauteng, the facility faces risks of additional social and regulatory pressures to address the surrounding issues of ARD as the surface waters are affected. Social licence to operate and community acceptance are key to Gold Fields' operation and were ranked among the top 15 group risks in 2017. For example, a lack of community acceptance may cause work stoppages at operations (as per incidences in the past at the South Deep operation), which could have substantive impacts on productivity levels and revenues. The establishment and maintenance of a strong social licence to operate from Gold Fields' host communities, regional and national governments is therefore essential for the sustainability and growth of the business.

Timeframe

More than 6 years

Magnitude of potential impact

Medium-high

Likelihood

Unlikely

Potential financial impact

1000000

Explanation of financial impact

The average financial loss of revenue for 1 day's production loss is USD 1 mil. Such a loss would be due to a loss in production of ounces of gold and thus reduced revenue. This figure has been calculated using the 2017 financial results. The timescale is more than 6 years. In addition, reduced community acceptance can reduce shareholder confidence and the Group's share price. A decrease in the market cap share for Gold Fields by 1% would result in lost revenue of +/-USD 31.5 mil.

Primary response to risk

Comply with local regulatory requirements

Description of response

South Deep's Water Use Licence Application, which was submitted in 2015, has yet to be approved by the regulator. In the interim, South Deep ensures that it is compliant with all environmental regulations pertaining to the operation of the facility. Compliance risks are assessed and monitored in biannual company-wide risk assessments undertaken by Gold Fields' Risk Committee of the Board as well as quarterly reviews by the Safety, Health and Sustainable Development Committee which reviews and reports on the performance of the implementation of the company's safety, health and sustainable development policy statements. Facility level risk assessments are undertaken on a quarterly basis, the results of which are reported to the Safety, Health and Sustainable Development Committee which reports to the Board. Gold Fields also engages with South Deep's host communities and authorities, in order to maintain both its social and regulatory licences to operate. Reputation is one of the four key strategic objectives considered in the company's performance management system, the aim of which is to maximise total shareholder returns sustainably. 'Licence to operate and reputation' is therefore one of the strategic objective measurement areas in the CEO's 2018 performance scorecard. This response contributes to the progress of UN SDG's goal 6 (Clean Water and Sanitation).

Cost of response

3000000

Explanation of cost of response

South Deep implements a range of measures to prevent/contain Acid Rock Drainage (ARD) and there were no material cases of ARD reported in 2017. Proactive measures include ongoing water pumping; monitoring; containment of any ARD generation on the old tailings facilities; water-treatment solutions and revegetation of activities. The costs of water pumping and hydrological study implemented at South Deep in 2017 amount to approx. USD 3 million. These are comprised of once-off and recurring costs.

Country/Region

South Africa

River basin

Orange

Type of risk

Physical

Primary risk driver

Increased water stress

Primary potential impact

Reduction or disruption in production capacity

Company-specific description

Increased water stress has the potential to materially impact Gold Fields' operations. Water is a critical component of the mining operations and is also critically required by Gold Fields' host communities. Changes in water availability or quality can therefore reduce or disrupt production capacity. E.g. in 2017 Gold Fields reported that growing concern around water scarcity in South Africa is a key risk facing the South Deep operation. The method for identifying this risk included the use of internal risk management processes (aligned with ISO 31000), as well as the use of various water risk assessment tools such as the the WRI Aqueduct Tool; the WBCSD Global Water Tool; the WWF Water Risk Filter Tool and the ICMM's Climate Data Viewer Tool. These tools provide climate projections related to different regions and are used to identify and assess the implications of water issues. During 2016/17 South Africa experienced one of the country's worst drought cycles in 40 years. During this time South Deep has treated process water through the use of three reverse osmosis plants. However, the drought meant that the reverse osmosis plants could not be operated for most of 2016. Currently, only one of the RO plants is operational. Water is a key input in the facilities operations and disruptions to water supplies could result in work stoppages and reduced productivity levels at the South Deep operation. Decreases in productivity will negatively impact the facility's revenues.

Timeframe

Current up to 1 year

Magnitude of potential impact

Medium-high

Likelihood

About as likely as not

Potential financial impact

1000000

Explanation of financial impact

The average financial loss of revenue for 1 day's production loss is \$1 million. Such a loss would be due to a loss in production of ounces of gold and thus reduced revenue. This figure has been calculated using the 2017 financial results. The timescale is up to 1 year. The company also risks increased conflicts with host communities over water availability and quality, which could reduce shareholder confidence and the share price. 1% decrease would result in lost revenue of +/- \$31.5 mil.

Primary response to risk

Adopt water efficiency, water re-use, recycling and conservation practices

Description of response

Managing these risks can require additional capex and opex costs. The responses for managing these risks include risk assessments; Environmental Management Systems; the use of predictive water balances; rainwater harvesting; storm water management and water re-use, recycling and conservation initiatives. During 2018 Gold Fields intends to set targets in line with the ICMM's recommended recycling/reuse target of 60% for mining operations. Examples of some of the water management and projects undertaken in 2017 included: Peru: • Multi-lateral water management projects at Cerro Corona Australia: • Hydrological studies to investigate additional water supply options for Agnew • Drilling of boreholes and installation of reticulation system and processing plant at Gruyere South Africa: • Appointment of consulting engineers to develop alternative water treatment options at South Deep • Installation of five boreholes to intercept the plume at Doornpoort TSF plus monitoring • Recycling and conservation initiatives, reverse osmosis plants, boreholes and access to the public water system. In times of severe droughts, South Deep also accesses water supplied from neighbouring mines.

Cost of response

29000000

Explanation of cost of response

Gold Fields records operational and capital expenditures in a cost registry. The cost of water management projects in 2017 was USD 29 million. This figure includes the capital costs of USD 10.2 million related to water projects which are once-off costs. Operational costs are typically recurring costs.

Country/Region

Peru

River basin

Other, please specify (Tingo)

Type of risk

Physical

Primary risk driver

Severe weather events

Primary potential impact

Reduction or disruption in production capacity

Company-specific description

Changes in precipitation patterns and extreme variability in weather patterns have the potential to materially impact Gold Fields' operations. The impacts range from risks to staff health and safety and damages to both company and stakeholder equipment or infrastructure that could cause work stoppages. For example, water quality and security are critical in Gold Fields operations. Changes will impact production, efficiency and costs. Severe weather events, such as heavy rains, have the potential to damage infrastructure (such as tailings storage facilities) and disrupt the transport of copper concentrate from Cerro Corona mine to the port of Salaverry, where these impacts affect roads and other transport related logistics. If there are delays of more than 40 days at the port, the warehouse will not be able to receive more concentrate until the existing stock has been shipped. The concentrate stockpile at the mine can only hold up to 15 days of production. Delays in transportation could ultimately disrupt operations at the mine. Disruptions can cause work stoppages and decreased production levels which can negatively impact revenues. The method for identifying this risk included the internal risk management process (which are aligned with ISO 31000) and use of the ISO14001 certified Environmental Management Systems. Water risk assessment tools are also used: WRI Aqueduct Tool; the WBCSD Global

Water Tool; the WWF Water Risk Filter Tool and the ICMM's Climate Data Viewer Tool.

