

C0. Introduction

C0.1

(C0.1) Give a general description 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 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). 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 four Group level guidelines, which reflect the company’s environmental priorities. These concern energy and carbon management, water management, tailings management, mine closure and climate change. The updated Group Climate Change Policy commits Gold Fields to increasing its processes for identifying and assessing climate-related risk by conducting climate change vulnerability assessments utilising Group risk and ICMM tools/guidelines; annual reporting and disclosure via various reporting frameworks (e.g. CDP, DJSI, GRI); investing in renewable energy and energy and water efficiency initiatives as well as research and development, among others. Gold Fields climate change programme is focused on the identification and assessment of climate change related risks as well as the development and implementation of action plans. Gold Fields’ objectives are to minimise the company’s contribution to climate change and to build resilience to the physical impacts of climate change on its operations and host communities. It is increasingly clear that the negative physical impacts of climate change are real and immediate, due to: • The long-term risks posed by climate change to the Group’s operations and surrounding communities; • Increasing efforts to regulate carbon emissions in most of our jurisdiction; and • Taxes increasingly imposed by governments on non-renewable energy consumption. Gold Fields has disclosed its carbon footprint to the CDP since 2007. Gold Fields has consistently been ranked as one of the JSE leaders in terms of disclosure and climate change as a result of the quality of the submissions.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Row 1	January 1 2017	December 31 2017	No	<Not Applicable>
Row 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Row 4	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

C0.3

(C0.3) Select the countries/regions for which you will be supplying data.

- Australia
- Ghana
- Peru
- South Africa

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

Operational control

C-MM0.7

(C-MM0.7) Which part of the metals and mining value chain does your organization operate in?

Row 1

Mining

Gold

Processing metals

Gold

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board/Executive board	The highest level of direct responsibility for climate change within Gold Fields sits with Board. The Board has established the Safety, Health and Sustainable Development Committee (a Board committee) to implement the Board's mandates and to provide the Board with the information that it requires to make decisions. The Committee is responsible for assisting the Board in its oversight of Gold Fields' socio-economic, environmental, health and safety programs, including climate change responsibilities. This includes the monitoring of Gold Fields' efforts to minimise its environmental footprint, including energy consumption and carbon emissions as well as social, health, safety and environmental performance. 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.

C1.1b

(C1.1b) Provide further details on the board’s oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures Monitoring and overseeing progress against goals and targets for addressing climate-related issues	The Safety, Health and Sustainable Development Committee (a Board committee), executive management and all operations conduct quarterly assessments on business risks which include climate change risks, at an operational and group level, which are reported to the Board for consideration. Gold Fields’ Board meets biannually to assess and monitor risks and climate change matters are scheduled on the agenda at each meeting. The Board has oversight of Gold Fields’ socio-economic, environmental, health and safety programs, including climate change responsibilities. This includes reviewing and guiding strategies; major plans of actions; risk management 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 climate-related issues. The Board is also responsible for overseeing major capital expenditures, acquisitions and divestitures.

C1.2

(C1.2) Below board-level, provide the highest-level management position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	Quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored.

The responsibility for climate change below board level lies with Gold Fields' Chief Executive Officer (CEO) who is responsible for the effective management and running of the company's business in terms of the strategies and objectives approved by the Board. The CEO chairs the company's Executive Committee, leads and motivates the management team and ensures that the Board receives accurate, timely and clear information about the company's performance. The responsibility for climate change rests with the CEO because the person in this position has the highest oversight of the day-to-day running of company combined with the powers to implement actions and strategies. Below Board level, the CEO is assisted in monitoring specific climate-related issues by different managers: • Regional Risk Managers are responsible for the facilitation of risk assessments on a regional level, where the Group Risk Manager is responsible for risk management at company level. Gold Fields' Enterprise-wide Risk Management (ERM) process is aligned with the ISO 31000 risk management standard. Gold Fields employs climate scenario analyses, particularly the use of NDC scenarios, which guide the development and review of Gold Fields' short (0-3 years), medium (3-5 year) and long-term plans (>5 year to end of life of mine). • Energy Managers are responsible for assessing energy-related strategic regional and operational risks and opportunities, including climate change mitigation opportunities that build the company's resilience and sustainability. • Process Operations Managers are responsible for managing efficiencies and are therefore tasked with identifying and assessing operational climate change risks and opportunities that impact the operations. • Environmental Managers are responsible for identifying and assessing the regional and operational risks associated with the company's environmental management programmes. To this end all Gold Fields operations are ISO14001 certified. • Water Managers are responsible for identifying and assessing operational water risks and opportunities, with a focus on ensuring that water recycling, reuse and conservation practices are in place in all regions. Water management plans are being widened to include post-closure water management. Water Managers are also responsible for ensuring strict and focused compliance with environmental management regulations. • General Managers at operations are responsible for the overall management and delivery of the mine's objectives, including environmental, energy and water objectives. As such, General Managers are well positioned to identify and assess climate related risks and opportunities relating to their specific mine. On Group level there is a Group Risk Manager, Group Energy and Carbon Manager, Group EVP Sustainable Development Manager, Group VP Sustainable Development Manager and Group Water Manager, who support and guide the regional and operational managers to ensure management of climate change on all aspects of the business.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

Yes

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues.

Who is entitled to benefit from these incentives?

Corporate executive team

Types of incentives

Monetary reward

Activity incentivized

Emissions reduction target

Comment

Gold Fields' Integrated Energy and Carbon Management Strategy integrates energy and carbon management into all aspects of the business. The strategy ensures energy security, improved management of energy costs, improved energy efficiencies and sustainable reduction of Gold Fields' carbon footprint. The Group Energy and Carbon Management Guideline has been revised to align with ISO 50001 requirements. This Guideline encourages a systematic approach to energy management through business optimization and continual improvement programs. Energy and carbon performance, with a strong focus on cost savings, and strengthening energy security – including the evaluation of renewable energy options – were contained in the performance scorecards of senior and line management in 2017. In addition, during 2017, the Group 2018 Performance Scorecard was set and includes a target to reduce energy usage by 5% to 10% against an annual baseline through energy saving initiatives.

Who is entitled to benefit from these incentives?

Other C-Suite Officer

Types of incentives

Monetary reward

Activity incentivized

Other, please specify (Overseeing, managing and tracking)

Comment

Gold Fields incorporates monetary incentives in the performance assessments of C-suite officers. The assessments determine monetary rewards related to overseeing, managing and tracking implementation of energy and carbon management strategies and targets. Incentivised carbon and climate change related activities include: • Overseeing the development of structures and capabilities in the regions for energy and carbon management. • Ensuring regional progress on carbon emissions reduction target setting and performance and obtaining an external review of the targets and performance. • Tracking of progress against emissions reduction targets in the quarterly board committee reports. • Developing and reporting on carbon and climate change related performance indicators. • Obtaining external assurance on key energy, carbon and climate change related performance indicators. • Business as usual activities, which are required as part of annual remuneration (i.e. salary), related to incentivized climate change actions pertain to communicating Gold Fields' support for climate change issues effectively in the public domain. • Drive the group goal of 20% renewable energy for all new mining projects.

Who is entitled to benefit from these incentives?

Management group

Types of incentives

Monetary reward

Activity incentivized

Other, please specify (Implement 2017 energy security plans.)

Comment

Gold Fields has regional sustainable development and environmental heads. Energy and carbon performance, with a strong focus on cost savings and energy security – including the evaluation of renewable energy – were contained in the performance scorecards of these management positions in 2017.

Who is entitled to benefit from these incentives?

Energy manager

Types of incentives

Monetary reward

Activity incentivized

Other, please specify (Support and implement regional strategy)

Comment

Gold Fields has a permanent Group Head of Energy and Carbon. This position is at corporate level and further emphasizes Gold Fields' commitment to implementing operational change, across all the regions, in light of climate change. The Group Head of Energy and Carbon sets strategy, provides central coordination and drives progress in regards to energy and carbon management, energy cost reduction and efficiency initiatives. Business as usual activities, which are required as part of annual remuneration (i.e. salary), related to incentivized climate change actions pertain to: • Ensure third party verification of the energy and emissions targets as well as the baselines. • Develop and implement five-year energy security plans. • Actual energy and emission reductions achieved and costs saved against the baseline. • Embarking on annual investor ESG roadshows to present annual progress reports.

C2. Risks and opportunities

C2.1

(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.

	From (years)	To (years)	Comment
Short-term	0	3	The three-year short-term plans are communicated per facility in Operations Plans.
Medium-term	3	5	Medium-term plans are communicated per facility via the three-year Business Plans and five-year Strategic Plans.
Long-term	5	78	Long-term plans are communicated in the end-of-life plans, per operation. Gold Fields' South Deep mine has the longest life of mine period in the Group, of 78 years.

C2.2

(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

C2.2a

(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	Gold Fields' Safety, Health and Sustainable Development Committee and respective operations conduct quarterly assessments on business risks which include climate change risks, at an operational and group level, which are reported to the Board. The Risk Committee of the Board assesses company-wide risk biannually. The board meets biannually to assess and monitor risks. The process for identifying specific sustainable development risks and opportunities is aligned with the ICMM Sustainable Development Framework. Business planning is influenced typically by the following risks: water scarcity, flooding, changing legislative landscapes pertaining to carbon management and the increasing need to find alternatives to traditional energy provision and improved energy efficiency. Gold Fields monitors risks and reports these on various platforms such as the CDP; DJSI and GRI. The company is in the process of aligning its risk management processes and disclosures with the TCFD.

C2.2b

(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.

The processes for identifying and assessing climate-related risks fall within the development and management of the group strategy. Gold Fields assesses climate change-related risks, develops mitigation and adaptation plans, implements the plans and reviews vulnerability at both operation-specific and group levels. Gold Fields' definition of 'substantive financial impact' is any change that will cause one or more day's loss of production if the probability of the incident occurring is once every fortnight or less. This definition applies to Gold Fields' direct operations as well as its suppliers that have a direct impact on operational performance. At a group level, the responsibility for identifying and assessing climate-related risks lies with Gold Fields' Risk Committee of the Board. The Risk Committee undertakes and reviews company-wide risk assessments twice a year, with a view to ensuring effective risk management policies are in place. Gold Fields' processes are aligned with the ICMM's Sustainable Development 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'. The Risk Committee also reviews climate change risks and the business contingency planning process biannually, where after feedback is provided to the Board. On a quarterly basis, Gold Fields' Safety, Health and Sustainable Development Committee reviews and reports performance of the implementation of the company's safety, health and sustainable development policies. The Committee monitors compliance of Gold Fields' operations against regulations, policies and standards and makes specific recommendations regarding the investigation of incidents. It ensures risk management assessment processes on sustainable development matters are effectively applied. During 2017, the Board adopted an updated Group Climate Change Policy, which commits Gold Fields to enhancing its processes for identifying and assessing climate-related risk by conducting climate change vulnerability assessments utilising Group risk and ICMM tools/guidelines; annual reporting and disclosure via various reporting frameworks (e.g. CDP, DJSI, GRI); investing in renewable energy and energy and water efficiency initiatives as well as research and development, among others. At an operational level, Gold Fields has contracted specialist advisors to complete detailed climate risk vulnerability assessments for each of the operations. In addition, climate change risks are also assessed on a quarterly basis at operational levels. The Group Risk Manager is responsible for risk management at company level. Gold Fields' Enterprise-wide Risk Management (ERM) process is aligned with the ISO 31000 risk management standard. Gold Fields also employs scenario analyses, particularly the use of the NDC scenarios, which guide the development and review of Gold Fields' short (0-3 year), medium (3-5 year) and long-term site specific plans. Gold Fields uses a set of well-defined, GRI aligned, criteria and processes to assess its risks, opportunities and material issues. The assessments include quantitative and qualitative approaches. Materiality is classified under the GRI Standard where 1 is critical to Gold Fields and 10 is not material at all. The process draws on a range of internal and external sources, as well as detailed engagement with senior executives and representatives of external stakeholders – including industry, government, community and environmental organisations. The four key pillars are: 1. Key risks and mitigating actions are identified using an enterprise risk management process as well as the risk management requirements of South Africa's King III and IV governance codes. King IV has a principal dedicated to governing risk in a way that supports the organisation in setting and achieving its strategic objectives. 2. The Group takes into account the views and concerns of a wide range of stakeholders. 3. As part of the integrated reporting process, the Group conducts comprehensive interviews with key management and external stakeholders. 4. Material sustainability issues are assessed and prioritised according to the GRI Standards. In 2017, the impacts of global climate change and water pollution, supply and cost were listed among the top 20 Group risks in the Group matrix. Water risks have been identified over the short, medium and long term, particularly in operations in South Africa, Peru and Australia, as these regions are classified by the WBCSD tool as water stressed. Other material short, medium and long-term risks include changes in precipitation patterns and extreme variability in weather patterns, as well as climate change regulations. In Australia (and potentially South Africa) the regulations can expose the operations to direct tax risks and increases in operational costs.

C2.2c

(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?

Relevance & inclusion	Please explain
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	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	All Gold Fields' regions are subject to existing or planned climate change laws and regulations with stipulations that failure to meet these could impose non-compliance and subsequent regulatory risks. Eg in Australia St Ives mine is liable for emissions costs under the ERF's Safe Guarding Mechanism: in the reporting year it emitted 1,590 tCO2e over its baseline due to increased diesel consumption. The 24MW Granny Smith offset project is one of the main ways in which this risk is managed in Australia. Operations in Ghana face risk related to failure to adhere to the Renewable Energy Act stipulations by 2020. Such potential non-compliance and regulatory risks are identified and managed through regular assessments. These include biannual company-wide risk assessments undertaken by the Board's Risk Committee as well as quarterly reviews by the Board's Safety, Health and Sustainable Development Committee. The Board's Audit Committee is also responsible for assessing compliance. The Group Compliance Officer has deployed a detailed and systematic framework to assist the regions to identify and assess impacts related to statutes applicable to Gold Fields in all the jurisdictions in which the Group operates. Updates on regulatory changes are sourced from external legal sources and internally assessed for application/impact. Material changes are reported on a monthly basis to the region's executive committee and quarterly to the Audit Committee. Mitigating controls designed to proactively manage the risks are identified, documented and maintained for statutes assessed as posing a high risk of non-compliance. Internal Audit reports on the level of compliance following a sampling methodology. The results are reported to the Audit Committee and an annual Compliance Index is calculated for the region and for the Group. At a group level, this risk is further managed through membership of various trade associations, to ensure Gold Fields stays abreast of laws and regulations and influences policy makers through relevant bodies where necessary. At facility level, Gold Fields manages this risk with regular engagement of national, regional and local governments, as well as other material stakeholders.
Emerging regulation	Relevant, always included	Emerging climate change laws and regulations may impact Gold Fields' Peruvian and South African operations. The Peru National Framework for Climate Change is currently under development and could have business implications at Gold Fields' Cerro Corona operation. In South Africa the Draft Carbon Tax and Climate Change Bills pose various operational expenditure risks. Failure to comply with emerging laws and regulations could pose risks. Such risks are identified and managed through regular risk assessments. These include 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 of the Board which reviews and reports on the performance of the implementation of the company's safety, health and sustainable development strategy. The Board's Audit Committee is also responsible for assessing compliance. The Group Compliance Officer has deployed a detailed and systematic framework to assist the regions to identify and assess impact, related to statutes applicable to Gold Fields in all the jurisdictions in which the Group operates. Updates on regulatory changes are sourced from external legal sources and internally assessed for application/impact. Material changes are recorded on a monthly basis to the region's executive committee and quarterly to the Audit Committee. Mitigating controls designed to proactively manage the risks are identified, documented and maintained for statutes assessed as posing a high risk of non-compliance. Internal Audit reports on the level of compliance following a sampling methodology. The results are reported to the Audit Committee and an annual Compliance Index is calculated for the region and for the Group. As such, applicable climate change related laws and regulations are included under the environmental portfolio, through the above-mentioned process. At a group level, this risk is further managed through membership of various trade associations, to ensure Gold Fields stays abreast of these laws and regulations and influences policy makers through relevant bodies where necessary. At facility level, Gold Fields manages this risk with regular engagement of national, regional and local governments, as well as other material stakeholders.
Technology	Relevant, always included	At a group level, technology risks also have the potential to negatively impact capital and operational costs, particularly where these relate to energy and water expenses. Improved energy and water technologies can have co-benefits such as efficiency measures which reduce operating costs; the potential to reduce work stoppage risks due to the diversification of water and energy supplies as well as the environmental and reputational benefits where investments are made in renewable energy or low-carbon technologies. Technology risks therefore have the potential to reduce the company's resilience to climate change and long-term sustainability. Technology risks are identified and managed through regular risk assessments. These include biannual company-wide risk assessments undertaken by Gold Fields' Risk Committee of the Board as well as quarterly reviews by the Board's 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 strategy. At a group level, this risk is further managed through membership of various trade associations, to ensure Gold Fields stays abreast of these regulations and influences policy makers through relevant bodies where necessary. Climate change risks are also assessed on a quarterly basis at company level, which is the responsibility of the Group Risk Manager. Gold Fields' Enterprise-wide Risk Management (ERM) process is aligned with the ISO 31000 risk management standard. Each risk that is identified has a mitigation strategy in place.
Legal	Relevant, always included	In addition to current and potential non-compliance and regulatory risks, Gold Fields may be subject to various other legal & governance requirements and failure to comply could Gold Fields. These may arise, for example, from fiduciary responsibilities outlined in governance standards such as the King IV Code to the listing requirements of the stock exchanges on which Gold Fields is listed, as well as non-binding rules, codes and standards adopted by the Group. King IV and other listing control bodies increasingly stipulate specific climate change and environmental responsibilities, such as climate change disclosures alignment with the Task-force on Climate-related Financial Disclosures. The Board's Audit Committee is responsible for overseeing compliance with applicable legislation, requirements of appropriate regulatory authorities and the Company's Code of Conduct. The Group Compliance Officer has deployed a detailed and systematic framework to assist the regions to identify and assess impact, related to statutes applicable to Gold Fields in all the jurisdictions in which the Group operates. Updates on regulatory changes are sourced from external legal sources and internally assessed for application/impact. Material changes are recorded on a monthly basis to the region's executive committee and quarterly to the Audit Committee. Mitigating controls designed to proactively manage the risks are identified, documented and maintained for statutes assessed as posing a high risk of non-compliance. Internal Audit reports on the level of compliance following a sampling methodology. The results are reported to the Audit Committee and an annual Compliance Index is calculated for the region and for the Group. As such, applicable climate change related laws and regulations are included under the environmental portfolio, through the above-mentioned process. In addition, all active contractors and suppliers are screened during onboarding and thereafter on a monthly basis per defined risk criteria deployed by the external screening vendor, Environmental transgressions and negative media exposure being one of the defined risk criteria. A screening risk calculator is applied to all active suppliers with confirm screening matches, assessed post the monthly screening exercise.

	Relevance & inclusion	Please explain
Market	Relevant, always included	Understanding market risks is imperative to Gold Fields' long-term sustainability and therefore market risks are always included in climate-risk assessments. The climate change related market risk relates to gold price. The price of gold typically correlates to geopolitical uncertainty and volatility. Climate change is expected to increase geopolitical uncertainty and volatility, and may therefore pose a market risk due to uncertainty around gold price fluctuations. Oil price fluctuations are also risks, affecting profitability of the gold mining sector. With copper as by product of Gold Fields' Cerro Corona mine in Peru (some 30 000 tonnes each year); the uptick on copper-intensive products, such as renewables and electric vehicles will likely maintain copper demand. Market risks are identified and managed through regular risk assessments. These include biannual company-wide risk assessments undertaken by Gold Fields' Risk Committee of the Board. Gold Fields' Treasury Department is responsible for managing all financial risks arising from the Company's business activities in order to protect profit and cash flows. The Treasury Department's activities are guided by the treasury policy, the treasury framework as well as domestic and international financial market regulations. Treasury Department activities are currently performed within the treasury framework with appropriate resolutions from the Gold Fields Board, which are reviewed and approved annually by the Audit Committee. Gold Fields may manage market risks through some hedging of commodities. One of the Audit Committee's key areas of focus during 2017 was the hedging of diesel, gold and copper prices for all regions given recent volatility in commodity prices and exchange rates. As a general rule, Gold Fields sells the gold it produces at market prices to obtain the maximum benefit from prevailing gold prices. Hedges can be undertaken to protect cash flows at times of significant capital expenditures, for specific debt servicing requirements and to safeguard the viability of higher cost operations. Significant changes in the prices of gold and copper over a sustained period may lead Gold Fields to increase or decrease its production in the near-term, which could have a material impact on Gold Fields' revenues.
Reputation	Relevant, always included	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 and is an example of reputational risk. Risks to Gold Fields' reputation therefore have the potential to materially affect operations and investor confidence. In FY2017 the loss of social licence to operate and community acceptance was ranked as number 6 in the Group's top 20 risk register. 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. As such, 'licence to operate and reputation' is one of the strategic objective measurement areas in the CEO's 2018 performance scorecard. Further risk management measures include implementing shared value project across Gold Fields' regions. Such projects include water management and supply initiatives, as well as increasing the proportion of sustainable host community procurement and employment to drive shared value. Measures that increase the socio-economic status of host communities assist communities to become more resilient to climate change impacts and further assist in maintaining or building Gold Fields' reputation as a leader in environmental stewardship. Gold Fields therefore takes environmental, social and governance (ESG) matters seriously. The company is committed to delivering and managing a robust and transparent group governance and compliance programme. Considering that the majority of the regions in which Gold Fields operates are classified as water stressed, Gold Fields has a particular focus on water stewardship and has aligned its management practices with the ICMM water position statement in order to manage this risk. Managing this risk has a positive impact on the company's reputation. Gold Fields' further manages its ESG performance by reporting on different sustainability platforms such as the CDP, WDP, GRI and DJSI (one of the company's goals in 2017 was to maintain its position in the top five of the DJSI). In this regard, one of the Audit Committee's key areas of focus during 2017 was the external assurance of non-financial data.
Acute physical	Relevant, always included	Acute physical climate change incidents 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. E.g., increases in precipitation intensity and frequency can affect operations by destabilising tailing dams, flooding mine pits and increasing environmental events. Remote operations and projects (e.g. the Salares Nortes project) risk being disconnected by heavy snow and rains washing away roads. Floods and landslides can disrupt supply chains and transmission pathways. Storm events may inhibit downstream shipping/transportation. These are all examples of potential acute physical risks. Acute physical climate change risks are assessed at all Gold Fields operations, as part of the group wide risk and vulnerability assessment. Adaptation plans have been put in place where acute physical risks have been identified. E.g. at Cerro Corona, intense precipitation or flooding pose a risk to transporting the mine's product to the port of Salaverry. If there are delays of more than 40 days at the port, the warehouse is not able to receive more concentrate until the existing stock has been shipped. Gold Fields has therefore increased the storage capacity at the mine (and plans to increase storage capacity at the warehouse) to avoid or mitigate this risk. Acute physical risks are identified and managed through regular risk assessments. E.g. biannual company-wide risk assessments undertaken by the Board's Risk Committee as well as quarterly reviews by the Board's Safety, Health and Sustainable Development Committee which reports on the performance of the implementation of the safety, health and sustainable development policy statements. Climate change risks are also assessed on a quarterly basis at company levels by the Group Risk Manager. Gold Fields' Enterprise-wide Risk Management (ERM) process is aligned with the ISO 31000 risk management standard. Each risk that is identified has a mitigation strategy in place. Managing these risks can require stoppages and additional capex and opex costs. Strategies include risk assessments; Environmental Management Systems; predictive water balances; rainwater harvesting; storm water management and water re-use, recycling and conservation initiatives.
Chronic physical	Relevant, always included	Chronic physical climate change incidents have the potential to materially impact Gold Fields' operations. Water is critical to Gold Fields as 3 (South Africa, Australia and Peru) of the 4 regions in which the company operates are classified as water stressed. Changes in availability or quality impact production, efficiency and costs. Chronic water risks range from risks to staff health and safety, to damages to company and stakeholder equipment/infrastructure that could cause work stoppages and delay mining activities. Chronic physical risks are identified and managed through regular assessments such as biannual company-wide risk assessments undertaken by Gold Fields' Risk Committee of the Board as well as quarterly reviews by the Board Safety, Health and Sustainable Development Committee. Gold Fields has also aligned its water management practices with the ICMM tailings and water position statements to manage this risk. Climate change risks including chronic physical risks are further assessed on a quarterly basis at company levels by the Group Risk Manager. Gold Fields' Enterprise-wide Risk Management process is aligned with the ISO 31000 risk management standard. Each identified risk has a mitigation strategy in place. Chronic risks have also been assessed at all operations as part of the group wide risk and vulnerability assessment. Eg. the free-board levels in the tailings dam at Cerro Corona have been increased to mitigate the risks of increased annual rainfall. Managing chronic risks can require stoppages and additional capex (dewatering and water processing equipment) and opex (labour, power, water treatment process consumables) costs. Strategies include risk assessments; Environmental Management Systems; predictive water balances; rainwater harvesting; storm water management and water re-use, recycling and conservation initiatives. Chronic physical impacts, particularly related to water, have the potential to adversely affect host communities and could result in unwanted environmental incidents. Gold Fields manages such risks by implementing shared water value projects and projects to increase sustainable host community procurement. Communities with improved socio-economic statuses may become more resilient to climate change impacts. More resilient communities will reduce risks of social unrest that may result in disruptions to operations.

	Relevance & inclusion	Please explain
Upstream	Relevant, always included	Climate change impacts have the potential to adversely affect Gold Fields' upstream operations. Climate change impacts that affect company suppliers have the potential to affect Gold Fields operations from both cost and downtime perspectives. For example, in Ghana droughts affect electricity supplies from hydropower. In South Africa, the imminent carbon tax has the potential to increase the cost of electricity, diesel, petrol and other commodities such as cement. Upstream climate change risks are identified and managed through regular risk assessments. These include biannual company-wide risk assessments undertaken by Gold Fields' Risk Committee of the Board as well as quarterly reviews by the Board 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 strategy. Climate change risks are further assessed on a quarterly basis at company levels, which is the responsibility of the Group Risk Manager. Gold Fields' Enterprise-wide Risk Management (ERM) process is aligned with the ISO 31000 risk management standard. Each risk that is identified has a mitigation strategy in place. For example in the Ghanaian example, Gold Fields has entered into a power purchase agreement with Genser Energy, an independent power producer, for the supply of electricity from natural gas. Gold Fields is considering extending the capacity of the gas power stations.
Downstream	Relevant, always included	Climate change risks downstream of Gold Fields operations have the potential to affect the company's operations and revenues. For example, physical risks such as heavy rains, floods and sea level rise have the potential to disrupt the transport of 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. Downstream climate change risks are identified and managed through regular risk assessments. These include biannual company-wide risk assessments undertaken by Gold Fields' Risk Committee of the Board as well as quarterly reviews by the Board 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 strategy. Climate change risks are further assessed on a quarterly basis at company levels, which is the responsibility of the Group Risk Manager. Gold Fields' Enterprise-wide Risk Management (ERM) process is aligned with the ISO 31000 risk management standard. Each risk that is identified has a mitigation strategy in place. For example in the case of constrained capacity of the Salaverry warehouse, Gold Fields has invested in capacity extensions to the mine and has budgeted for extensions to the warehouse facilities to mitigate this risk.

C2.2d

(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.

The highest responsibility for managing climate related risks & opportunities lies with the Board. The Board makes the final decisions on how to mitigate, transfer, or control climate risks, & the decisions to capitalize on climate opportunities. The process for identifying sustainable development risks & opportunities is aligned with the ICMM's SD Framework. Material sustainability issues are assessed & prioritised according to the GRI Standards. Regular risk assessments are undertaken by committees that report to the Board. These include biannual company-wide risk assessments by the Risk Committee & quarterly reviews by the Safety, Health and Sustainable Development Committee. The Audit Committee is responsible for assessing & monitoring regulatory risks. Climate change regulations pose both transitional risks & opportunities. E.g. St Ives is liable for direct emissions costs under Australia's ERF's Safe Guarding Mechanism. In response, Gold Fields has implemented the gas power plant at Granny Smith which is an example of how the management process identified & realised a climate-change opportunity. Climate change risks are assessed on a quarterly basis at company level. Gold Fields' Enterprise-wide Risk Management process is aligned with the ISO31000 risk standard & King IV governance codes. Each risk has a mitigation strategy in place. Gold Fields has developed Group energy & carbon management guidelines to manage climate change risks & opportunities. These are supported by facility level risk & vulnerability assessments & mitigation and adaptation plans across the operations. For example at Cerro Corona, the free-board levels in the tailings dam have been increased to mitigate the risks of increased rainfall. Other risk & opportunity management measures include regular engagements with national, regional and local governments, communities & stakeholders. Opportunities to improve licence to operate & reputation are part of the CEO's performance scorecard.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Reputation: Stigmatization of sector

Type of financial impact driver

Reputation: Reduced revenue from negative impacts on workforce management and planning (e.g., employee attraction and retention)

Company- specific description

One of Gold Field's most material risks is loss of social licence to operate and community acceptance. If Gold Fields is not seen to be responding appropriately to mitigating and adapting to climate change then this could result in stigmatisation of the sector. Stigmatisation of the sector has the potential to cause reputational risks for the Gold Fields group, which could result negatively impact on workforce management and planning, ultimately posing work disruption risks. Work disruption could negatively impact revenue level. A company specific example is the risk that the value of the company's assets below ground can only be realised if the social and political environment above ground enables production. Accordingly, socio-economic compliance is ranked the second highest Group-wide materiality issue reported in 2017.

Time horizon

Current

Likelihood

Unlikely

Magnitude of impact

High

Potential financial impact

1000000

Explanation of financial impact

The potential impact of this risk is that the success of the business is critically dependent on relationships with key external stakeholders that determine both regulatory and social licences to operate. Gold Fields' reputation with these stakeholders is built on a commitment to good corporate citizenship, sharing wealth and sound environmental stewardship. If Gold Fields is not seen to be responding to climate change impacts, the company's social licence to operate may be reduced which may result in social unrest which could result in work stoppages. Work stoppages can negatively affect revenues. Poor revenues can result in job losses and the closure of facilities, which further increase the risk of social unrest in host communities, exacerbating the negative cyclical risk of work stoppages and decreased revenues. The estimated average financial impact of one day work stoppage at one of the mines is estimated at a loss in revenue of USD 1mil/day in the financial year.