Timeframe

1 - 3 years

Magnitude of potential impact

Medium-high

Likelihood

Unlikely

Potential financial impact

1000000

Explanation of financial impact

The average financial loss of revenue for 1 day's production loss is \$1 million. Such a loss would be due to a loss in production of ounces of gold and thus reduced revenue. This figure has been calculated using the 2017 financial results. The timescale is 1-3 years.

Primary response to risk

Increased capital expenditure

Description of response

Cerro Corona continues to invest in water capital expenditures. In particular, Gold Fields has invested in capacity extensions to the mine and has budgeted for extensions to the warehouse facilities to mitigate the risk of disruptions to productivity levels. Gold Fields has also undertaken a risk and vulnerability assessment related to the Cerro Corona operations, which was followed by an adaptation plan for the facility. In addition, the tailings storage facility at Cerro Corona was increased by 4 meters in 2017 to assist the facility adapt to increased precipitation events.

Cost of response

13700000

Explanation of cost of response

The cost of managing this risk included: • Increasing concentrate storage facility at Cerro Corona: USD 44,600 • Cerro Corona Risk and Vulnerability Study: USD 44,400 • Cerro Corona Adaptation Plan: USD 4,600 • Increasing TSF at Cerro Corona by 4m: USD 13.6 million These are once off costs.

Country/Region

Australia

River basin

Other, please specify (Western Plateau)

Type of risk

Physical

Primary risk driver

Declining water quality

Primary potential impact

Reduction or disruption in production capacity

Company-specific description

Declining water quality in the Western Australia region is a result of the hypersaline nature of the water. Gold Fields' operations have to treat all hypersaline water before it can be used. Water quality and security are critical in Gold Fields operations and therefore changes will impact production, efficiency and costs at the St Ives, Agnew, Granny Smith operations and the Gruyere project. Water quality risks are exacerbated because the Western region of Australia is particularly arid which increases the risk of water scarcity. The method for identifying this risk included the internal risk management process (which are aligned with ISO 31000) and use of the ISO14001 certified Environmental Management Systems. Water risk assessment tools are also used: WRI Aqueduct Tool; the WBCSD Global Water Tool; the WWF Water Risk Filter Tool and the ICMM's Climate Data Viewer Tool.

Timeframe

1 - 3 years

Magnitude of potential impact

Medium

Likelihood

Unlikely

Potential financial impact

1000000

Explanation of financial impact

The average financial loss of revenue for 1 day's production loss is \$1 million. Such a loss would be due to a loss in production of ounces of gold and thus reduced revenue. This figure has been calculated using the 2017 financial results. The timescale is 1-3 years.

Primary response to risk

Secure alternative water supply

Description of response

Gold Fields' Australian operations actively engage in securing alternative water supplies to ensure water security. Granny Smith has entered into a five-year agreement with the Mt Weld Mining Company for access to the nearby Mt Weld borefield, which will ensure continued supply for the current life of mine. St Ives has two water agreements in place: a supply agreement with the Water Corporation, which terminates in 2050 and supplies the majority of the water needed by the mine. The other agreement (for supplementary water) is with the neighbouring Nickel West mine, which provides for declining entitlements through to 2021. The Agnew mine currently receives water for its operations from a number of sources, including water from a range of pits that are filled with rainwater. A hydrological study on the Fairyland borefield suggests that the facility can be expanded to supplement the existing water supply at the mine. At the Gruyere project two borefields will supply the mine and the Gruyere village. The Yeo borefield will serve as the main water source for the Gruyere processing plant. To date, 32 boreholes have been drilled and installation of a 95km water pipeline to the processing plant has commenced. Gold Fields also responds to this risk through water treatment, which makes up a large portion of the water costs in Australia.

Cost of response

5702805

Explanation of cost of response

Gold Fields records operational expenditures in a cost registry. The cost to manage this impact comprises Gold Fields water infrastructure and treatment costs in Australia, which is made up of reoccurring operational costs at the respective mines.

Country/Region

South Africa

River basin

Orange

Type of risk

Regulatory

Primary risk driver

Increased difficulty in supplier obtaining withdrawals/operations permit

Primary potential impact

Loss of license to operate

Company-specific description

More stringent requirements are being applied to the process of obtaining and renewing water use licences across all the regions in which Gold Fields operates. Challenges or delays in obtaining and renewing water use licences can impact Gold Fields' reputation as an environmental stewardship leader, which can negatively impact the respective operations' social licences to operate. Social licence to operate and community acceptance are key to Gold Fields' operation and were ranked among the top 10 group risks in 2017. For example, a lack of community acceptance may cause work stoppages at operations (as per incidences in the past at the South Deep operation), which could have substantive impacts on productivity levels and revenues. The establishment and maintenance of a strong social licence to operate from Gold Fields' host communities, regional and national governments is therefore essential for the sustainability and growth of the business. The increased risk also requires that the operations budget for increased operational expenses to manage such risks. The method for identifying this risk included the internal risk management process (which are aligned with ISO 31000) and use of the ISO14001 certified Environmental Management Systems.

Timeframe

More than 6 years

Magnitude of potential impact

Medium

Likelihood

Likely

Potential financial impact

1000000

Explanation of financial impact

The average financial loss of revenue for 1 day's production loss is \$1 million. Such a loss would be due to a loss in production of ounces of gold and thus reduced revenue. This figure has been calculated using the 2017 financial results. The timescale is more than 6 years.

Primary response to risk

Engage with regulators/policymakers

Description of response

Gold Fields manages this risk with regular engagement with national and local governments, as well as other material stakeholders. Engagements are often undertaken through membership of various industry associations. Memberships assist Gold Fields to stay abreast of regulatory issues. These engagements will assist the company prevent future financial, operational or strategic impacts.

Cost of response

276000

Explanation of cost of response

The cost to realise this activity is USD 276 thousand made up of reoccurring Membership fees to the Chamber of Mines of South Africa.

W4.2a

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

Country/Region

South Africa

River basin

Orange

Stage of value chain

Supply chain

Type of risk

Physical

Primary risk driver

Increased water stress

Primary potential impact

Reduction or disruption in production capacity

Company-specific description

Gold Fields' South Deep mine in South Africa is in a particularly water stressed region. A number of the products required by Gold Fields' operations are highly water intensive to produce. Examples of such products include: diesel, cyanide and electricity. For example, electricity production in South Africa is water intensive and consumes 1.38m³ of water per MWh of electricity produced. Increased water stress may limit the production of water intensive products which could in turn disrupt South Deep's operations. Reduced productivity levels could negatively impact revenues. Furthermore, as water scarcity becomes a reality in South Africa, suppliers like Rand Water may not have enough water to supply large customers like South Deep. In periods of drought, Rand Water will most likely prioritise water supply to residential areas over industry. The method for identifying this risk included the internal risk management process (which are aligned with ISO 31000) and use of the ISO14001 certified Environmental Management Systems. Water risk assessment tools are also used: WRI Aqueduct Tool; the WBCSD Global Water Tool; the WWF Water Risk Filter Tool and the ICMM's Climate Data Viewer Tool.

Timeframe

1 - 3 years

Magnitude of potential financial impact

Medium-low

Likelihood

Likely

Potential financial impact

1000000

Explanation of financial impact

The average financial loss of revenue for 1 day's production loss is \$1 million. Such a loss would be due to a loss in production of ounces of gold and thus reduced revenue. This figure has been calculated using the 2017 financial results. The timescale is 1-3 years.

Primary response to risk

Map supplier water risk

Description of response

Gold Fields includes an assessment of supplier related water risks in its ongoing Enterprise-wide Risk Management processes. Gold Fields has also assessed regional climate-related risk (and its effects on the supply chain) by conducting climate change vulnerability assessments for South Deep utilising the Group risk and ICMM tools/guidelines. South Deep also continues to invest heavily in improving water management practices, including pollution prevention, recycling and conservation initiatives. These investments, combined with weather monitoring, will assist the operation to prepare for periods of increased water stress, which may limit negative impacts on the operations, strategy and performance.

Cost of response

58000

Explanation of cost of response

Water related studies at South Deep in FY2017 amounted to USD 58 000. This cost is a once-off cost. The cost of weather monitoring is carried in-house by Gold Fields South Africa, no additional cost is incurred.

Country/Region

Ghana

River basin

Other, please specify (Ankroba)

Stage of value chain

Supply chain

Type of risk

Physical

Primary risk driver

Increased water scarcity

Primary potential impact

Reduction or disruption in production capacity

Company-specific description

Seasonal variation in rainfall poses a risk to the electricity supply of Gold Fields' Ghanaian operations because national electricity supplies in Ghana arise from hydropower sources. During 2017, Tarkwa and Damang sourced some of their power from the Volta River Authority and the Electricity Company of Ghana. Hydro-power schemes contribute significantly to Ghana's power, but with low dam levels due to a drought, security of electricity supply remains under threat. Daily load-shedding (brownouts) have disrupted operations, resulting in reduced levels of productivity and impaired revenues. The method for identifying this risk included the internal risk management process (which are aligned with ISO 31000) and use of the ISO14001 certified Environmental Management Systems. Water risk assessment tools are also used: WRI Aqueduct Tool; the WBCSD Global Water Tool; the WWF Water Risk Filter Tool and the ICMM's Climate Data Viewer Tool.

Timeframe

Current - up to 1 year

Magnitude of potential financial impact

Medium-high

Likelihood

Likely

Potential financial impact

1000000

Explanation of financial impact

The average financial loss of revenue for 1 day's production loss is \$1 million. Such a loss would be due to a loss in production of ounces of gold and thus reduced revenue. This figure has been calculated using the 2017 financial results. The timescale is current,

up to one year.

Primary response to risk

Supplier diversification

Description of response

Gold Fields (in partnership with Genser Energy, an independent power producer) has developed two natural gas power stations at its operations in Ghana to mitigate risks of electricity disruptions that may affect productivity and the safety of mine workers. The gas power plants have improved reliability, operational efficiencies and contributed to significant cost savings as a result of lower tariffs and using less diesel-driven generators. Savings during 2017 were around USD 15m, when taking into account improved efficiencies and higher utility tariffs the mines would otherwise have had to pay. Gold Fields is considering extending the capacity of the gas power stations and is also investigating opportunities to develop CDM or VCS carbon credit project for Ghana's Genser Power plants, where credits could be sold in the international market. This response contributes to the progress of UN SDG's goals 7 (Affordable and Clean Energy) and 13 (Climate Action).

Cost of response

34000000

Explanation of cost of response

The \$34 million cost of response relates to purchase of electricity in FY2017 from the two Genser power plants in Ghana. This is a reoccurring cost.

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

Markets

Primary water-related opportunity

Improved community relations

Company-specific description & strategy to realize opportunity

Gold Fields operations often experience water activism due to increased water scarcity and poor water infrastructure. Gold Fields therefore has the opportunity to strengthen its operations' social licence to operate. This opportunity applies across the operations, but particularly in Peru and South Africa. Gold Fields strategy to realise this water opportunity relates to shared value initiatives based on: 1. Strategic interventions to proactively address socio economic challenges; 2. Integration to proactively address socio economic challenges; 3. Participation in collaborative action with other stakeholders; 4. Transparency regarding Gold Fields' economic contributions. The benefits of the water shared value projects apply at company and operational levels. At operational levels water projects improve the resilience of communities and their socio-economic levels, which are likely to reduce the risks of social unrest around operations. Reduced risks of financial unrest will reduce the risks of work stoppages, which would negatively impact revenue. The average financial loss of revenue for 1 day's production loss is \$1 million, which is substantive. At a corporate level, reduced incidences of work stoppages related to water-related social unrest may increase investor confidence, which could increase the company's share price. An example of a shared value project is the provision of potable water to Cerro Corona's Hualgayoc communities, and other water infrastructure projects.

Estimated timeframe for realization

Current - up to 1 year

Magnitude of potential financial impact

Medium

Potential financial impact

1000000

Explanation of financial impact

The average financial loss of revenue for 1 day's production loss is \$1 million. This figure has been calculated using the 2017 financial results. Gold Fields stands to save lost revenues by undertaking water related shared value projects that benefit local communities.

Type of opportunity

Other

Primary water-related opportunity

Other, please specify

Reduced mine closure liability due to good water management practices

Company-specific description & strategy to realize opportunity

Good water management practices are expected to reduce work stoppages and mine closure costs, which is a business-wide opportunity for Gold Fields. Gold Fields remains committed to responsible water stewardship and management. The strategy Gold Fields employs to realise this opportunity is founded in the implementation of Group Water Management Guideline, which was developed to assist Gold Fields' operations in leaving an enduring positive legacy. The Guideline is based on good practice, such as the United Nations Global Compact and the International Council on Mining and Metals Principles. All the operations are required to develop a water strategy and water management plan in accordance with this guideline. In addition Gold Fields plans to further enhancing the integrated approach to mine closure management with a focus on progressive environmental rehabilitation, the social impact of closure and full LoM closure obligations. An example of the implementation of this strategy relates to the Australian operations, where water management at the sites forms an integral consideration within mine closure plans that are reviewed on a three-year cycle and submitted to the regulator for approval. In terms of the financial implications, this opportunity has the potential to reduce work stoppages and mine closure costs for Gold Fields. The average financial loss of revenue for 1 day's production loss is \$1 million, which is substantive.

Estimated timeframe for realization

>6 years

Magnitude of potential financial impact

Medium

Potential financial impact

1000000

Explanation of financial impact

The average financial loss of revenue for 1 day's production loss is \$1 million. This figure has been calculated using the 2017 financial results. By reducing work stoppages revenue loss is reduced.

Type of opportunity

Efficiency

Primary water-related opportunity

Cost savings

Company-specific description & strategy to realize opportunity

Reduced water use leads to reduced operational costs. Opportunities to increase water efficiencies and recycling/reuse are applicable across all operations. An example of a successful measure is the cost savings that were evident at South Deep which utilises reverse osmosis plants to treat process water and reduce municipal intake. The plants cut water purchase costs by an estimated US\$9000–12000/month. This opportunity is however constrained during times of drought. The strategy to realise cost savings begins with the highest level of strategic guidance, the Group Water Management Guideline, which is translated into mine specific plans and strategies. Water reuse, recycling and conservation projects are part of the strategy to reduce water consumption and save costs. In terms of the financial implications, this opportunity has the potential to reduce expenditure on municipal/utility water.