Management method

Gold Fields strategy for maintaining its reputation and social licence to operate include ongoing investment in good governance programmes and responsible operational standards to avoid and mitigate negative social and environmental impacts. Gold Fields also manages this risk by focusing on improving relationships with key stakeholders such as governments, communities and investors. Methods and actions include regular engagements and robust and transparent group governance and compliance programmes. Eg. public reporting on the CDP, GRI and the DJSI platforms and memberships with associations. Gold Fields also undertakes shared value initiatives that improve water supply and quality to communities. Examples in FY2017: • Continuous water supply to the Pilancones community via a pumped water system • Construction of the water systems for the Kiwillas and Lipiag hamlets commenced (19km of distribution piping, 134 house connections, 3 water reservoirs and three 3 catchments) • Commencement of the Cuadratura water project (structural improvement works on the Cuadratura dam, a new water treatment plant, an 80m3 reservoir, water facilities and pipelines). Gold Fields also undertakes local procurement initiatives and housing and infrastructure projects. Increasing the socio-economic conditions of its host communities improves their resilience to climate change impacts and benefits the company by improving its reputation and reducing risks of work stoppages due to social unrest.

Cost of management

53500000

Comment

Gold Fields records operational and capital expenditures in a cost registry. The cost of management for the risk related to social licence to operate of USD 53.5 million is comprised as follows: • 2017 social-economic investment: USD 17 mil • 2017 WDP, CDP,

DJSI and carbon footprint: USD 0.026 million • Energy efficiency and emission reduction projects during 2017: USD 6 mil • Water management and projects: USD 29 mil • Membership fees: USD 1.5m Membership fees to ensure thorough response to climate change related issues in the regions comprise: • Ghana Chamber of Mines – USD 0.689 million • Chamber of Mines of South Africa – USD 0.276 million • Peruvian National Mining, Petroleum and Energy Society – USD 0.107 million • Chamber of Commerce Cajamarca – USD 0.0058 million • Peruvian Chamber of Commerce – USD 0.011 million • Chamber of Minerals and Energy of Western Australia – USD 0.406 million • Australia Gold Industry Group – USD 0.029 million

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Transition risk

Primary climate-related risk driver

Reputation: Increased stakeholder concern or negative stakeholder feedback

Type of financial impact driver

Other, please specify (Reduced share price)

Company- specific description

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 key stakeholders (such as communities and investors) is one of the group's key social and relationship capitals. If Gold Fields is not seen to be adequately contributing to climate change mitigation and adaptation efforts it may stimulate negative investor perceptions. Investors consider environmental, social and governance (ESG) indicators when evaluating investment decisions. There is a strong trend indicating that large institutional investors focus on investing in organisation that meet or exceed ESG indicators. Risks to Gold Fields' reputation as a leader in environmental stewardship therefore have the potential to materially affect operations and investor confidence, which could lead to a decrease in the company's share price. A reduction in the company's share price can negatively impact on revenues, which can negatively affect new investor recruitment.

Time horizon

Current

Likelihood

Unlikely

Magnitude of impact

High

Potential financial impact

31500000

Explanation of financial impact

The impact of increased stakeholder concern or negative stakeholder feedback on Gold Fields' reputation could result in a decrease in the market cap share for Gold Fields. If the market cap was to decrease by 1% this would result in lost revenue of USD 31.5million.

Management method

Gold Fields' manages its Environmental Social Governance (ESG) performance through various means. An example is reporting on different sustainability platforms such as reporting to the CDP on Climate Change and Water, GRI and DJSI. One of the company's goals is to maintain its position in the top five of the DJSI. In this regard, one of the Audit Committee's key areas of focus during 2017 was the external assurance of non-financial data. Gold Fields also manages reputational risk by participating in various associations and forums. In addition, Gold Fields undertakes annual investor road shows, where ESG information is communicated. Additionally, Gold Fields has been tracking investor's interest since 2010 with respect to their opinions regarding climate change issues. Improving investor and analyst confidence is included in Gold Fields' Group 2017 Performance Scorecard and 'licence to operate and reputation' is one of the strategic objective measurement areas in the CEO's 2018 performance scorecard. 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. Protecting Gold Fields' licence to operate and enhancing the company's reputation includes driving governance and compliance programmes and building confidence with analysts and investors.

Cost of management

1526000

Comment

The cost of management of the risk related to investor confidence of USD 1.526 million is comprised as follows: • Responding to

the 2017 WDP, CDP, DJSI and calculating the Group's carbon footprint: USD 0.026 million • Membership fees: USD 1.5m • The cost of carrying out investor road shows is carried in house. Membership fees to ensure thorough response to climate change related issues in the regions comprise: • Ghana Chamber of Mines – USD 0.689 million • Chamber of Mines of South Africa – USD 0.276 million • Peruvian National Mining, Petroleum and Energy Society – USD 0.107 million • Chamber of Commerce Cajamarca – USD 0.0058 million • Peruvian Chamber of Commerce – USD 0.011 million • Chamber of Minerals and Energy of Western Australia – USD 0.406 million • Australia Gold Industry Group – USD 0.029 million

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type

Physical risk

Primary climate-related risk driver

Chronic: Changes in precipitation patterns and extreme variability in weather patterns

Type of financial impact driver

Reduced revenues from lower sales/output

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 in availability or quality impact production, efficiency and costs. Furthermore, increases in precipitation intensity and frequency can damage operations by destabilising tailing dams, flooding mine pits and increasing environmental events. Prolonged periods of rainfall in Ghana can also reduce mine productivity as haulage trucks reduce speed when roads are wet. Remote operations (e.g. Salares Nortes) risk being disconnected by heavy snow and rains washing away roads. Floods and landslides can disrupt downstream transportation pathways. Storm events may inhibit downstream shipping/transportation of product, particularly at Cerro Corona.

Time horizon

Short-term

Likelihood

Likely

Magnitude of impact

Medium-high

Potential financial impact

1000000

Explanation of financial impact

Changes in precipitation patterns and extreme variability in weather patterns have the potential to materially impact Gold Fields' operations. The impacts can include damages to both company and stakeholder equipment or infrastructure that could cause work stoppages. The estimated average financial impact of one day work stoppage at one of the mines is estimated at a loss in revenue of USD 1mil/day in the financial year, this is due to a loss in production of ounces of gold and thus reduced revenue.

Management method

Managing these risks can require work stoppages and additional capex and opex costs. These physical risks are identified and managed through regular risk assessments such as 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. Climate change risks are also assessed on a quarterly basis at operation levels. Gold Fields' Enterprise-wide Risk Management process is aligned with the ISO 31000 risk management standard. Each risk that is identified has a mitigation strategy in place. Examples of implemented strategic actions include the development of the Group energy and carbon management guidelines to manage climate change risks and opportunities, as well as facility level risk and vulnerability assessments; mitigation and adaptation plans. A case study of the implemented actions is the increase of the tailings storage facility at Cerro Corona by 4 meters in 2017, to assist the facility adapt to increased precipitation events. Other implemented actions for managing this risk in 2017 included the use of Environmental Management Systems; predictive water balances; rainwater harvesting; storm water management and water re-use, recycling and conservation initiatives.

Cost of management

29000000

Comment

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 as well as the USD 13.6 million to increase the TSF at Cerro Corona by 4 meters.

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Supply chain

Risk type

Physical risk

Primary climate-related risk driver

Acute: Increased severity of extreme weather events such as cyclones and floods

Type of financial impact driver

Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

Company- specific description

Climate change risks down- or up-stream of Gold Fields operations have the potential to affect the company's operations and revenues. For example, acute physical risks such as heavy rains, floods and sea rise have the potential to disrupt the transport of copper concentrate from Cerro Corona mine to the port of Salaverry, where these climate change impacts affect roads and other transport related logistics such as the port. If there are delays of more than 40 days at the Salaverry 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 and reduce output from the mine as there is no storage capacity. Disruptions can cause work stoppages and decreased production levels which can negatively impact revenues. In addition, in Ghana droughts affect electricity supplies from hydropower. Conversely, prolonged periods of rainfall in Ghana can also lead to reduced mine productivity as haulage trucks reduce speed when roads are wet. This could reduce revenues.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Medium-high

Potential financial impact

1000000

Explanation of financial impact

Climate change related impacts or disruptions on the supply chain can result in work stoppages at any of Gold Fields mines. Each mine requires its raw materials and that its product can be transport downstream in order for the mine to operate correctly and produce output. The estimated average financial impact of one day work stoppage at one of the mines is estimated at a loss in revenue of USD 1mil/day in the financial year, this is due to a loss in production of ounces of gold and thus reduced revenue.

Management method

Climate change risks in Gold Fields supply chain are identified and managed through regular risk assessments. These actions include 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. Climate change risks are further assessed on a quarterly basis at company levels, which is the responsibility of the Group Risk Manager. Gold Fields' Enterprise-wide Risk Management (ERM) process is aligned with the ISO 31000 risk management standard. Each risk that is identified has a mitigation strategy in place. For example, in the case of constrained capacity of the Salaverry warehouse, Gold Fields has invested in capacity extensions to the mine and has budgeted for extensions to the warehouse facilities to mitigate this risk. In the case of disruptions to the (hydro) electricity supply in Ghana, Gold Fields has invested US\$ 1 million for the two Genser Power gas plants to increase security of supply. Improved security of electricity supplies reduces risks of work stoppages which result in reduced outputs and decreased revenues.

Cost of management

1100000

Comment

Gold Fields records operational and capital expenditures in a cost registry. The cost of managing this risk in 2017 was recorded as just under USD1.1 million which included: • Increasing concentrate storage facility at Cerro Corona: USD 44,600 • Cerro Corona

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Type of financial impact driver

Increased revenue through demand for lower emissions products and services

Company- specific description

There are opportunities for Gold Fields to generate additional revenue from carbon offset projects in the different regions in which the company operates. Australia is a particularly attractive region because offsets generated by the Granny Smith gas plant (which displaces the consumption of diesel, a higher emissions intensive fuel compared to natural gas) have the potential to be auctioned to the Australian government or sold to organisations that wish to offset their emissions, thereby providing an addition revenue stream for the company. In 2017 the Granny Smith gas plant earned AUD 126 000 (around USD 96 000) in carbon abatement credits from the Australian Emissions Reduction Fund after abating 21,000 tCO₂e. Furthermore, additional offsets from the Granny Smith gas plant could be used to offset carbon related liabilities the other Australian operations, notably St Ives which risks generating direct emissions that are above the threshold of 100 000 tCO₂e/year. In the reporting year it emitted 1,590 tCO₂e over its baseline due to increased diesel consumption. There is also potential to develop CDM or VCS carbon credit project for Ghana's Genser Power plants, where credits could be sold in the international market. In South Africa Gold Fields has the opportunity to invest in CDM or VCS offset projects which could be sold to tax-liable companies that may be impacted by the proposed South Africa carbon tax (which is expected to be implemented in 2019).

Time horizon

Current

Likelihood

Likely

Magnitude of impact

Low

Potential financial impact

400000

Explanation of financial impact

Potential financial impact of USD 4.4 million was calculated based on the potential revenues that can be achieved from the various carbon offset opportunities for Gold Fields, as follows: • Granny Smith gas plant revenues in carbon abatement credits from the Australian Emissions Reduction Fund after abating 21,000 tCO₂e: USD 95,500 • Potential credits from Tarkwa and Damang Genser Power Plants in Ghana: USD 4 million • Potential credits from South Deep solar PV in South Africa: USD 300,000

Strategy to realize opportunity

Gold Fields manages the carbon credit opportunity by developing carbon credit projects, an example of this is the Granny Smith gas power station. This opportunity is being managed in Ghana by conducting eligibility studies with experts, to determine the feasibility of potential carbon credit projects at the Tarkwa and Damang mines. Gold Fields also pursues the carbon offset opportunities in the offset market through actions such as ongoing memberships in the South African Chamber of Mines of South Africa, the Ghana Chamber of Mines and the Chamber of Minerals and Energy of Western Australia where the company is able to gain market intelligence and identify opportunities or barriers. Memberships in these associations assists Gold Fields engage with the necessary bodies related to carbon offsets and to identify potential carbon credit opportunities.

Cost to realize opportunity

1503600

Comment

Gold Fields records operational and capital expenditures in a cost registry. Gold Fields develops carbon credit opportunities by conducting eligibility studies which in 2017 cost roughly USD 3 600. Annual membership fees related to industry associations amounted to USD 1.5 million. This amounts to a total cost to realize the opportunity at USD1,503,600

Identifier

Opp2

Where in the value chain does the opportunity occur?

Customer

Opportunity type

Markets

Primary climate-related opportunity driver

Access to new markets

Type of financial impact driver

Increased revenues through access to new and emerging markets (e.g., partnerships with governments, development banks)

Company- specific description

Low carbon technologies are becoming more sought after in the global transition towards a green economy as an attempt to mitigate climate change. Gold Fields produces copper (30,000 tonnes in 2017) at the Cerro Corona mine in Peru. Copper is a highly efficient conductor which is used in renewable energy systems to transmit power from solar, hydro, thermal and wind energy. Using more copper in the wiring reduces thermal resistive losses and assists in reducing emissions as it lowers the amount of energy needed to generate a single electricity unit. Gold Fields therefore has the opportunity to explore potential business opportunities from copper production. Copper is an excellent conductor. According to a World Bank report of The Growing Role of Minerals and Metals for a Low Carbon Future published in June 2017, the 2 degree Celsius scenario will drive up demand for copper and silver, as the increase in renewable energy, nuclear power technology, light emitting diodes, electric motors, electric vehicles and energy storage technologies will drive copper demand up. Research shows that an additional use of copper in electric motors can result in a carbon emission reduction of 3-7.5 tons. In the World Bank Report, it is estimated that wind and solar photovoltaic installations require roughly 3000 kg and 2294 kg of copper per MW, respectively, while electric vehicles are estimated to use some 71 kg of copper per vehicle and combined cycle gas turbine power plants demand 1100 kg copper per MW.

Time horizon

Long-term

Likelihood

About as likely as not

Magnitude of impact

Low

Potential financial impact

1900000

Explanation of financial impact

An increase demand for copper and thus the subsequent increase in Gold Fields' production of copper could increase the Groups revenues. If the copper revenue was to increase by 1% due to the opportunity related to copper markets being realised this could increase the Group's total revenue by USD 1,900,000 per year.

Strategy to realize opportunity

Gold Fields strategy to realise opportunity includes actively sourcing market intelligence on the potential demand for copper in renewable energy technologies and related applications. An example of an action being implemented to achieve this strategy is Gold Fields' ongoing memberships in industry associations in the different regions where the company operates. Participation in industry associations assists Gold Fields gain market intelligence and identify opportunities or barriers. Ultimately, Gold Fields uses this type of market intelligence to support copper production related developments at the Cerro Corona mine and develop

exploration activities in identified regions.

Cost to realize opportunity

1500000

Comment

The costs of carrying out research on market intelligence is carried out in-house. The annual cost of Membership fees, through which Gold Fields gains market intelligence, is USD 1.5 million and includes: - Ghana Chamber of Mines – USD 689,000 - Chamber of Mines of South Africa – USD 276,000 - Peruvian National Mining, Petroleum and Energy Society – USD 107,000 - Chamber of Commerce Cajamarca – USD 5,800 - Peruvian Chamber of Commerce – USD11,000 - Chamber of Minerals and Energy of Western Australia – USD 406,000 - Australia Gold Industry Group – USD 29,000 The cost of developing the Cerro Corona mine for copper production is carried in house in the normal operating costs of the mine. No additional costs are incurred in order to pursue the opportunity and extraction of copper at the Cerro Corona mine.

Identifier

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resilience

Primary climate-related opportunity driver

Other

Type of financial impact driver

Other, please specify (Reputation and investor confidence)

Company- specific description

Gold Fields has a primary listing on the JSE Limited, with secondary listings on the New York and Swiss Exchanges. Financial backing from investors is important and therefore investors' opinions play a crucial role in the company's reputation. Investors are increasingly driven to find investments that meet and exceed environmental, social and governance (ESG) benchmarks performance. Data and indicators against these principles are also becoming increasingly available to investors. Climate change presents an opportunity to showcase environmental stewardship and demonstrate leadership in ESG, which may stimulate investment in the company. Gold Fields manages its ESG status through internal strategies and standards. Progress on managing ESG risks is shared through the GRI, DJSI, CDP, JSE SRI, MSCI and other ESG rating agencies, as well as through direct engagement with investors and analysts. Gold Fields is also a member of various associations within which it can increase reputational opportunities. The potential positive impact could result in an increase Gold Fields' share price, which may stimulate investment in the company.

Time horizon

Current

Likelihood

Likely

Magnitude of impact

Medium

Potential financial impact

31500000

Explanation of financial impact

The impact of increased reputation and investor confidence could result in an increase in the market cap share for Gold Fields. If the market cap was to increase by 1% this would result in an increase in revenue of USD 31.5million.

Strategy to realize opportunity

Gold Fields' strategy to realize this opportunity is to improve investor and analyst confidence. The current actions to realise this strategy include support of ongoing governance and compliance programmes which improve reputation and social licence to operate. Gold Fields' current governance activities include implementing climate change related and socio-economic/ shared value projects across the group's regions. Climate change projects include energy efficiency initiatives (in FY2017 emissions were reduced by 4.6% through such projects). Socio-economic/ shared value projects in FY17 included increasing the proportion of sustainable host community procurement and employment and the funding of the irrigation system for 60ha of potential agricultural land under the Adapting Together programme. Measures that increase the socio-economic status of host communities assist communities to become more resilient to climate change impacts and further assist in maintaining or building Gold Fields' reputation as a leader in environmental stewardship. Gold Fields' further manages its ESG performance and investor confidence by reporting on different sustainability platforms (e.g. CDP, WDP, GRI and DJSI), memberships to industry associations and

investor road shows (all of which were undertaken in FY2017).

Cost to realize opportunity

2470000

Comment

The cost to realise this opportunity of USD 24.7 million includes: • Investment in social-economic projects in FY2017: USD 17 mil • Responding to the CDP on Climate Change and Water, DJSI and calculating the Group's carbon footprint: USD 26,000 • Energy efficiency and emission reduction projects during 2017: USD 6 mil • Implementing the 'Adapting Together' programme in Hualgayoc Community: USD 160,000 • The cost of investor roadshows is carried in-house and there are no additional costs associated with these. • Membership fees: USD 1.5m Membership fees comprise: • Ghana Chamber of Mines – USD 689,000 • Chamber of Mines of South Africa – USD 276,000 • Peruvian National Mining, Petroleum and Energy Society – USD 107,000 • Chamber of Commerce Cajamarca – USD 5,8000 • Peruvian Chamber of Commerce – USD 11,000 • Chamber of Minerals and Energy of Western Australia – USD 406,000 • Australia Gold Industry Group – USD 29,000

C2.5

(C2.5) Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted	Gold Fields recognises that low carbon technologies are becoming more sought after in the global transition towards a green economy as an attempt to mitigate climate change. Copper is a highly efficient conduit which is used in renewable energy systems to generate power from solar, hydro, thermal and wind energy. The use of copper assists in reducing emissions and lowers the amount of energy needed to produce electricity. Gold Fields is therefore investing in expanding its copper mining activities in order to meet growing market demands for low-carbon products and services. Gold Fields produces copper (30,000 t in 2017) at the Cerro Corona mine in Peru. The magnitude of this impact is considered to be medium, where an increase in Gold Fields' production of copper by 1% could increase Group revenue by USD 1,900,000 per year, where an average copper price of USD 5,867/tonne is used.
Supply chain and/or value chain	Impacted	Changes in precipitation patterns and extreme variability in weather patterns have and continue to impact Gold Fields' supply and value chains. The impacts range from delays in the provision of crucial supplies to damages to stakeholder equipment or infrastructure. These impacts have in extreme cases caused work stoppages at Gold Fields' facilities or increases in operating or capital expenses. For example, in Ghana droughts affect electricity supplies from hydropower. 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 magnitude of these impacts is considered to be medium-high, where the estimated average financial impact of one day work stoppage at one of the mines is estimated at a loss in revenue of USD 1million/day in the financial year.
Adaptation and mitigation activities	Impacted for some suppliers, facilities, or product lines	Adaptation and mitigation activities have impacted Gold Fields' business in various ways, depending on the activity and region in which it is located. Gold Fields' development of a 40 MW solar PV facility at the South Deep facility is an example of a climate change mitigation activity that will also reduce the facility's risks related to electricity interruptions by diversifying the source of electricity supply. It is also expected to reduce the operational expense associated with purchasing electricity. Gold Fields 3-year upgrade of the dirt road between the Tarkwa and Damang mines in Ghana is an example of an adaptation activity that the company is driving. The total project will cost Gold Fields around USD 21 million. The road significantly improves access for the Ghana operations' host communities and improves the efficiency of transporting upstream and downstream supplies. Transportation logistics have in the past been impacted by extreme weather events such as heavy rains and flooding, impacting operations and productivity. Upgrading the road will assist in mitigating these impacts. Gold Fields also supports the 'Adapting Together' programme in the Hualgayoc district which in 2017 amounted to USD 160,000. In 2017 this led to the reactivation of the municipal environmental committee. Gold Fields also funded the irrigation system for 60ha of potential agricultural land. This shared value project is an example of how Gold Fields has proactively undertaken activities that simultaneously addressing business and social needs. The magnitude of this impact is therefore considered to be high, as it goes beyond mitigating the potential harm in the company's value chain. This impact is an opportunity for economic success that incorporates social priorities into business strategy by working collaboratively with multiple stakeholders to find solutions to a socio-economic and environmental issue.
Investment in R&D	Impacted	Innovation and Technology (I&T) is critical to improving health, safety, mined volumes and, ultimately, costs and efficiencies. During 2017, Gold Fields' started implementing the I&T strategy approved by the Board in late 2016. The strategy aims to modernise, integrate and optimise existing systems and processes with a view to increasing mining volumes and increase cost efficiencies. Gold Fields' updated Group Climate Change Policy (2017) also commits the company to support research, development and innovation because the company understands that such activities will assist the operations to cope with the impacts of climate change. Renewable energy studies across the regions are examples of the implementation of this commitment. The development of a 40 MW solar PV facility at the South Deep facility is an example of an investment in an innovation and activity that will mitigate climate change while also reducing the facility's risks related to electricity interruptions by diversifying the source of electricity supply. It is also expected to reduce the operational expense associated with purchasing electricity. The magnitude of this impact is medium because it not only mitigates or adapts to a physical climate change risk but also has the potential to increase Gold Fields' reputation as a leader in environmental stewardship, which has the potential to positively impact the company's social licence to operate and investor confidence.
Operations	Impacted	Changes in precipitation patterns and extreme variability in weather patterns impact Gold Fields' operations in a number of ways. Physical impacts of climate change range from increased capital and operational expenses to negative impacts on staff health and safety. These impacts have resulted in disruptions to the operations, productivity and operational efficiencies. For example, increased rainfall in 2017 in Australia, Ghana and Peru required increased water withdrawals from the operations to enable them to continue operating. Dewatering activities require diesel, which resulted in increased diesel consumption and emissions associated with this activity. Increased diesel consumption at the St Ives facility in Australia further impacts the operation's carbon tax liability should the company's annual direct emissions exceed the stipulated cap. A further example relating to impacts on operations in Ghana is the disruption of grid electricity during times of drought, as the source of grid supply is largely derived from hydroelectric facilities. To mitigate the impact of this risk, Gold Fields (in partnership with Genser Energy, an independent power producer) has developed two gas fired power stations to supplement supply to the operations at Tarkwa and Damang. 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 15million, when taking into account improved efficiencies and higher utility tariffs the mines would otherwise have had to pay. The magnitude of these impacts is therefore considered to be medium-high as the impacts on the operations can be complex and far reaching. The estimated average financial impact of one day work stoppage at one of the mines is estimated at a loss in revenue of USD 1million/day in the financial year.
Other, please specify	Not evaluated	Not applicable to Gold Fields

C2.6

(C2.6) Describe where and how the identified risks and opportunities have factored into your financial planning process.

Relevance	Description
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	Relevance	Description
Revenues	Impacted	Gold Fields revenues are currently impacted by climate change risks and opportunities and the outcomes of the company's extensive risk assessment process (aligned with ISO 31000) expects these risks to remain into the future. Revenues are impacted when the productivity of operations is reduced. Climate change risks in this regard are largely physical. For example, heavy rains in Australia and Ghana have resulted in production stoppages and damage to properties. In 2017, Peru experienced heavy rainfalls which affected the road from the Cerro Corona mine to the port of Salaverry, from where Gold Fields ships ore concentrate. As a result there were some delays in shipping the concentrate. Heavy snowfalls at the Salares Norte project in Chile have also impacted exploration activities and South Africa has been experiencing drought conditions in some areas. At the Tarkwa and Damang mines Ghana droughts affect grid electricity supplies from hydropower, causing disruptions or stoppages to the operations. Prolonged periods of rainfall in Ghana can also reduce mine productivity as haulage trucks reduce speed when roads are wet. Reduced productivity has a negative impact on revenues and Gold Fields makes provision for such impacts in its short, medium and long term plans. One-three 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. Gold Fields' South Deep mine has the longest life of mine period in the Group, of 78 years. These plans have approved budgets. Gold Fields also recognises climate change opportunities that may positively impact revenues, such as the development of carbon credit projects which can provide an additional revenue stream from the sale of credits. The Granny Smith gas power plant has already generated additional revenues (A\$127,000) from the auctioning of carbon credits in 2017 to the Australian government. The magnitude of these impacts is therefore considered to be medium-high as the impacts on revenues affect the sustainability of the business. The estimated average financial impact of one day work stoppage at one of the mines is estimated at a loss in revenue of USD 1million/day in the financial year.
Operating costs	Impacted	Climate change impacts affect operating costs and are planned for in Gold Fields' short, medium and long term plans. One-three 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 five-year to end-of-life plans, per operation. Gold Fields' South Deep mine has the longest life of mine period in the Group, of 78 years. These plans have approved budgets. Examples of impacts on operations costs include increased rainfall in 2017 in Australia, Ghana and Peru, which required increased water withdrawals from the operations to enable them to continue operating. Dewatering activities require diesel, which resulted in increased diesel consumption and emissions associated with this activity. A further example relating to impacts on operations in Ghana is the disruption of grid electricity during times of drought, as the source of grid supply is largely derived from hydroelectric facilities. To mitigate the impact of this risk, Gold Fields (in partnership with Genser Energy, an independent power producer) has developed two gas fired power stations to supplement supply to the operations at Tarkwa and Damang. 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 15million, when taking into account improved efficiencies and higher utility tariffs the mines would otherwise have had to pay. The magnitude of impacts on the Ghanaian operations is considered to be medium-high because the climate driven impact of constrained grid electricity supplied provides Gold Fields with an opportunity to secure a lower-carbon source of electricity supply while also reducing operating costs
Capital expenditures / capital allocation	Impacted	Gold Fields is able to mitigate and/or adapt to climate change impacts by undertaking measures that require capital expenditures at its operations and in the communities in which its facilities are located. The company's extensive risk assessment process (aligned with ISO 31000) identifies and assesses the risks and proposed mitigation measures. All capital costs or allocations are planned for in Gold Fields' short, medium and long term plans. One-three 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 five-year to end-of-life plans, per operation. Gold Fields' South Deep mine has the longest life of mine period in the Group, of 78 years. These plans have approved budgets. Gold Fields uses its Project Development Standard when looking into new Projects. This Standard has a climate change chapter, which considers all aspects of climate change in the scoping of a project, pre-feasibility studies and feasibility studies prior to capital being invested and the project being implemented. For example, in the case of constrained capacity of the Salaverry warehouse (which could result from climate change impacts), Gold Fields has invested in capacity extensions to the mine (USD 44,609) and has budgeted for extensions to the warehouse facilities to mitigate this risk. 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. Capital allocations assist the company mitigate or adapt to climate change impacts, with a view to reducing the risk of disruptions to the operations. Disruptions to the operations and productivity have a direct impact on revenues, which further affect the sustainability of the business. The magnitude of these impacts is therefore considered to be medium-high, where the estimated average financial impact of one day work stoppage at one of the mines is estimated at a loss in revenue of USD 1mil/day in the financial year.
Acquisitions and divestments	Not impacted	Gold Fields sold the Darlot operations in Western Australia to Red 5 in 2017. Climate change impacts were not drivers of the decision to divest in the Darlot operations. The decision was commercially driven, energy costs amounted to around 13% of the operational costs. Gold Fields received AUD 7million (USD 5million) in cash as well as Red 5 shares as part of the purchase consideration and as a consequence of partially underwriting a rights issue undertaken by Red 5. The net result is that Gold Fields has a 19.9% shareholding in Red 5 post the sale. As such climate change has not impacted on acquisitions and divestments.
Access to capital	Not impacted	Gold Fields operations and investments are self-financed therefore climate change impacts are not considered to impact access to capital.
Assets	Not yet impacted	Gold Fields is committed to using 20% renewable energy in all new operations (assets) and switching from high to low-carbon energy sources. These climate change commitments will impact the company's asset base in the future. Gold Fields will be able to make provision for such impacts in any plans for new acquisitions. The magnitude of these impacts is therefore expected to be low, as increasing the proportion of renewable energy and low-carbon energy sources is likely to have co-benefits such as reduced risks of productivity disruptions and reduction of greenhouse gas emissions.
Liabilities	Impacted	Climate change impacts have the potential to increase Gold Fields liabilities. This is already occurring at the St Ives mine in Australia which emitted emissions above the stipulated baseline. The mine was able to use surplus credit issued by the Granny Smith gas power station. If no surplus credits were available, St Ives would have been required to purchase credits on the Australian market. The average price paid per credit (tCO ₂ e) in the ERF's sixth round in 2017 was USD 9.82 (AUD 13.08). The risk that St Ives may continue to exceed its emissions cap is expected to continue into the future and it is possible that the other operations in Australia may be subject to the same risk. Gold Fields is able to plan for such liabilities in its short term (one-three year) plans, which are communicated per facility in Operations Plans. These plans have approved budgets. The magnitude of these impacts is therefore expected to be low, as Gold Fields is committed to achieving 17% carbon emission reductions each year up to 2020, equivalent to 800,000 tCO ₂ e of cumulative carbon emission reductions over the period.
Other	Not evaluated	Not applicable to Gold Fields

C3. Business Strategy

C3.1

(C3.1) Are climate-related issues integrated into your business strategy?