Estimated timeframe for realization

Current - up to 1 year

Magnitude of potential financial impact

Low-medium

Potential financial impact

126000

Explanation of financial impact

The reverse osmosis savings at South Deep cut water purchase costs by an estimated US\$9000–12000/month. The potential

annual financial impact is therefore estimated as the average value (US\$10500) multiplied by 12 months.

W5. Facility-level water accounting

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)

South Deep

Country/Region

South Africa

River basin

Orange

Latitude

-26.39802

Longitude

27.695503

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)

3279

Comparison of withdrawals with previous reporting year

Lower

Total water discharges at this facility (megaliters/year)

367

Comparison of discharges with previous reporting year

About the same

Total water consumption at this facility (megaliters/year)

2913

Comparison of consumption with previous reporting year

Lower

Please explain

Withdrawals decreased by 34% and discharges decreased by 8%, which could be attributed to the decrease in production at the facility. Total consumption therefore also decreased.

Facility reference number

Facility 2

Facility name (optional)

Damang

Country/Region

Ghana

River basin

Other, please specify (Ankroba)

Latitude

5.226349

Longitude

-2.024918

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)

1681

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)

1681

Comparison of consumption with previous reporting year

About the same

Please explain

Withdrawals increased by 8% which could be attributed to the increase in the quantities of ore milled at the operation. The Damang reinvestment project could also have attributed to the increase in withdrawals. Damang does not discharge its water to any sources. Therefore, the consumption change could also be attributed to the increase in ore milled at the mine. The consumption was calculated by subtracting the discharges from the withdrawals.

Facility reference number

Facility 3

Facility name (optional)

Tarkwa

Country/Region

Ghana

River basin

Other, please specify (Ankroba)

Latitude

5.249448

Longitude

-2.004898

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)

4824

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

1973

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

2851

Comparison of consumption with previous reporting year

Much higher

Please explain

Withdrawals increased by 13% due to the increase in rainfall in the region. Discharges decreased by 25%. Consumption increased by 78%.

Facility reference number

Facility 4

Facility name (optional)

St Ives

Country/Region

Australia

River basin

Other, please specify (Western Plateau)

Latitude

-31.208691

Longitude

121.663284

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)

10150

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

0

Comparison of discharges with previous reporting year

Much lower

Total water consumption at this facility (megaliters/year)

10150

Comparison of consumption with previous reporting year

Much higher

Please explain

Withdrawals decreased by 16%. Discharges decreased by 100% as St Ives did not discharge any water in the reporting period. Consumption increased by 294% due to there being no discharges in the reporting year whereas in the 2016 reporting year there was water discharged..

Facility reference number

Facility 5

Facility name (optional)

Agnew

Country/Region

Australia

River basin

Other, please specify (Western Plateau)

Latitude

-27.905845

Longitude

120.704727

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)

2290

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)

2290

Comparison of consumption with previous reporting year

About the same

Please explain

Withdrawals increased by 5% which could be attributed to the increase of 5% in ore milled at the mine. Agnew does not discharge any water from its operations thus resulting in no change between reporting years. Any change in the withdrawals directly impacts the consumption as there are no discharges from the mine. The increase in consumption amounted to 5% which can also be attributed to the increase in the amount of ore milled.

Facility reference number

Facility 6

Facility name (optional)

Cerro Corona

Country/Region

Peru

River basin

Other, please specify (Tingo)

Latitude

-6.776103

Longitude

-78.660736

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)

4154

Comparison of withdrawals with previous reporting year

Much higher

Total water discharges at this facility (megaliters/year)

1503

Comparison of discharges with previous reporting year

Much higher

Total water consumption at this facility (megaliters/year)

2651

Comparison of consumption with previous reporting year

Higher

Please explain

Withdrawals increased by 62% which could be attributed to the higher than normal rainfalls in the area as well as the 14% increase in production. Discharges increased by 445% which can also be attributed to the higher rainfalls as well as the construction on the tailings facility dam. Consumption increased by 16% which can be attributed to the increase in gold produced.

Facility reference number

Facility 7

Facility name (optional)

Darlot

Country/Region

Australia

River basin

Other, please specify (Western Plateau)

Latitude

27.8833

Longitude

121.2667

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)

335

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)

335

Comparison of consumption with previous reporting year

Lower

Please explain

Withdrawals at Darlot decreased by 38% which could be attributed to the sale of Darlot in the reporting year as well as a decrease in production based on the project value for the whole year. Darlot does not discharge water from its mining operation. Consumption at Darlot decreased by 40% which could also be attributed to the sale of the mine as well as the decrease in production.

Facility reference number

Facility 8

Facility name (optional)

Granny Smith

Country/Region

Australia

River basin

Other, please specify (Western Plateau)

Latitude

28.9833

Longitude

122.6833

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)

6272

Comparison of withdrawals with previous reporting year

Higher

Total water discharges at this facility (megaliters/year)

4870

Comparison of discharges with previous reporting year

Lower

Total water consumption at this facility (megaliters/year)

1402

Comparison of consumption with previous reporting year

Much lower

Please explain

Withdrawals increased by 15% which can be attributed to an increase in production of gold and the quantity of ore milled. Discharges decreased by 13% which could be attributed to the 56% increase in recycled/reused water volumes. Consumption decreased by 1069 due to an increase in the recycled/reused volumes of water. The decrease is also due to there being higher discharge volumes than withdrawals 2016 resulting in a substantial change to 2017 where withdrawals were higher.

W5.1a

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

Facility reference number

Facility 1

Facility name

South Deep

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

93

Brackish surface water/seawater

0

Groundwater - renewable

1883

Groundwater - non-renewable

0

Produced water

0

Third party sources

1354

Comment

South Deep's water withdrawals decreased due to a decrease in production. The freshwater source used at the mine is rainwater which collects in the pit and is then pumped out.

Facility reference number

Facility 2

Facility name

Damang

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

1633

Brackish surface water/seawater

0

Groundwater - renewable

48

Groundwater - non-renewable

0

Produced water

0

Third party sources

0

Comment

Water withdrawal by Damang remained relatively similar to the previous reporting period. The freshwater source used at the mine is rainwater which collects in the pit and is then pumped out.

Facility reference number

Facility 3

Facility name

Tarkwa

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

4216

Brackish surface water/seawater

0

Groundwater - renewable

546

Groundwater - non-renewable

0

Produced water

0

Third party sources

62

Comment

Water withdrawal from Tarkwa increased by 13% due to lower recycled/reused volumes. The freshwater source used at the mine is rainwater which collects in the pit and is then pumped out.