Yes

C3.1a

(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?

Yes, qualitative and quantitative

C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b)

(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b)

Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

Yes

C3.1c

(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.

The influence of climate-related issues on business objectives and strategy Gold Fields' business is to mine gold, silver and copper in a sustainable manner that creates shared value for the company and its host communities. The principles of sustainability increasingly require that companies integrate climate-related issues into business objectives and strategies. Climate change matters are highly prioritised by Gold Fields' management and in 2017 the Group risk register included the impact of global climate change and water pollution, supply and cost among the top 20 Group risks. The oversight of climate change risks and opportunities therefore rests with the company's highest management structure, the Board of the company. The Board is assisted in managing these risks and opportunities by different levels of Board sub-committees and management structures below board level. The Board is therefore able to ensure that climate-related issues are integrated into the overall business objectives and strategy. One of the examples of the Gold Fields' commitments to integrating climate change into the business objectives and strategies was the approval in 2017 of the updated group Climate Change Policy. The updated policy commits the company to:

- Conducting climate change vulnerability assessments utilising Group risk guidelines and International Council on Mining and Metals (ICMM) tools and guidelines, such as the Integrated Energy and Carbon Management guidelines
- Annual reporting and disclosure via a number of reporting frameworks including the CDP and DJSI
- Mitigating the effects of climate change by increasingly investing in renewable energy and low-carbon energy sources, energy efficiency initiatives and water use optimisation initiatives
- Supporting research, development and innovation to assist operations to cope with climate change
- Factoring in a regional carbon price for both costing and as a potential revenue stream
- Participating in industry forums, including the ICMM climate change and energy working group, stakeholder and NGO engagements

Gold Fields target to ensure that all new mining projects utilise a minimum of 20% of renewable energy is an example of how Gold Fields is incorporating climate change issues into the company long term strategic planning.

Linking business strategy to emissions and energy reduction targets Gold Fields recognises that energy markets have been fundamentally redefined by the global drive to minimise contribution and build resilience to climate change. This has affected the types of energy sourced by business, the cost of energy, how energy is procured and how energy is finally used. Energy and carbon management as well as emission reduction targets are integrated into the Gold Field's business strategy through the Integrated Energy and Carbon Management Strategy. In 2016, Gold Fields revised the group Integrated Energy and Carbon Management guideline to align with ISO50001, the global energy management standard. Gold Fields started the alignment with the standard in 2017 by integrating energy and carbon management into operational and strategic aspects of the business. Energy awareness and training is provided for relevant staff and contractors, while our energy and carbon emissions data is collated and assured by independent auditors. Climate related information is also collected for the Group's integrated reporting process. The outputs of the Enterprise-wide Risk Management and stakeholder engagement processes are analysed alongside the information collected for the Integrated Annual Report. These include:

- Operational, financial and sustainability data generated through data management systems;
- Interviews with managers and executives at operation-, region- and Group-level;
- Short-, medium- and long-term strategic analysis of the external environment.

The collection and reporting of climate change data assist the company to ensure energy security; decrease carbon emissions; explore immediate and long-term energy efficiency opportunities and investigate renewable energy alternatives. To this end Gold Fields has set a number of absolute emissions and energy reduction targets that represent the company's low-carbon transition plan to support the long-term business strategy. For example, Gold Field's target is to achieve 5% to 10% energy savings off annual energy plans each year. Gold Fields has set aspirational targets to reduce carbon emissions by 17% per year between 2017 and 2020. This equates to 800kt CO₂e of cumulative carbon emission reductions over the period. This target is considered science based as its annual emission reductions is far beyond the 2.1% year on year reduction required in order to be in line with the science of the 2 degree Celsius scenario. This is a new target that was set in FY2017 and thus no progress has been made against the target. Progress will be tracked from 2018 onwards. Measures undertaken in 2017 to reach Gold Fields targets include:

- Granny Smith: a feasibility study on power options to extend capacity and potentially include solar power
- Agnew: A feasibility study on power options to increase supply capacity with a mix of low carbon energy solutions being considered
- Gruyere Joint Venture: Installation of solar powered pumps at the bore fields to replace diesel generators

The aspirational target to reduce carbon emissions by 17% per year between 2017 and 2020 is one of the most substantial business decisions made in 2017 as a result of the integration of climate-related issues, which was driven by the goal to reduce emissions to ensure long term sustainability.

C3.1d

(C3.1d) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenarios	Details
Nationally determined contributions (NDCs)	<p>Gold Fields uses the NDC scenarios so that it is aligned with the relevant national plans and measures to reduce global temperature increases. The parameters (and timeframes) used in this scenario analysis are geographically tailored to include the commitments of the various nations in which Gold Fields operates. For example, Australia’s 2020 commitment is to cut emissions by 5% below 2000 levels (equivalent to 13% below 2005 levels). The Peruvian NDC envisages a reduction of emissions equivalent to 30% in relation to the Greenhouse Gas (GHG) emissions of the projected Business as Usual scenario in 2030. Ghana’s emission reduction goal is to unconditionally lower its GHG emissions by 15% relative to a business-as-usual scenario by 2030. South Africa has committed to a peak, plateau and decline GHG emissions trajectory range. South Africa’s emissions by 2025 and 2030 will be in a range between 398 and 614 Mt CO₂e. The inputs therefore include the parameters of the respective national policies and energy mixes. The NDC analyses have been considered across all the regions in which Gold Fields operates, and across all the business areas such as mining operations; processing activities and logistics. The results of the scenario analyses are incorporated into Gold Fields risk management processes which utilises a mixture of both quantitative and qualitative analytical choices. Climate change risks are assessed and managed by Gold Fields’ Board. Summaries of the medium to high climate change risks identified in each region are provided below. Australia: - Adequacy of flood management measures - Declining availability of water - Increased cooling costs - Legislative changes including aggressive taxation regimes and abatement requirements 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 - Heat stresses on mine employees - Favourable conditions for vector borne diseases during high rainfall periods South Africa - Variability in rainfall intensity increasing costs of alternate water sources - Temperature increases affect surface cooling plant efficiency and causes heat stress for surface employee - Climate change-related regulatory uncertainty The outcomes of the scenario analyses have informed Gold Fields’ business plans and budget allocations. Gold Fields recognises that energy markets have been fundamentally redefined by the global drive to minimise contribution and build resilience to climate change. This has affected the types of energy sourced by business, the cost of energy, how energy is procured and how energy is finally used. Current examples of how the results of scenario analysis directly influenced Gold Fields business objectives and strategy include: • Development of the Granny Smith (lower-carbon) gas power plant offset project • Various feasibility studies investigating increasing the use of renewable and low carbon energy solutions at Granny Smith (PV), Agnew and Gruyere operations • Ongoing development of the 40MW solar PV facility at the South Deep operation The development of these lower-carbon and renewable energy projects is aligned with the nationally determined contributions of the Australian and South African governments, both of which include commitments to increase climate change mitigation measures in their respective territories.</p>
Other, please specify (RCP 8.5)	<p>In 2016 and 2017, Gold Fields’ Ghana mines piloted use of an ICMM climate-data viewer tool. The tool provides climate projections covering a 20-year period from 2025 to 2045, from a 1986 to 2005 baseline. The RCP8.5 scenario informs the baselines of the ICMM’s climate data viewer tool. The resulting climate change risks identified by the tool are assessed and managed by Gold Fields’ Board. Summaries of the medium to high climate change risks identified in each region are provided below. Australia: - Adequacy of flood management measures - Declining availability of water - Increased cooling costs - Legislative changes including aggressive taxation regimes and abatement requirements 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 - Heat stresses on mine employees - Favourable conditions for vector borne diseases during high rainfall periods South Africa - Variability in rainfall intensity increasing costs of alternate water sources - Temperature increases affect surface cooling plant efficiency and causes heat stress for surface employee - Climate change-related regulatory uncertainty The parameters used in this scenario analysis include climate sensitivity assumptions related to physical changes in precipitation, temperature, wind and water stress levels. The ICMM climate-data viewer analyses have been considered across all the Ghanaian business areas such as mining operations; processing activities and logistics. The results of the scenario analyses are incorporated into Gold Fields risk management processes which utilises a mixture of both quantitative and qualitative analytical choices. Climate change risks are assessed and managed by Gold Fields’ Board. The outcomes of the ICMM climate-data scenario analyses have informed Gold Fields’ business plans and budget allocations. The outcomes of scenario analyses were used in developing adaptation plans for the Tarkwa and Damang operations, the reviewing of flood line designs, inclusion of climate change risks in the group tailings and waste facilities management guidelines and inclusion of climate change impacts in the group’s project standards.</p>

C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e

(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e) Disclose details of your organization’s low-carbon transition plan.

Gold Fields has set a number of absolute emissions and energy reduction targets that represent the company’s low-carbon transition plan to support the long-term business strategy. For example, Gold Field’s target is to achieve 5% to 10% energy savings off annual energy plans each year. Gold Fields has set aspirational targets to reduce carbon emissions by 17% per year between 2017 and 2020. This equates to 800kt CO₂e of cumulative carbon emission reductions over the period. This target is considered science based as its annual emission reductions is far beyond the 2.1% year on year reduction required in order to be in line with the science of the 2 degree Celsius scenario. This is a new target that was set in FY2017 and thus no progress has been made against the target. Progress will be tracked from 2018 onwards. The aspirational target to reduce carbon emissions by 17% per year between 2017 and 2020 is one of the most substantial business decisions made in 2017 as a result of the integration of climate-related issues, which was driven by the goal to reduce emissions to ensure long term sustainability.

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Scope

Other, please specify (Scope 1 + 2 (location + market based))

% emissions in Scope

100

% reduction from base year

3

Base year

2016

Start year

2017

Base year emissions covered by target (metric tons CO₂e)

1514077

Target year

2017

Is this a science-based target?

No, but we are reporting another target that is science-based

% achieved (emissions)

89

Target status

Expired

Please explain

Gold Fields sets annual energy and emissions targets to reduce emissions against the budgeted energy plan. Gold Fields targeted to reduce emissions by 3% between 2016 and 2017. During the period Gold Fields reduced emissions by 2.66% thus achieving 89% of the target. This target is aligned to the science based targets requirement to reduce annually by 2.1% per year, however this target is a short term target (for only a 1 year period) and is thus not considered to be science based by Gold Fields.

Target reference number

Abs 2

Scope

Scope 2 (location-based)

% emissions in Scope

79

% reduction from base year

22

Base year

2015

Start year

2016

Base year emissions covered by target (metric tons CO2e)

489525

Target year

2025

Is this a science-based target?

No, but we are reporting another target that is science-based

% achieved (emissions)

0

Target status

Underway

Please explain

Abs 2 is a medium term target for Gold Fields' South African operation South Deep, whose carbon emissions are predominately from electricity purchased (Scope 2). Although the South Deep mine is currently ramping up, Gold Fields is investigating potential for an on-site 40 MW solar PV project, to reduce grid electricity consumption, which is 95% coal generated. A target window of 10 years was set. The scope 2 target for the South Deep operation is calculated based on the projected grid emission factor of South Africa in 2025. This projection uses the Policy Adjusted Scenario of South Africa's Integrated Resource Plan 2010 (IRP 2010). This national level medium term planning takes into consideration the Peak, Plateau and Decline (PPD) document on which the country's NDC is based. It projects the national grid emission factor to be reduced to 0.79 tCO2/MWh from the current (2017) 0.99 tCO2/MWh. The target exceeds the 2.1% reduction requirement to stabilise temperature increases below 2 degrees, however it does not include scope 1 emissions and is thus not science based. In 2017 South Deep implemented a revised Gold Fields' group energy and carbon management guideline, aligned with ISO 50001 that aims to systematically improve our energy efficiencies. However Gold Fields has not made progress against this target as the mine is still in development phase and this target relates to the production phase for the mine. Progress will be seen once steady state for the mine is reached in 2022. South Deep's emissions in 2017 have increased by 0.68% when compared to the base year in 2015.

Target reference number

Abs 3

Scope

Scope 1 +2 (market-based)

% emissions in Scope

34

% reduction from base year

15

Base year

2015

Start year

2016

Base year emissions covered by target (metric tons CO2e)

381758

Target year

2030

Is this a science-based target?

No, but we are reporting another target that is science-based

% achieved (emissions)

0

Target status

Underway

Please explain

Abs 3 is a medium term target for Gold Fields' Ghanaian operations Tarkwa and Damang. The Ghana NDC sets a national reduction target of 15% by 2030. Gold Fields' has a long standing corporate policy of always being legally compliant and giving the necessary support to the host country of operations. This support relates to the implementation of national targets and objectives. In this regard Gold Fields' supports Ghana's long term climate change objectives and have therefore set an indicative target that matches the national ambitions as expressed in the NDC. This 15 year target has been framed in the context of Ghana's position as a developing country in the international community. Gold Fields has already executed a 40 MW gas power purchase agreement with an independent power producer and gas turbines were commissioned in 2016. Gold Fields is further investigating feasibility for renewable energy to further off-set its carbon emissions in line with government policy for renewable energy sources to be added to the national energy mix. In 2017 Gold Fields' Ghanaian operations implemented a revised Gold Fields' group energy and carbon management guideline, aligned with ISO 50001 that aims to systematically improve our energy efficiencies. Emissions for Tarkwa and Damang in 2017 have increased by around 30% since the base year of 2015. This is due to the fact that Damang is an open cast mine, and was during the reporting year developing the pit to extend the life of mine. This mine is in the capital investment phase, compared to the production phase when this target will be relevant.

Target reference number

Abs 4

Scope

Scope 1 +2 (market-based)

% emissions in Scope

5

% reduction from base year

30

Base year

2015

Start year

2016

Base year emissions covered by target (metric tons CO2e)

78662

Target year

2030

Is this a science-based target?

No, but we are reporting another target that is science-based

% achieved (emissions)

0

Target status

Underway

Please explain

Abs 4 is a medium term target for Gold Fields' Peruvian operation Cerro Corona. The Peruvian NDC sets a national reduction target of 30% by 2030. Gold Fields' has a long standing corporate policy of always being legally compliant and giving the necessary support to the host country of operations. This support relates to the implementation of national targets and objectives. In this regard Gold Fields' supports Peru's long term climate change objectives and have therefore set an indicative target that matches the national ambitions as expressed in the NDC. This 15 year target has been framed in the context of Peru's position as a developing country in the international community. In 2017 Gold Fields' Cerro Corona implemented a revised Gold Fields' group energy and carbon management guideline, aligned with ISO 50001 that aims to systematically improve our energy efficiencies. Cerro Corona's emissions have increased marginally by 0.84% between the base year of 2015 and 2017. This is despite an increase in production of 3.7% over this period. The increase in emissions by Cerro Corona in the reporting year relates to the construction of the tailings storage facility which was being carried out to assist in increasing the life of mine and capturing of additional rainwater.

Target reference number

Abs 5

Scope

Scope 1 +2 (market-based)

% emissions in Scope

27

% reduction from base year

28

Base year

2015

Start year

2016

Base year emissions covered by target (metric tons CO2e)

382211

Target year

2030

Is this a science-based target?

No, but we are reporting another target that is science-based

% achieved (emissions)

0

Target status

Underway

Please explain

Abs 5 is a medium term target for Gold Fields' Australian operations Darlot, St Ives, Granny Smith and Agnew. The Australian NDC sets a national reduction target of 26% to 28% below 2005 levels by 2030. Gold Fields' has a long standing corporate policy of always being legally compliant and giving the necessary support to the host country of operations. This support relates to the implementation of national targets and objectives. In this regard Gold Fields' supports Australia's long term climate change objectives and have therefore set an indicative target that matches the national ambitions as expressed in the NDC. In 2017 Gold Fields' Australian operations implemented a revised Gold Fields' group energy and carbon management guideline, aligned with ISO 50001 that aims to systematically improve our energy efficiencies. Gold Field's emissions from its Australian operations has increased by 3.3% between 2015 and 2017. This mainly relates to the St Ives operation, which accounts for the majority of the emissions. St Ives is still in the development phase and this target will start seeing progress once the mine is in stable production phase.

Target reference number

Abs 6

Scope

Scope 1 +2 (market-based)

% emissions in Scope

100

% reduction from base year

62

Base year

2015

Start year

2016

Base year emissions covered by target (metric tons CO2e)

1322614

Target year

2035

Is this a science-based target?

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science-Based Targets initiative

% achieved (emissions)

0

Target status

Underway

Please explain

Abs 6 is a long term target (>20 years ahead) for all of the existing operating assets in the current Gold Fields' portfolio: South Deep, Tarkwa, Damang, Cerro Corona, Darlot, St Ives, Granny Smith and Agnew. This target is considered science based as it results in a year on year emissions reduction of 3.6% per year between base year 2015 and target year of 2035. This is more than the required 2.1% required by science to be in line with the 2 degree Celsius target and is a long term target. The target was calculated on the basis of the remaining life-of-mines of the existing asset portfolio. This calculation takes into consideration the fact that given current known mineral reserves, all of the existing operations with the exception of South Deep will be decommissioned before 2035. Mine closure and post-closure plans are developed for each operation according to strict standards, in compliance with the various regulatory requirements. In 2017, all Gold Fields operations have implemented a revised Gold Fields' group energy and carbon management guideline, aligned with ISO 50001 that aims to systematically improve our energy efficiencies. Gold Fields also developed their Group Scope 1 and 2 emissions reduction absolute 2020 targets towards in 2017, which will support their long term (2035) target. As many of the Gold Fields mines are still in the development phase and have not reached stable production, progress against this target is slow. Once the mines reach stable production phase progress against this target will be seen.

C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.**Target**

Renewable energy consumption

KPI – Metric numerator

Percentage of renewable energy per overall energy consumed.

KPI – Metric denominator (intensity targets only)

n/a

Base year

2012

Start year

2013

Target year

2025

KPI in baseline year

0

KPI in target year

20

% achieved in reporting year

0.03

Target Status

Underway

Please explain

In support of reducing emissions and energy consumption, in 2013 Gold Fields set a renewable energy commitment of 20% renewable energy usage at all its new projects. At the Salares Norte project in Chile, Gold Fields is actively seeking renewable energy sources as part of its ongoing pre-feasibility study deliverables. Gold Fields' is also investigating the development of a 40 MW solar PV facility at the South Deep facility. The Project is in final phase of agreement process with an independent power producer. Progress is being made towards achieving this target as several projects are in various phases of development such as the 40MW solar PV plant at the South Deep operation.

Part of emissions target

Abs1 Abs6

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Target

Energy productivity

KPI – Metric numerator

TJ of direct and indirect energy consumption

KPI – Metric denominator (intensity targets only)

n/a

Base year

2017

Start year

2018

Target year

2020

KPI in baseline year

13098

KPI in target year

11230

% achieved in reporting year

0

Target Status

Underway

Please explain

Gold Field's target is to achieve 5% to 10% energy savings off annual energy plans each year between 2017 and 2020, with a start year in 2018. This target is measured in terrajoules of both direct and indirect energy and covers all of Gold Field's operations. For target purposes the 5% per year reduction has been used, which is a 15% reduction in energy over the period. This is a new target that was set in 2018 and thus no progress has been made against the target. Progress will be tracked from 2018 onwards.

Part of emissions target

Abs2, Abs3, Abs4, Abs5, Abs6

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	14	
To be implemented*	8	3063
Implementation commenced*	8	71441
Implemented*	12	76539
Not to be implemented		

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Activity type

Low-carbon energy purchase

Description of activity

Other, please specify (LPG)

Estimated annual CO2e savings (metric tonnes CO2e)

28716

Scope

Scope 1

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

8785942

Investment required (unit currency – as specified in CC0.4)

7500000

Payback period

<1 year

Estimated lifetime of the initiative

16-20 years

Comment

Through an agreement with an independent power producer, Genser Energy, Gold Fields' Damang operation is now being supplied with gas-fired, on-site electricity. This has improved reliability, the mills' operational efficiencies and contributed to significant cost savings as a result of lower tariffs and using less diesel-driven generators, which results in less direct scope 1 and scope 2 electricity emissions.

Activity type

Low-carbon energy purchase

Description of activity

Other, please specify (LPG)

Estimated annual CO2e savings (metric tonnes CO2e)

41400

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

5786320

Investment required (unit currency – as specified in CC0.4)

7500000

Payback period

1-3 years

Estimated lifetime of the initiative

16-20 years

Comment

Through an agreement with an independent power producer, Genser Energy, Gold Fields' Tarkwa operation is now being supplied with gas-fired, on-site electricity. This has improved reliability, the mills' operational efficiencies and contributed to significant cost

savings as a result of lower tariffs and using less diesel-driven generators, which results in less direct scope 1 emissions.

Activity type

Energy efficiency: Processes

Description of activity

Machine replacement

Estimated annual CO2e savings (metric tonnes CO2e)

76

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

19343

Investment required (unit currency – as specified in CC0.4)

480000

Payback period

21-25 years

Estimated lifetime of the initiative

11-15 years

Comment

At the Tarkwa site, Gold Fields invested in the Slepner technology, which is used for moving tracked equipment. This is a solution to haul the excavator from one side of the site to the other. This resulted in reduced excavator tramping time and reduced fuel consumption by the excavator in order to move around the site. This relates to a reduction in scope 1 emissions

Activity type

Energy efficiency: Processes

Description of activity

Machine replacement

Estimated annual CO2e savings (metric tonnes CO2e)

5

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

1221

Investment required (unit currency – as specified in CC0.4)

19884

Payback period

16-20 years

Estimated lifetime of the initiative

6-10 years

Comment

At the Tarkwa operation, a project was implemented to use a drone for geological scoping. The drone is used to calculate stockpiles and pit conditions hence a reduction in scope 1 emissions from using vehicles to carry out the same .

Activity type

Energy efficiency: Processes

Description of activity

Cooling technology

Estimated annual CO2e savings (metric tonnes CO2e)

327

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

22549

Investment required (unit currency – as specified in CC0.4)

401848

Payback period

16-20 years

Estimated lifetime of the initiative

11-15 years

Comment

At the Gold Fields South Deep operation in South Africa a replacement of underground fans was carried out to improve efficiency in underground cooling. This resulted in reduction in electricity based scope 2 emissions.

Activity type

Energy efficiency: Processes

Description of activity

Cooling technology

Estimated annual CO2e savings (metric tonnes CO2e)

867

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

55762

Investment required (unit currency – as specified in CC0.4)

1169407

Payback period

16-20 years

Estimated lifetime of the initiative

11-15 years

Comment

At the South Deep mine in South Africa, a new ventilation design was implemented at the underground mine, with 5 sets of 3 fans saving 20kW per fan. These are energy efficient jet fans for de-stress mining and result in a scope 2 electricity based emission savings.

Activity type

Energy efficiency: Processes

Description of activity

Cooling technology

Estimated annual CO2e savings (metric tonnes CO2e)

2168

Scope

Scope 2 (location-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

139461

Investment required (unit currency – as specified in CC0.4)

1444000

Payback period

4 - 10 years

Estimated lifetime of the initiative

11-15 years

Comment

At the South Deep underground mine in South Africa, a replacement of underground fans was carried out to install energy efficient fans. 10 fans of 55kW were replaced and result in a saving of 25kW. This results in a saving of electricity based scope 2 emissions.

Activity type

Energy efficiency: Processes

Description of activity

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

445

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

55541

Investment required (unit currency – as specified in CC0.4)

7587

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

At the Granny Smith operation, upgrades were carried out on the gas engines in the power station to increased efficiency, this resulted in reduced scope 1 emissions.

Activity type

Energy efficiency: Processes

Description of activity

Fuel switch

Estimated annual CO2e savings (metric tonnes CO2e)

432

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

888000

Investment required (unit currency – as specified in CC0.4)

2300000

Payback period

1-3 years

Estimated lifetime of the initiative

16-20 years

Comment

At the St Ives operation in Australia a redeemer power line was installed, this offsets the diesel consumption on site and thus scope 1 emissions.

Activity type

Low-carbon energy installation

Description of activity

Solar PV

Estimated annual CO2e savings (metric tonnes CO2e)

40

Scope

Scope 1

Voluntary/Mandatory

Please select

Annual monetary savings (unit currency – as specified in CC0.4)

7396

Investment required (unit currency – as specified in CC0.4)

70000

Payback period

4 - 10 years

Estimated lifetime of the initiative

11-15 years

Comment

At the Darlot operation a solar PV installation was implemented at the Melrose farm in order to reduce diesel required to for pumping on site. This reduces scope 1 emissions.

Activity type

Energy efficiency: Processes

Description of activity

Process optimization

Estimated annual CO2e savings (metric tonnes CO2e)

2000

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

623689

Investment required (unit currency – as specified in CC0.4)

75000

Payback period

1-3 years

Estimated lifetime of the initiative

1-2 years

Comment

At the Cerro Corona mine in Peru a diesel additive was added to diesel, to improve efficiencies during diesel consumption. This

reduces the diesel consumption on site and thus scope 1 emissions.

Activity type

Energy efficiency: Processes

Description of activity

Fuel switch

Estimated annual CO2e savings (metric tonnes CO2e)

63

Scope

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in CC0.4)

51567

Investment required (unit currency – as specified in CC0.4)

990000

Payback period

1-3 years

Estimated lifetime of the initiative

3-5 years

Comment

At the Agnew mine, a redeemer power line was installed which reduced diesel consumption and thus Scope 1 emissions.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Dedicated budget for energy efficiency	Gold Fields regions include process optimization and cost savings initiatives in their business plans, and these are budgeted for.
Dedicated budget for low-carbon product R&D	During 2017, the Board adopted an updated Group Climate Change Policy, which specifically supporting research, development and innovation to assist operations to cope with climate change.
Dedicated budget for other emissions reduction activities	In recognition of opportunities for fuel switching from diesel to gas or grid electricity, initiatives that result in emission reductions, not necessarily energy usage reductions, are routinely investigated and implemented.
Financial optimization calculations	In order to assess viability of energy initiatives, detailed calculations of cost savings are conducted and initiatives with a payback period of less than 2 years get immediate support.
Employee engagement	As part of the integrated energy and carbon management strategy implementation guideline, Gold Fields employees are encouraged to submit energy use and cost management ideas and initiatives and are recognized for these.
Other	Gold Fields includes energy and carbon emissions performance in key personnel's performance indicators. Improved performance for energy and carbon is measured and rewarded through an incentive scheme for executives and managers.
Other	A combination of cost abatement through replacement of grid electricity with low carbon alternatives together with dedicated budgets for energy efficiency and carbon emissions reduction initiatives.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation

Product

Description of product/Group of products

Copper is a highly efficient conductor which is used in renewable energy systems (specifically cables and wires) to transmit power from solar, hydro, thermal and wind energy. Using more copper in the wiring reduces thermal resistive losses and assists in reducing emissions as it lowers the amount of energy needed to generate a single electricity unit. The World Bank estimates that wind and solar photovoltaic installations require roughly 3000 kg and 2294 kg of copper per MW, respectively, while electric vehicles are estimated to use some 71 kg of copper per vehicle and combined cycle gas turbine power plants demand some 1 100 kg of copper per MW. Gold Fields produces copper (30 000 tonnes in 2017) as well as gold at the Cerro Corona mine in Peru. Gold Fields has attributable copper mineral reserves of some 764 million pounds and mineral resources of 4.9 billion pounds. The 2°C scenario is expected to drive up demand for copper and silver, increasing even higher under a 1.5°C scenario, as the increase in renewable energy, nuclear power technology, light-emitting diodes, electric motors, electric vehicles and energy storage technologies will drive copper demand up. Research by the Copper Development Association indicates that an additional 1kg use of copper in electric motors can result in a carbon emission reduction of 3-7.5 tonnes. Thus, the 30 000 tonnes of copper produced in 2017 from Gold Fields' Cerro Corona mine in Peru, when used as additional copper in the manufacturing electric motors would have resulted in 225 000 tonnes (i.e., 30 000 tonnes of copper x 7.5 tonnes CO₂e/tonne of copper = 225 000 tCO₂e) of carbon emission reductions. Therefore Gold Fields' copper product assists third parties in avoiding emissions.

Are these low-carbon product(s) or do they enable avoided emissions?

Avoided emissions

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions

Other, please specify (Emission factor for copper)

% revenue from low carbon product(s) in the reporting year

6.9

Comment

Gold Fields calculates the avoided emissions associated with copper using an emission factor provided by the Copper Development Association.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start

January 1 2007

Base year end

December 31 2007

Base year emissions (metric tons CO2e)

461565

Comment

Scope 2 (location-based)

Base year start

January 1 2007

Base year end

December 31 2007

Base year emissions (metric tons CO2e)

0

Comment

The Scope 2 (location-based) base year emissions have been used as a proxy for market-based emissions, since the Scope 2 (market-based) cannot be calculated, as contractual information and residual mix totals are not available.

Scope 2 (market-based)

Base year start

January 1 2007

Base year end

December 31 2007

Base year emissions (metric tons CO2e)

716325

Comment

The Scope 2 (location-based) base year emissions have been used as a proxy since the Scope 2 (market-based) cannot be calculated, as contractual information and residual mix totals are not available.