Facility reference number

Facility 4

Facility name

St Ives

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

0

Brackish surface water/seawater

232

Groundwater - renewable

9710

Groundwater - non-renewable

0

Produced water

0

Third party sources

209

Comment

During the reporting year St Ives switched from withdrawals from a fresh surface water source to a brackish surface water source. Withdrawals from renewable groundwater increased by 17% and from third party sources decreased by 45%. Total withdrawals increased by 16%

Facility reference number

Facility 5

Facility name

Agnew

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

0

Brackish surface water/seawater

0

Groundwater - renewable

2290

Groundwater - non-renewable

0

Produced water

0

Third party sources

0

Comment

Water withdrawal from Agnew remained relatively similar to the previous reporting period with only a minor increase of 5%. This minor increase was due to a 5% increase in production

Facility reference number

Facility 6

Facility name

Cerro Corona

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

3307

Brackish surface water/seawater

0

Groundwater - renewable

847

Groundwater - non-renewable

0

Produced water

0

Third party sources

0

Comment

Water withdrawal at Cerro Corona increased by 62% due to much higher rainfalls. The freshwater source used at the mine is rainwater which collects in the pit and is then pumped out.

Facility reference number

Facility 7

Facility name

Darlot

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

0

Brackish surface water/seawater

0

Groundwater - renewable

335

Groundwater - non-renewable

0

Produced water

0

Third party sources

0

Comment

Water withdrawal from Darlot decreased by 38% due to a decrease in production and the sale of the mine.

Facility reference number

Facility 8

Facility name

Granny Smith

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

0

Brackish surface water/seawater

1207

Groundwater - renewable

5065

Groundwater - non-renewable

0

Produced water

0

Third party sources

0

Comment

Granny Smith's water withdrawal increased by 15%. This is due to an increase in production.

W5.1b

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

Facility reference number

Facility 1

Facility name

South Deep

Fresh surface water

367

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

The South Deep operation discharges treated sewage water to a fresh surface water source. Prior to discharge, the water is treated at the operation to ensure the quality complies with environmental and water use regulations. The South Deep operation does not discharge water to any other destination.

Facility reference number

Facility 2

Facility name

Damang

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

Damang is a closed water system and therefore no water is discharged from the operation.

Facility reference number

Facility 3

Facility name

Tarkwa

Fresh surface water

1973

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

Tarkwa's water discharge decreased by 25% during 2017 due to the marginal decrease in production as well as a substantial increase (78%) in the recycled volumes of water.

Facility reference number

Facility 4

Facility name

St Ives

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

St Ives is a closed water system and therefore no water was discharged

Facility reference number

Facility 5

Facility name

Agnew

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

Agnew is a closed water system and therefore no water is discharged from the operation.

Facility reference number

Facility 6

Facility name

Cerro Corona

Fresh surface water

1503

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

Cerro Corona's water discharge increased by 445% due to increased water withdrawal because of the high rainfall in the region as well as construction on the tailings facilities.

Facility reference number

Facility 7

Facility name

Darlot

Fresh surface water

0

Brackish surface water/Seawater

0

Groundwater

0

Third party destinations

0

Comment

Darlot makes use of a closed loop water system. This results in no water being discharged from the facility.

Facility reference number

Facility 8

Facility name

Granny Smith

Fresh surface water

0

Brackish surface water/Seawater

4870

Groundwater

0

Third party destinations

0

Comment

Granny Smith's discharge decreased by 13% due to an increase in recycled/reused water volumes.

W5.1c

(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

South Deep

% recycled or reused

51-75%

Comparison with previous reporting year

About the same

Please explain

South Deep's proportion of recycled water decreased by 6%. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher

Facility reference number

Facility 2

Facility name

Damang

% recycled or reused

76-99%

Comparison with previous reporting year

Much higher

Please explain

Damang's proportion of recycled water increased by 55%. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher

Facility reference number

Facility 3

Facility name

Tarkwa

% recycled or reused

51-75%

Comparison with previous reporting year

About the same

Please explain

Tarkwa's proportion of recycled water decreased by 8%. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher

Facility reference number

Facility 4

Facility name

St Ives

% recycled or reused

11-25%

Comparison with previous reporting year

Higher

Please explain

St Ives' proportion of recycled water increased by 21%. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher

Facility reference number

Facility 5

Facility name

Agnew

% recycled or reused

26-50%

Comparison with previous reporting year

Higher

Please explain

Agnew's proportion of recycled water increased by 14%. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher

Facility reference number

Facility 6

Facility name

Cerro Corona

% recycled or reused

76-99%

Comparison with previous reporting year

Lower

Please explain

Cerro Corona's proportion of recycled water decreased by 12%. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher

Facility reference number

Facility 7

Facility name

Darlot

% recycled or reused

51-75%

Comparison with previous reporting year

Much lower

Please explain

Darlot's proportion of recycled water decreased by 40%. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher

Facility reference number

Facility 8

Facility name

Granny Smith

% recycled or reused

11-25%

Comparison with previous reporting year

Much higher

Please explain

Granny Smith's proportion of recycled water increased by 56%. Gold Fields defines "about the same" to be between 0 – 10%. Above 10% change is considered lower/higher. Above 40% change is considered much lower/much higher

W5.1d

(W5.1d) For the facilities referenced in W5.1, what proportion of water accounting data has been externally verified?**Water withdrawals – total volumes****% verified**

76-100

What standard and methodology was used?

The standard used: ISAE 3000 The methodology: ERM CVS' assurance methodology, based on the ISAE 3000 The scope of methodology: Reviewing policies and procedures to ensure compliance with the ICMM sustainable development principles. Site visits and virtual reviews to verify source data.

Water withdrawals – volume by source**% verified**

Not verified

What standard and methodology was used?

Water withdrawals by source is not a commonly requested indicator, apart from the WDP. As this is not a common externally verified parameter, Gold Fields does not make use of an external verification body to verify its water withdrawals by source. Gold Fields has identified that the most material water parameters to its key stakeholders is total water withdrawal and water intensity per ounce of gold produced.

Water withdrawals – quality**% verified**

Not verified

What standard and methodology was used?

Water withdrawals by quality is not a commonly requested indicator, apart from the WDP. As this is not a common externally verified parameter, Gold Fields does not make use of an external verification body to verify its water withdrawals quality. Gold Fields has identified that the most material water parameters to its key stakeholders is total water withdrawal and water intensity per ounce of gold produced.

Water discharges – total volumes

% verified

Not verified

What standard and methodology was used?

Five of the eight Gold Fields' operations discharge water. The St Ives, Agnew and Darlot operations are closed circuit systems; while the South Deep, Damang, Tarkwa, Cerro Corona and Granny Smith operations do discharge water. This parameter is not externally verified as in the cases where discharges occur, they are monitored in accordance with licence conditions agreed with the local environmental and water regulator (quality and volume).

Water discharges – volume by destination

% verified

Not verified

What standard and methodology was used?

This parameter is not externally verified as in the cases where discharges occur, they are monitored in accordance with licence conditions agreed with the local environmental and water regulator (quality and volume). Each discharge destination is monitored and measured by Gold Fields to ensure compliance with regulations at all operations.

Water discharges – volume by treatment method

% verified

Not verified

What standard and methodology was used?

Volume by treatment method is not externally verified as in the cases where discharges occur at an operation, they are monitored in accordance with licence conditions (quality and volume). All water that is discharged by Gold Fields' operations complies with the quality criteria set out in the relevant water use licenses.

Water discharge quality – quality by standard effluent parameters

% verified

Not verified

What standard and methodology was used?