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

ISO 14064-1

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Row 1

Gross global Scope 1 emissions (metric tons CO2e)

590909

End-year of reporting period

<Not Applicable>

Comment

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

Gold Fields has operations in four regions. In South Africa, market-based electricity is not currently available however there is a solar PV installation at the Sandton head office. Market based electricity is however available in Peru, Australia and Ghana. In Peru, there is the option to select an independent power producer (IPP), and then withdraw the electricity from the national Grid. The selected IPP is Kallpa and their electricity is generated using a 70/30 split between gas/hydro. Due to the remote location of Gold Fields' Australian operations, each of the mines have IPPs. In addition, Gold Fields' Ghanaian operations have agreed to a power purchase agreement with an IPP from December 2016.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Row 1

Scope 2, location-based

580410

Scope 2, market-based (if applicable)

302429

End-year of reporting period

<Not Applicable>

Comment

Three of Gold Fields' Australian operations make use of electricity that is sourced from a market-based source. The three operations are St Ives, Agnew and Darlot. Gold Fields' Perth offices also make use of electricity from this source. The electricity is sourced from an Independent Power Producer (IPP) called Transalta. Since December 2016, Tarkwa and Damang in Ghana receive electricity from two power-gas turbines owned by an IPP - Genser Power, this is classified as market based. Cerro Corona, in Peru, has renegotiated its electricity tariffs with an IPP for a power purchase agreement extending to 2027. The power purchased from this IPP consists of a split between hydro and gas power with the hydropower contributing 30% and the gas power 70%. This is also classified as market based scope 2 emissions. As such a total of six out of eight of Gold Fields' operations source market based electricity. It is only the South African operations that don't, along with Granny Smith mine that produces its own electricity.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

C6.5

(C6.5) Account for your organization's Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Metric tonnes CO2e

186995

Emissions calculation methodology

Activity data: The following major cost and volume purchased goods and services for Gold Fields have been included in the carbon footprint: Lime, cement, caustic soda, purchased water and cyanide. Activity data for the purchased goods is gathered from invoices and receipts provided by the relevant suppliers and then uploaded onto the GRI portal (a non-financial data capture and management system). Emission factors: Lime and Cement emission factors were obtained from the Inventory of Carbon and Energy (University of Bath, 2011), and the caustic soda emission factor was obtained from the CCalc Tool Manual (V1.1) (2010). The emission factor for purchased water was obtained from the Rand Water Board of South Africa (2012). The cyanide emission factor was obtained from an unregistered CDM project, titled: "Increase in hydrogen cyanide production by the Andrussow process instead of by the Acrylonitrile sub route process in Candeias, Brazil". Care is taken to obtain internationally recognized emission factors, unless the emission factor is country specific, such as the water emission factor. GWP values: A GWP value of 1 was used for carbon dioxide. Methodologies: Scope 3 emissions calculations were completed in accordance with ISO 14064-1 and the GHG Protocol: Corporate Value Chain (scope 3) Accounting and Reporting Standard. The methodology used as per this ISO standard was the multiplication of activity data (obtained from the GRI portal) with emission factors. Assumptions and allocation methods: In this specific scope 3 category, no assumptions were made or allocation methods applied. Data quality: The quality of the consumption data reported on the GRI Portal, and the emission factors used both influence the data quality. The data reported in the GRI Portal are subject to strict internal review procedures and the total scope 1, 2 and 3 emissions form part of an annual audit conducted by an independent third party (please refer to attached verification statement for procedures performed).

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Explanation

n/a

Capital goods

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

982

Emissions calculation methodology

Activity data: The capital spends during 2017 correspondent to the purchases of capital goods. Gold Fields' purchases in 2017 include trucks, drills, loaders, and excavators. Activity data for the capital goods was gathered from invoices and receipts provided by the relevant suppliers. Emission factors: Each emission factor associated with the equipment was calculated by dividing the price of each vehicle/machine by the total revenue of its producing company (as stated in their respective annual reports). GWP values: A GWP value of 1 was used for carbon dioxide. Methodologies: Scope 3 emissions calculations were completed in accordance with ISO 14064-1 and the GHG Protocol: Corporate Value Chain (scope 3) Accounting and Reporting Standard. The financial spend per equipment (activity data) was multiplied by the calculated emission factor to estimate the emissions from the production of the equipment. Assumptions and allocation methods: In cases where emission factors were not available, an in-house estimation has been undertaken based total cost of the capital good in relation to the total revenue and total emissions from the manufacturing company. The total emissions for Komatsu were not available in their annual report, and therefore the emission factor associated with the production of one Komatsu ROM Loader could not be calculated. Therefore the assumption was made that the emissions for from the production of a Komatsu ROM Loader would be the average of the emissions from the two Atlas Copco trucks. Data quality: The financial spend per capital good is reported on Gold Fields' financial system. The data reported on in the financial system is subject to strict internal review procedures and an annual audit conducted by an independent third party. The exact figures used for this calculation are captured on the financial system and form part of the total spend on capital goods during 2016. The calculation of the emission factor is based on the available annual or sustainability reports of the producers. These calculations are subject to a financial audit and limited assurance was achieved for emissions.

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

The emission factor used in this category was not calculated using data obtained from suppliers or value chain partners. The data used in the emission factor calculation was obtained from the annual report communications.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Metric tonnes CO2e

249668

Emissions calculation methodology

Activity data: Gold Fields has life cycle emissions associated with fuel-and-energy related activities (not reported in scope 1 or 2) from: diesel, petrol, contractor fuel, LPG, Natural Gas, and blasting agents. In addition to these life cycle emissions, transmission and distribution losses were also included for South African operations but have not been included for Australia, Peru and Ghana operations. This consumption data is recorded by the Gold Fields operations and uploaded onto the GRI portal. The transmission and distribution losses data is a percentage of the electricity used and is obtained from the State Owned Utility (Eskom) for the South African operation, South Deep as well as the Gold Fields' Head Office in Johannesburg. Emission factors: The emission factor for the transmission and distribution losses for the South African operation was obtained directly from the State Owned Utility, Eskom Annual Report 2017. The emission factors for diesel, petrol and LPG, natural gas and propane were obtained from the DEFRA Emission Factors for 2016 version 1.0, while the emission factor for blasting agents was obtained from the CCalc Tool Manual (V1.1) (2010). GWP values: A GWP value of 1 was used for carbon dioxide. Methodologies: Scope 3 emissions calculations were completed in accordance with ISO 14064-1 and the GHG Protocol: Corporate Value Chain (scope 3) Accounting and Reporting Standard. The methodology used as per this ISO standard was the multiplication of activity data (obtained from the GRI portal) with emission factors. Assumptions and allocation methods: In this specific scope 3 category, no assumptions were made or allocation methods applied, as activity data (obtained from the GRI portal) was multiplied with emission factors. Data quality: The quality of the consumption data reported on in the GRI Portal, and the emission factors used both influence the data quality. The data reported on in the GRI Portal is subject to strict internal review procedures and the total scope 1, 2 and 3 emissions forms part of an annual audit conducted by an independent third party (please refer to attached verification statement for procedures performed).

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Explanation

n/a

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

28021

Emissions calculation methodology

Activity data: In this category Gold Fields includes the transportation of the goods and services, as well as fuel and energy related products. The tonnes of goods transported from the supplier are collated from receipts and invoices provided by the supplier. This data is then uploaded onto the GRI portal. Emission factors: The road freight emission factor used for this category is obtained from the DEFRA Emission Factors for 2017 V1.0. The DEFRA emission factors were used as an international representative for the four geographic regions in which Gold Fields operates. GWP values: A GWP value of 1 was used for carbon dioxide. Methodologies: Scope 3 emissions calculations were completed in accordance with ISO 14064-1 and the GHG Protocol: Corporate Value Chain (scope 3) Accounting and Reporting Standard. The methodology used as per this ISO standard was the multiplication of activity data (obtained from the GRI portal) with emission factors. Assumptions and allocation methods: In this category, it was assumed that all products were transported 100 kilometres. The assumed average transportation distances were internally reviewed and are expected to give a fair representation of the actual emissions. Data quality: The quality of the consumption data reported on in the GRI Portal, and the emission factors used both influence the data quality. The data reported on in the GRI Portal is subject to strict internal review procedures and the total scope 1, 2 and 3 emissions forms part of an annual audit conducted by an independent third party (please refer to attached verification statement for procedures performed).

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

n/a

Waste generated in operations

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

1872

Emissions calculation methodology

Activity data: The landfilled waste generated in each of the Gold Fields operations was recorded. The consumption data was then uploaded onto the GRI portal. Emission factors: A generic emission factor for waste was used, and obtained from the USA Environmental Protection Agency and is expected to be reliable and applicable as an international average for Gold Field's operations. GWP values: A GWP value of 1 was used for carbon dioxide. Methodologies: Scope 3 emissions calculations were completed in accordance with ISO 14064-1 and the GHG Protocol: Corporate Value Chain (scope 3) Accounting and Reporting Standard. The waste data (obtained from the GRI portal) was multiplied with the applicable emission factor. 100% of the data used was classified as primary data. The primary data used included company-specific metric tons of waste generated. Assumptions and allocation methods: In this specific category, no assumptions were made or allocation methods applied. Data quality: The quality of the consumption data reported on the GRI Portal, and the emission factors used, both influence the data quality. The data reported in the GRI Portal is subject to strict internal review procedures and the total scope 1, 2 and 3 emissions forms part of an annual audit conducted by an independent third party (please refer to attached verification statement for procedures performed).

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Explanation

n/a

Business travel

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

6956

Emissions calculation methodology

Activity data: The business travel category for Gold Fields includes air travel and road travel emissions. The primary activity data for air travel and car hire is obtained from Gold Fields' travel agents. Employee business travel using privately owned cars and distances travelled is obtained from the internal SAP system. Gold Fields engages with the travel agent, regarding the template that must be used to collate the flight and car rental data. The activity data is then uploaded onto the GRI portal. Emission factors: The emission factors for air travel, were used according to km travelled, classifying each flight as either domestic, short-haul (<3700 km) or long-haul (>3700 km). The factors were obtained from the DEFRA Emission Factors 2017 version 1.0. GWP values: A GWP value of 1 was used for carbon dioxide. Methodologies: Scope 3 emissions calculations were completed in accordance with ISO 14064-1 and the GHG Protocol: Corporate Value Chain (scope 3) Accounting and Reporting Standard. The business travel data (obtained from the GRI portal) was multiplied with the applicable emission factor. 100% of the data used was classified as primary data. Assumptions and allocation methods: Assumptions were made with respect to the efficiency of fuel consumption, required in order to convert kilometres claimed to litres, for car hire. Data quality: The quality of the consumption data reported on in the GRI Portal, and the emission factors used both influence the data quality. The data reported on in the GRI Portal is subject to strict internal review procedures and the total scope 1, 2 and 3 emissions forms part of an annual audit conducted by an independent third party (please refer to attached verification statement for procedures performed).

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Explanation

n/a

Employee commuting

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

4488

Emissions calculation methodology

Activity data: Gold Fields employee commuting covers the transportation of employees between their homes and work sites in vehicles not owned or operated by Gold Fields (excluding contractors). The total number of employees is captured by the internal SAP system. Emission factors: The emission factors associated with employee commuting are linked to the fuel use, and uses the scope 1 petrol and diesel emission factors obtained from the DEFRA Emission Factors 2017 version 1.0. GWP values: A GWP value of 1 was used for carbon dioxide. Methodologies: Scope 3 emissions calculations were completed in accordance with ISO 14064-1 and the GHG Protocol: Corporate Value Chain (scope 3) Accounting and Reporting Standard. The total km travelled (activity data) were multiplied by the petrol or diesel emission factor. Assumptions and allocation methods: The following assumptions were used to calculate the total distance driven by employees in one year: 1) 20% of the companies' employees use private transport, 2) 80% of this transport is petrol based, 20% of this transport is diesel based, 3) the average distance travelled per day per employee is 40 km. 4) an average petrol consumption was assumed for employee commuting, of 11km/litre; and average diesel consumption of 14km/litre. It was assumed that each employee works 230 days a year. The emissions reported for this category are mainly based on assumptions and therefore expected to be less precise than the emissions reported for the other categories. Data quality: The quality of the consumption data reported on in the GRI Portal, and the emission factors used both influence the data quality. The data reported on in the GRI Portal is subject to strict internal review procedures and the total scope 1, 2 and 3 emissions forms part of an annual audit conducted by an independent third party (please refer to attached verification statement for procedures performed).

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

n/a

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

n/a

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

The emissions associated with upstream leased assets are estimated to be insignificant and therefore not included in the carbon footprint. Gold Fields mainly makes use of contractors and their equipment for activities not performed in-house. Contractor fuel use is collected and reported on as scope 3 (Fuel and Energy Related Activities) emissions.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

9515

Emissions calculation methodology

Activity data: Downstream transportation and distribution for Gold Fields covers the emissions related to the transportation of produced gold to the refineries. The activity data for the South African operation South Deep was recorded in time (hours) taken for aviation transportation. The activity data for the South American, West African and Australian operations was recorded by each operation in amount of tonnes transported and the distance travelled for the freight transportation. This activity data was then uploaded onto the GRI portal. Emission factors: The emission factor for aviation turbine fuel is obtained from the DEFRA Emission Factors 2017 version 1.0 The average aviation fuel efficiency was obtained from Universal Helicopters. The emission factors for domestic and international flights for the international operations are obtained from the DEFRA Emission Factors 2017 version 1.0 GWP values: A GWP value of 1 was used for carbon dioxide. Methodologies: Scope 3 emissions calculations were completed in accordance with ISO 14064-1 and the GHG Protocol: Corporate Value Chain (scope 3) Accounting and Reporting Standard. The methodology used as per this ISO standard was the multiplication of activity data (obtained from the GRI portal) with emission factors. Assumptions and allocation methods: In this specific category, no assumptions were made or allocation methods applied. Data quality: The quality of the consumption data reported on in the GRI Portal, and the emission factors used, both influence the data quality. The data reported on in the GRI Portal is subject to strict internal review procedures and the total scope 1, 2 and 3 emissions forms part of an annual audit conducted by an independent third party (please refer to attached verification statement for procedures performed).

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Explanation

n/a

Processing of sold products

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

426

Emissions calculation methodology

Activity data: Processing of sold products for Gold Fields covers the emissions associated with the refining and smelting of gold. The gold production, in ounces, is reported per operation as primary data and uploaded onto the GRI portal. Emission factors: The amount of energy required to refine and smelt a tonne of gold was obtained from internal Gold Fields' records. Multiplying this by the relevant national grid emission factors the emission factor (tCO₂/tonne of gold) for each country was calculated. GWP values: A GWP value of 1 was used for carbon dioxide. Methodologies: Scope 3 emissions calculations were completed in accordance with ISO 14064-1 and the GHG Protocol: Corporate Value Chain (scope 3) Accounting and Reporting Standard. The methodology used as per this ISO standard was the multiplication of activity data (obtained from the GRI portal) with emission factors. Assumptions and allocation methods: In this specific category, no assumptions were made or allocation methods applied. Data quality: The primary data (gold produced) is typically of high quality, as this is an intensively monitored performance determinant. The data forms part of an annual audit on total scope 1, 2 and 3 emissions performed by an independent third party (please refer to attached verification statement for procedures performed).

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

n/a

Use of sold products

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

n/a

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

The emissions associated with the use of sold gold products are estimated to be insignificant.