Environmental incidents (level 3 and above) are assured by ERM (in accordance with the ISAE 3000 Standard). Any significant exceedance of water quality discharge requirements is recorded as an environmental incident. A description of all level 3 and above environmental incidents, including the mitigation measures to address the incident, are recorded in Gold Fields' Integrated Annual Report.

Water discharge quality – temperature

% verified

Not verified

What standard and methodology was used?

Environmental incidents (level 3 and above) are assured by ERM (in accordance with the ISAE 3000 Standard). Any significant exceedance of water quality discharge requirements is recorded as an environmental incident. A description of all level 3 and above environmental incidents, including the mitigation measures to address the incident, are recorded in Gold Fields' Integrated Annual Report.

Water consumption – total volume

% verified

Not verified

What standard and methodology was used?

Water withdrawal (which is assured by ERM) includes water consumption volumes at each of the Gold Fields operations.

Water recycled/reused

% verified

76-100

What standard and methodology was used?

The standard used: ISAE 3000 The methodology: ERM CVS' assurance methodology, based on the ISAE 3000 The scope of methodology: Reviewing policies and procedures to ensure compliance with the ICMM sustainable development principles. Site visits and virtual reviews to verify source data.

W6. Governance

W6.1

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

No, but we plan to develop one within the next 2 years

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
Director on board	The highest level of direct responsibility for water within Gold Fields sits with the Board. The Board has established the Safety, Health and Sustainable Development Committee (a Board subcommittee) to effect the Board's mandates and to provide the Board with the information that it requires to make decisions. The chairperson of the Committee is a non-executive board member. The Committee is responsible for assisting the Board in its oversight of socio-economic, environmental, health and safety programs. This includes the monitoring of Gold Fields' efforts to improve water management practices, including pollution prevention, recycling and conservation initiatives, as well as environment-related incidents and accidents. The Committee also ensures Gold Fields' compliance with relevant legislation and regulations around society, health, safety and the environment. Conformance with the principles of the ICMM and the principles of the Global Compact is also evaluated by the Committee.

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	Scheduled - all meetings	Monitoring implementation and performance Overseeing acquisitions and divestiture Overseeing major capital expenditures Providing employee incentives Reviewing and guiding annual budgets Reviewing and guiding business plans Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding strategy Reviewing and guiding corporate responsibility strategy Reviewing innovation/R&D priorities Setting performance objectives	The Safety, Health and Sustainable Development Committee (a Board subcommittee) and respective operations conduct quarterly assessments on business risks which include water risks, at an operational and group level, which are reported to the Board for consideration. Gold Fields utilises an Enterprise-wide Risk Management process (aligned with ISO 31000) as its information and control system that is used to identify and monitor water risks. Gold Fields' board meets biannually to assess and monitor risks and water matters are scheduled on the agenda at each meeting. The Board is ultimately responsible and accountable for the implementation of water policies. To achieve this responsibility the Board has oversight of Gold Fields' socio-economic, environmental, health and safety programs, including water responsibilities. This includes reviewing and guiding strategies; major plans of actions; risk management policies; water policies; annual budgets and business plans. Assisted by the Safety, Health and Sustainable Development Committee, the Board is able to monitor the implementation and performance of objectives; goals and targets for addressing water-related issues. In South Africa the directors of a company may be held directly and legally responsible for water related impacts. Therefore Gold Field's CEO and Directors hold the highest level of direct responsibility for water within the company.

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)

Chief Executive Officer (CEO)

Responsibility

Both assessing and managing water-related risks and opportunities

Frequency of reporting to the board on water-related issues

Quarterly

Please explain

In South Africa company directors may be held directly and legally responsible for water related impacts. Therefore, the CEO and Directors hold the highest level of direct responsibility for water within the company. The CEO is responsible for the effective management and running of the company's business. The CEO is supported by the Safety, Health and Sustainable Development Committee (a Board subcommittee) and respective operations, which conduct quarterly assessments on business risks (such as water risks) at operational and group level. The outcomes of are reported to the Board for consideration. The Board meets biannually to assess and monitor risks. Water matters are scheduled on the agenda at each meeting. The Board has oversight of socio-economic, environmental, health and safety programs, including water responsibilities. This includes reviewing and guiding strategies; targets major plans of actions; risk management policies; water policies; annual budgets and business plans.

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?

Yes

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

(W-FB6.4a/W-CH6.4a/W-EU6.4a/W-OG6.4a/W-MM6.4a) What incentives are provided to C-suite employees or board members for the management of water-related issues?

	Who is entitled to benefit from these incentives?	Indicator for incentivized performance	Please explain
Monetary reward	Corporate executive team Chief Sustainability Officer (CSO) Other, please specify (Executive vice president sustainability)	Efficiency project or target – direct operations Water-related community project	Gold Fields provides monetary rewards for water performance related metrics to the corporate executive team Chief Sustainability Officer; Executive Vice President Sustainability and environmental managers. Changing An example of an efficiency target is the group wide target to recycle/reuse 40% of water in the direct operations. Water-related community projects are also key performance metrics, as these build the operation-specific social licences to operate as well as the group's overall reputation as a leader in environmental stewardship. For example in FY2017 Gold Fields undertook shared value projects related to community water management and supply initiatives in the Hualgayoc district. The rationale for incentivising both top and middle management is Gold Fields' aim to increase water efficiencies and accountability across the highest levels of management in the group. The thresholds for success vary per indicator. For example, 40% group water recycling/reuse is the threshold for success in the water efficiency target. The links between the selected water-related performance and the monetary incentive/s are accounted for in annual performance reviews. The financial rewards differ, as each performance review is conducted according to respective conditions of employment contract.
Recognition (non-monetary)	Corporate executive team Chief Sustainability Officer (CSO) Other, please specify (Executive vice president sustainability)	Efficiency project or target – direct operations Behavior change related indicator Water-related community project	Gold Fields provides recognition related rewards for water performance related metrics to the corporate executive team Chief Sustainability Officer; Executive Vice President Sustainability and environmental managers. Changing An example of an efficiency target is the group wide target to recycle/reuse 40% of water in the direct operations. Water-related community projects are also key performance metrics, as these build the operation-specific social licences to operate as well as the group's overall reputation as a leader in environmental stewardship. For example in FY2017 Gold Fields undertook shared value projects related to community water management and supply initiatives in the Hualgayoc district. The rationale for incentivising both top and middle management is Gold Fields' aim to increase water efficiencies and accountability across the highest levels of management in the group. The thresholds for success vary per indicator. For example, 40% group water recycling/reuse is the threshold for success in the water efficiency target.
Other non-monetary reward	No one is entitled to these incentives	<Not Applicable>	

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
- Yes, trade associations

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?

Gold Fields factors water management into all aspects of its business through its Group Water Management Guideline, which is aligned with the ICMM Water Position Statement commitments. The Guideline is informed by the Environmental Policy Statement which mandates the company to undertake environmental stewardship as per ISO 14001. The purpose of the Guideline is to ensure that Gold Fields' vision & water management strategy are consistent across the different operations and geographical regions, while allowing for different focus areas & specific circumstances. Any external engagement with key industry bodies & other key stakeholders must be consistent with Gold Fields' Stakeholder Engagement, Sustainable Development & Climate Change policy statements. All operations have prepared community relations & stakeholder engagement strategies which assists them ensure that all their stakeholder engagement activities are consistent with the group's overall water policy. Gold Fields has a process for mandating representative to communicate on behalf of the company. Only certain representatives are mandated accordingly & are vetted by the corporate affairs department to ensure that a consistent message is delivered. Where any inconsistencies arise, these are dealt with on a case by case basis by the corporate affairs department or top management. Stakeholder engagement, is a critical issue & the CEO is mandated to ensure that such engagements boost the company's reputation.

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	11-15	Gold Fields' long-term planning (e.g. 5-year strategic plans per operation) and extends to post-mine life. Approved plans have budget allocations. The water issues (varying per operation) typically include: Site level management plans informed by catchment level stewardship priorities Operational water efficiencies: minimize, reuse, recycle (e.g. recycling/reuse targets and zero harm through sound management practices) Long-term water balances to evaluate usage Monitoring of quantity and quality of water discharges to minimize environmental impacts Flood planning and protection (e.g. increasing the tailings dam walls, e.g. undertaken at Cerro Corona in 2017) Budgets for research, technology and infrastructure to manage water quality, efficiency and opportunities for shared use Water management provisions post-closure Water objectives in closure plans typically include dewatering mining pits and measures to ensure that water quality and availability are suitable for the rehabilitation requirements (e.g. revegetation activities) and do not pose environment risks. Addressing water issues in long-term planning assists the operations identify and mitigate risks such as reduced supply; quality and increased water tariffs. These risks could negatively impact Gold Fields operating and capital expenses. Furthermore, the risks could cause work stoppages (water is critical to the direct operations and along the supply chain). Reduced productivity will negatively affect revenue
Strategy for achieving long-term objectives	Yes, water-related issues are integrated	11-15	Gold Fields strategy for achieving its long-term water objectives is founded in the 8 key Group sustainable development related guidelines (e.g. the Group Water Management Guideline). These guidelines support the implementation of the 8 group sustainable development policies and the top 5 group sustainability priorities (i.e. water, shared value, communities, energy and carbon and mine closure). Group guidelines are used as a strategy to ensure an appropriately consistent approach to water management in all the regions across the Group by providing Gold Fields' minimum requirements, strategic goals and overarching principles. The guidelines are not intended to replace regulatory requirements but rather to complement and supplement regulatory compliance. In this way Gold Fields can adequately avoid or mitigate water risks that threaten the operations' regulatory and social licences to operate. The long-term strategy for responsible stewardship and water security integrates the following water issues: <ul style="list-style-type: none"> • Measuring and reporting water management performance • Pursuing zero harm through sound water management practices • Integrating water management into mine planning • Creating shared value and leaving an enduring, positive legacy. E.g. water management and supply initiatives, such as the 'Adapting Together' programme in the Hualgayoc district where Gold Fields funded the irrigation system for 60ha of potential agricultural land in 2017.
Financial planning	Yes, water-related issues are integrated	11-15	Gold Fields incorporates the following water-related issues in its long-term financial planning (may vary per operation): <ul style="list-style-type: none"> • Site level management plans informed by catchment level stewardship priorities • Operational water efficiencies: minimize, reuse, recycle • Long-term water balances to evaluate usage • Monitoring of quantity and quality of water discharges to minimize environmental impacts • Flood planning and protection • Budgets for research, technology and infrastructure to manage water quality, efficiency and opportunities for shared use • Water management financial provisions for post-closure Gold Fields' long-term planning (e.g. five-year strategic plans per operation) and extends to post-mine life. Approved plans have budget allocations. Identifying financial requirements related to water management assists Gold Fields allocate appropriate resources and also helps to mitigate or avoid risks of non-compliance with regulations and best practice standards. For example, Gold Fields aligned its group-wide procedures with the ICMM's position statement on preventing catastrophic failure of tailings storage facilities in 2017. The procedures ensure that each operation is accountability for the overall governance of tailings facilities. Gold Fields Ensures reviews and approves the operating plans (and budgets) in its long-term plans.

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	-39	10	24	10	The decreases in group water capex and the increases in water opex may be on account of the FY2016 figures being estimates, whereas the FY2017 figures are recorded values (the sum of the water opex costs across the operations). Both water capex and opex are expected to increase in the upcoming year due to increased climate change impacts across the regions.

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	

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	Nationally determined contributions (NDCs)	Gold Fields uses the NDC scenarios so that the company is aligned with the relevant national plans and measures to reduce global temperature increases. Three of the four countries (all excluding Australia) in which Gold Field operates consider the impacts of climate change on water-related issues. Ghana, Peru and South Africa are classified as water stressed and/or scarce regions. The NDCs related to these countries recognise that climate change impacts make the regions particularly vulnerable to water supply and quality risks. The identified medium to high risks include: - Australia: Adequacy of flood management measures; Declining availability of water; Increased cooling costs. - Americas: Water shortages during drier months; Ability to deliver concentrate for shipping during severe weather events. - West Africa: Increased operational costs linked to maintenance of roads, more frequent replacement of tyres and increased dewatering; Increased volumes of contaminated water requiring treatment; Favourable conditions for vector borne diseases during high rainfall periods - South Africa: Variability in rainfall intensity increasing costs of alternate water sources; Climate change-related regulatory uncertainty. Disruptions to water supply and quality therefore have the potential to negatively impact operating and capital costs, and at worst can lead to work stoppages, which will negatively impact company revenues.	The results of the NDC scenario analyses are incorporated into Gold Fields risk management processes which utilise a mixture of both quantitative and qualitative analytical choices. Water risks are assessed and managed by Gold Fields' Board. The outcomes of the scenario analyses have informed Gold Fields' business plans and budget allocations. Gold Fields incorporates the following water-related issues in its long-term financial planning (may vary per operation): • Site level management plans informed by catchment level stewardship priorities • Operational water efficiencies: minimize, reuse, recycle • Long-term water balances to evaluate usage • Monitoring of quantity and quality of water discharges to minimize environmental impacts • Flood planning and protection • Budgets for research, technology and infrastructure to manage water quality, efficiency and opportunities for shared use • Water management provisions post-closure Gold Fields strategy for achieving its long-term water objectives is founded in the 8 key Group sustainable development related guidelines (e.g. the Group Water Management Guideline). These guidelines support the implementation of the 8 group sustainable development policies and the top 5 group sustainability priorities (i.e. water, shared value, communities, energy and carbon and mine closure).

W7.4

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

Row 1

Does your company use an internal price on water?

Yes

Please explain

Gold Fields internal water prices vary per operation. The currency of water prices therefore depends on the different regions. For example, the price of water in Australian operations will be in Australian Dollars. The approach to establish the regional prices is based on understanding the current costs of water and anticipating future price changes. Gold Fields incorporates water prices into its short, medium and long-term plans. Once approved, Gold Fields allocates resources (such as finances) to the items required to achieve the plans.

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	Company-wide targets and goals	Goals are monitored at the corporate level	Gold Fields approach to setting and monitoring goals requires that the views of internal and external stakeholders should be taken into consideration when developing the goals. The approach also includes: 1) Integrating water management into mine planning processes; and 2) Measuring and reporting our water management performance; 3) Pursuing zero harm through sound water management practices; 4) Creating shared value and leaving an enduring, positive legacy.

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 (Strive for zero harm)

Level

Company-wide

Motivation

Other, please specify

Maintain compliance licence to operate and social licence to operate

Description of goal

Gold Fields adopted its Water Management Guideline at the end of 2013. The guideline ensures that all operations have the appropriate designs and safeguard mechanisms in place to prevent contaminated water impacting the environment. We therefore have the goal to strive for zero harm through sound water management practices. The timescale for this goal will continue for the life of mine for each operation. We adopted this goal because operating a mine that does not strive for zero harm, would most likely result in the loss of the mining license, thus this is important to Gold Fields. This is as such a companywide goal, as the social license to operate is important across the company. This goal is being implemented across the company by investing in improving water practices, including pollution prevention practices. In addition adhering to the Group water guideline also support this implementation. The Group water guideline has been aligned with ICMM, to include best-practice principles. The water guideline is also informed by environmental policy guideline which mandates the company to undertake environmental stewardship as per ISO14001.

Baseline year

2012

Start year

2013

End year

2030

Progress

The goal will be successful if we receive no environmental fines during the reporting period. The indicator used to assess progress is thus the number of fines and the threshold of success is zero fines. No significant environmental fines were received during 2017. Gold Fields has therefore made significant progress towards meeting its goal of striving for zero harm. Cerro Corona works closely with community elected representatives to monitor water quality and quantity at the Las Tomas spring and authorised discharge points around the operation. This is an ongoing goal for Gold Fields operations.

Goal

Providing access to safely managed Water, Sanitation and Hygiene (WASH) in local communities

Level

Site/facility

Motivation

Shared value

Description of goal

Gold Fields' Water Management Guideline aims to create shared value and leave an enduring positive legacy. To reach this goal, Gold Fields evaluates opportunities for the development and implementation of water-related shared value projects. Water has been identified as one of the most important issues for communities located near mining operations. It is for this reason that Gold Fields evaluates opportunities to supply clean water to host communities where possible. This is an important factor company wide and thus the goal is set company wide. The timescale for this goal will continue for the life of mine of each operation. Gold Fields adopted this goal because community relationships are vital for maintaining a mine's social license to operate. Gold Fields' Cerro Corona mine is located in a region that is known for serious water related activism at both a local and regional level. Although Cerro Corona has not been materially affected by such activism, this has had a serious impact on other operators in the region. This goal is being implemented through investment in shared value projects, providing water support to communities.

Baseline year

2014

Start year

2014

End year

2030

Progress

The indicator used to track this goal is the number of shared value water related projects which are implemented to provide water to communities. Another indicator is the investment capital provided for such projects. Gold Fields has implemented a number of shared value water projects at Cerro Corona. These involves building and maintaining potable water systems and remediation of historical environmental legacies (not caused by Gold Fields) that are contaminating a local stream. Close to 90% of households in Hualgayoc now have access to sufficient clean running water. Apart from strengthening relationships between Gold Fields, the regulator and host communities, the remediation of legacy mining sites near Cerro Corona will significantly improve the quality of the water in the El Tingo River. Water supply to communities in Peru: Costs to date: US\$870,000 and the Adapting Together' programme in 2017 – funded irrigation system for 60ha of potential agricultural land in Peru. Costs to date: US\$160,000. Gold Fields has therefore made significant progress towards meeting its goal of building strong relationships.

Goal

Engagement with public policy makers to advance sustainable water management and policies

Level

Company-wide

Motivation

Recommended sector best practice

Description of goal

Gold Fields recognises that water is a 'shared resource' and should be responsibly stewarded. To effectively achieve this Gold Fields engages peers and policy makers to advance sustainable water policies and management practices. This is a goal that is important company-wide and thus includes all operations. This goal is implemented through engaging with Gold Fields' peers via membership of the International Council on Mining and Metals (ICMM) Water Working Group. The timescale for this goal will

continue for as long as Gold Fields is in business.

Baseline year

2014

Start year

2014

End year

2020

Progress

Gold Fields measures the success of this goal through the adoption of the ICMM Water Position Statement into company policy so that it aligns with global best practice on water management. Gold Fields engagement with public policy makers is an ongoing process, which is supported by the Water Management Guideline. Gold Fields is also a member of the Water Working Group under the ICMM. Through the above-mentioned engagement, Gold Fields has made significant progress towards meeting the goal.

W9. Linkages and trade-offs

W9.1

(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

W9.1a

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

Linkage or tradeoff

Tradeoff

Type of linkage/tradeoff

Increased GHG emissions

Description of linkage/tradeoff

Heavy rainfalls were experienced at the Australian operations, Tarkwa in Ghana and Cerro Corona in Peru resulting in increased pumping required. The rainwater collects in the pit and must be pumped out. Due to the increase in pumping there is an increase in GHG emissions.

Policy or action

Gold Fields is investing heavily into improving water management practices. These include pollution prevention, recycling and conservation initiatives. Gold Fields uses the rainwater first thus reducing the amounts required from other sources. This reduces the strain on water sources within the area such as groundwater. If the rainwater is not required, the water is collected and stored in the tailings pond for future use. Use of this water first reduces the need to treat and reuse waste water thus lowering energy consumption.

Linkage or tradeoff

Linkage

Type of linkage/tradeoff

Decreased energy use

Description of linkage/tradeoff

Due to the heavy rainfalls, less wastewater is needed and thus not treated. Less water is withdrawn from other sources as a result as well.

Policy or action

Gold Fields is investing heavily into improving water management practices. These include pollution prevention, recycling and conservation initiatives. Gold Fields uses the rainwater first thus reducing the amounts required from other sources. This reduces the strain on water sources within the area such as groundwater. If the rainwater is not required, the water is collected and stored in the tailings pond for future use. Use of this water first reduces the need to treat and reuse waste water thus lowering energy consumption.

Linkage or tradeoff

Tradeoff

Type of linkage/tradeoff

Increased wastewater treatment

Description of linkage/tradeoff

Gold Fields recycles more than 40% of their water. This requires more water treatment and therefore more energy. The increase in energy consumption will also cause an increase in GHG emissions.

Policy or action

Gold Fields makes use of any rainwater it collects before making use of wastewater that requires treatment. This reduces the amount of water that is needed for treatment. This in turn results in lower emissions due to less energy consumption.

W10. Verification

W10.1

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

Yes

W10.1a

(W10.1a) Which data points within your CDP disclosure have been verified, and which standards were used?

Disclosure module	Data verified	Verification standard	Please explain
W1. Current state	The company level withdrawal and recycled data has been verified by an external company. The intensity metric reported in W – MM1.3a has also been verified	ISAE3000	These data points have been verified as they provide important information on Gold Field's production and environmental impact. The verification ensures that Gold Fields can safely make corporate decisions using the data.

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	The chief executive officer is responsible for providing strategic leadership for the company by working with the board of directors and the executive management team.	Chief Executive Officer (CEO)

W11.2

(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)].

Yes

Submit your response

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