End of life treatment of sold products

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

853

Emissions calculation methodology

Activity data: End of life treatment of sold products for Gold Fields relates to the gold produced, which is assumed to be recycled twice. The amount of gold produced (primary data) was obtained from the GRI portal. Emission factors: This emission factors (tCO₂/tonne of gold) are calculated by multiplying the energy required to refine and smelt gold (Gold Fields internal calculations) with the relevant national grid emission factors. GWP values: A GWP value of 1 was used for carbon dioxide. Methodologies: Scope 3 emissions calculations were completed in accordance with ISO 14064-1 and the GHG Protocol: Corporate Value Chain (scope 3) Accounting and Reporting Standard. Refining and smelting of gold does not typically occur in the country that it was mined. For this reason electricity emission factors of the countries in which the gold was refined were used to calculate emissions. These countries include South Africa, Australia and USA. Assumptions and allocation methods: It was assumed that all gold product is recycled twice and when recycled it is subject to full refining and smelting. Data quality: The amount of gold produced by Gold Fields in 2016 is expected to be highly reliable due to the importance of this data. This data forms part of an annual audit on total scope 1, 2 and 3 emissions performed by an independent third party (please refer to attached verification statement for procedures performed).

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Explanation

n/a

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

n/a

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Gold Fields does not make use of downstream leased assets and therefore this category is found not to be applicable to the company.

Franchises

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

n/a

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Gold Fields does not have any franchises; this category is therefore not applicable to the company

Investments

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

n/a

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Investments in which Gold Fields has a minority share are not included in the carbon footprint as Gold Fields does not have an influence on the operational aspects of these companies and therefore does not have control over the emissions. Gold Fields is the majority owner of all its operations

Other (upstream)

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

n/a

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Gold Fields has no other upstream emissions relevant to operations.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Metric tonnes CO2e

Emissions calculation methodology

n/a

Percentage of emissions calculated using data obtained from suppliers or value chain partners

Explanation

Gold Fields has no other downstream emissions relevant to operations.

C6.7

(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.0005243

Metric numerator (Gross global combined Scope 1 and 2 emissions)

1473747

Metric denominator

unit total revenue

Metric denominator: Unit total

2811000000

Scope 2 figure used

Market-based

% change from previous year

4.79

Direction of change

Decreased

Reason for change

Gold Fields' revenue increased by 2.23% and its emissions decreased by 2.66%. This results in a decrease in the intensity figure by 4.79%. The emissions decrease and thus the emission intensity decrease is partly as a result of emission reduction activities that were implemented in FY2017 which resulted in 5.05% reduction in scope 1 and 2 emissions.

Intensity figure

0.007068

Metric numerator (Gross global combined Scope 1 and 2 emissions)

1473747

Metric denominator

Other, please specify (tonnes of ore mined)

Metric denominator: Unit total

208520018

Scope 2 figure used

Market-based

% change from previous year

13.6

Direction of change

Decreased

Reason for change

Gold Field's tonnes of ore mined increased by 13.6% and its emissions decreased by 2.66% compared to 2016. This results in a decrease in the intensity figure by 13.6%. The emissions decrease and thus the emission intensity decrease is partly as a result of emission reduction activities that were implemented in FY2017 which resulted in 5.05% reduction in scope 1 and 2 emissions.

Intensity figure

0.04273

Metric numerator (Gross global combined Scope 1 and 2 emissions)

1473747

Metric denominator

metric ton of ore processed

Metric denominator: Unit total

34491104

Scope 2 figure used

Market-based

% change from previous year

3.69

Direction of change

Decreased

Reason for change

Gold Field's tonne of ore milled increased by 1.1% and its emissions decreased by 2.66% compared to 2016. This results in a decrease in the intensity figure by 3.69%. The emissions decrease and thus the emission intensity decrease is partly as a result of emission reduction activities that were implemented in FY2017 which resulted in 5.05% reduction in scope 1 and 2 emissions.

Intensity figure

0.6292

Metric numerator (Gross global combined Scope 1 and 2 emissions)

1473747

Metric denominator

ounce of gold

Metric denominator: Unit total

2342235

Scope 2 figure used

Market-based

% change from previous year

7.8

Direction of change

Decreased

Reason for change

Gold Field's ounce of gold output increased by 5.6% and its emissions decreased by 2.66% compared to 2016. This results in a decrease in the intensity figure by 7.8%. The emissions decrease and thus the emission intensity decrease is partly as a result of emission reduction activities that were implemented in FY2017 which resulted in 5.05% reduction in scope 1 and 2 emissions.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?

No

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
South Africa	8563
Ghana	312746
Australia	235100
Peru	34500

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By facility

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
South Deep	8563	-26.39802	27.695503
Sandton Main	1	-26.099784	28.067068
Tarkwa	216609	5.249448	-2.004898
Damang	95956	5.226349	-2.024918
Accra Main	181	5.605238	-0.183069
St Ives	100353	-31.208691	121.663284
Agnew	29855	-27.905845	120.704727
Darlot	6298	27.8833	121.2667
Granny Smith	98593	28.9833	122.6833
Cerro Corona	34457	-6.776103	-78.660736
Lima Main	43	-12.097962	-76.973228

C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Net Scope 1 emissions, metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Electric utility generation activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	590909	<Not Applicable>	Gold Field's is a gold mining company and has only mining operations in these countries: South Africa, Ghana, Australia and Peru. As such Gold Fields only reports under the metals and mining production sector.
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
South Africa	492868	0	497846	0
Ghana	87512	97565	435028	0
Australia	0	160000	282557	0
Peru	30	44864	151157	64199

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By facility

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2 location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
South Deep	492836.5	0
Sandton Main	31.5	0
Tarkwa	82084.4	58091
Damang	5348.3	39474
Accra Main	79.3	0
St Ives	0	90568
Agnew	0	52792
Darlot	0	16512
Granny Smith	0	0
Perth Main	0	128
Cerro Corona	0	44864
Lima	30	0

C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7

(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e	Comment
Cement production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Chemicals production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Coal production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Metals and mining production activities	580410	302429	Gold Field's Scope 2 emissions are split between location and market based emissions. Some of the operations have market based scope 2 emissions and others have location based scope 2 emissions. The Ghana and Peru operations have a split between the both scope 2 emission categories.
Oil and gas production activities (upstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Oil and gas production activities (downstream)	<Not Applicable>	<Not Applicable>	<Not Applicable>
Steel production activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport OEM activities	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transport services activities	<Not Applicable>	<Not Applicable>	<Not Applicable>

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	Please select	0	There was no change in renewable energy consumption at any of Gold Fields' operations.
Other emissions reduction activities	76539	Decreased	5.05	In 2017, 12 emissions reduction activities were implemented, which translated into savings of 76539 tCO2e or 5.05% in FY 2017. The change in emissions due to emission reduction activities was calculated as follows: total emissions reduced due to emission reduction activities (FY2017 = 76539tCO2e) divided by total scope 1 and 2 emissions in 2016 (FY2016 = 1 514 077 tCO2e), thus (76539/1514077)*100=5.05%.
Divestment	9902	Decreased	0.65	Gold Fields Darlot mine was sold in September 2017 and as such there is a reduction in emissions from this divestment as the last three months no emissions from this operations were accounted for. This saw a reduction of 9902tCO2e from the Darlot operation, which results in an overall 0.65% reduction to the Gold Fields scope 1 and 2 emissions.
Acquisitions	0	No change	0	There were no acquisitions in the reporting year undertaken by Gold Fields
Mergers	0	No change	0	No mergers were undertaken by Gold Fields during the reporting year.
Change in output	46048	Increased	3	The tonnes of ore mined in FY2017 increased by 13% along with the tonnes of ore processed increasing by 1.1% in 2017. This resulted in the emissions increasing by 3%. This increase is not directly proportional to the increased output, as Gold Fields implemented various efficiencies to reduce emissions during the production process.
Change in methodology	0	No change	0	There was no change in the methodology used by Gold Fields in the reporting year
Change in boundary	0	No change	0	There was no change in the reporting boundary for Gold Fields in the reporting year
Change in physical operating conditions	0	No change	0	There was no change in the physical operating conditions experiences by Gold Fields in the reporting year.
Unidentified	0	No change	0	n/a
Other	0	No change	0	n/a

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 15% but less than or equal to 20%

C8.2**(C8.2) Select which energy-related activities your organization has undertaken.**

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a**(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.**

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	0	2271757	2271757
Consumption of purchased or acquired electricity	<Not Applicable>	64199	1302389	1366588
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	194	<Not Applicable>	194
Total energy consumption	<Not Applicable>	64393	3574146	3638539

C-MM8.2a**(C-MM8.2a) Report your organization's energy consumption totals (excluding feedstocks) for metals and mining production activities in MWh.**

	Heating value	Total MWh
Consumption of fuel (excluding feedstocks)	LHV (lower heating value)	2271757
Consumption of purchased or acquired electricity	<Not Applicable>	1366588
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	194
Total energy consumption	<Not Applicable>	3638539

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)

Diesel

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

1879696

MWh fuel consumed for the self-generation of electricity

43826

MWh fuel consumed for self-generation of heat

1835870

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Fuels (excluding feedstocks)

Petrol

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

972

MWh fuel consumed for the self-generation of electricity

0

MWh fuel consumed for self-generation of heat

972

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Fuels (excluding feedstocks)

Liquefied Petroleum Gas (LPG)

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

29644

MWh fuel consumed for the self-generation of electricity

0

MWh fuel consumed for self-generation of heat

29644

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Fuels (excluding feedstocks)

Acetylene

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

655

MWh fuel consumed for the self-generation of electricity

0

MWh fuel consumed for self-generation of heat

655

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Fuels (excluding feedstocks)

Natural Gas

Heating value

LHV (lower heating value)

Total fuel MWh consumed by the organization

360790

MWh fuel consumed for the self-generation of electricity

360790

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

<Not Applicable>

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

(C8.2d) List the average emission factors of the fuels reported in C8.2c.

Acetylene

Emission factor

0.00388

Unit

kg CO₂e per liter

Emission factor source

The Climate Registry 2016

Comment

Diesel

Emission factor

0.00268

Unit

metric tons CO₂e per liter

Emission factor source

DEFRA 2017 v.01

Comment

Liquefied Petroleum Gas (LPG)

Emission factor

2.94264

Unit

metric tons CO₂e per metric ton

Emission factor source

DEFRA 2017 v.01

Comment

Natural Gas

Emission factor

2.736

Unit

metric tons CO₂e per metric ton

Emission factor source

NGER Measurement Determination 2016-2017

Comment

Petrol

Emission factor

0.0023

Unit

metric tons CO₂e per liter

Emission factor source

DEFRA 2017 v.01

Comment

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	150654	150654	194	194
Heat				
Steam				
Cooling				

C-MM8.2e

(C-MM8.2e) Provide details on the electricity, heat, steam, and cooling your organization has generated for metals and mining production activities.

	Total gross generation (MWh) inside metals and mining sector boundary	Generation that is consumed (MWh) inside metals and mining sector boundary
Electricity	150654	150654
Heat		
Steam		
Cooling		

C8.2f

(C8.2f) Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.

Basis for applying a low-carbon emission factor

Power Purchase Agreement (PPA) with energy attribute certificates

Low-carbon technology type

Hydropower

MWh consumed associated with low-carbon electricity, heat, steam or cooling

64199

Emission factor (in units of metric tons CO2e per MWh)

0

Comment

The IPP supplying the Peru operations uses a combination of gas and hydropower to generate electricity. The portion generated by the hydropower can be considered low carbon and amounts to 42.5% of the total consumption. The emission factor for the hydro portion is zero, however the overall emission factor for the electricity consumed at Cerro Corona is greater than zero (0.23 tCO2e/MWH) due to the presence of gas generated electricity in the mix. The emission factor is lower than the average grid emission factor for Peru of 0.598. In addition, three of Gold Fields' Australian operations (St Ives, Agnew, Darlot and the head office in Perth) make use of electricity that is sourced from an IPP, Transalta. The IPP generates electricity from natural gas, which has a much lower emission factor associated with its generation when compared to fossil fuels such as coal or diesel. In addition, Gold Fields' Granny Smith mine produces its own electricity from natural gas. The independent power producers supplying electricity to Gold Fields' Ghana operations also generate electricity from gas. However, as per the CDP guidance, natural gas is not considered a low carbon energy. For this reason, Gold Fields only purchases low-carbon electricity for its Cerro Corona operation. The overall emission have not decreased due to purchases of additional quantities of renewable power. This quantity of renewable energy is in line with what has been previously purchased, as such this hasn't contributed to the emission reductions which have been disclosed in 4.3b

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Energy use

Metric value

0.06

Metric numerator

GJ

Metric denominator (intensity metric only)

tonnes ore mined

% change from previous year

3

Direction of change

Decreased

Please explain

As a mining company Gold fields is concerned with its energy consumption, which is driven by mining production. Gold Fields tracks its energy usage per tonne of ore mined in order to assess its energy efficiency.

Description

Energy use

Metric value

5.46

Metric numerator

GJ

Metric denominator (intensity metric only)

ounces gold produced

% change from previous year

4

Direction of change

Increased

Please explain

As a gold mining company, Gold Fields is concerned with the amount of product it can produce ie gold and how this results in changes to the energy usage by the group. Gold Fields tracks its energy usage in GJ per ounce of gold produced to assess its energy and product efficiencies.

Description

Waste

Metric value

11

Metric numerator

thousand tonnes

Metric denominator (intensity metric only)

n/a

% change from previous year

5

Direction of change

Decreased

Please explain

Gold Fields has set a target to maintain the general landfill waste mass (non-hazardous waste other than tailings and waste rock) at 2015 levels of 11 200t, by ensuring a reduction in the waste that reaches landfill through greater use of on-site waste separation and recycling. During 2017 the Group reduced landfill waste by 5% to 11 000t.

C-MM9.3a

(C-MM9.3a) Provide details on the commodities relevant to the mining production activities of your organization.

Output product

Gold

Capacity, metric tons

147

Production, metric tons

66

Production, copper-equivalent units (metric tons)

464816

Scope 1 emissions

590909

Scope 2 emissions

882839

Pricing methodology for copper-equivalent figure

The methodology used to calculate the copper equivalent is as follows. The prices for copper and gold for December 2017 are used as is obtained from the Gold Fields Integrated Annual Report FY2017. The copper equivalent was then calculated using the following equation: $Cueq = \text{ounces of gold} * \text{price of gold} / \text{price of copper} * \text{tonnes} / \text{oz}$. The ounces of gold was obtained as 2 342 235. The price of gold was taken as 1400USD/oz and the price of copper as 0.2USD/oz (converted from 3.2USD/lb).

Comment

In the production tab the total amount of gold produced, converted to metric tonnes from ounces, is given as this is the production of the mining operations owned by Gold Fields. In order to calculate the copper equivalent, the tonnes of gold produced was used along with the average ore grade of 3.81g/t. The capacity is measured in tonnes of gold and is the capacity of the gold production.

C-MM9.3b

(C-MM9.3b) Provide details on the commodities relevant to the metals production activities of your organization.

Output product

Gold

Capacity (metric tons)

147

Production (metric tons)

66

Annual production in copper-equivalent units (thousand tons)

464816

Scope 1 emissions (metric tons CO2e)

590909

Scope 2 emissions (metric tons CO2e)

882839

Pricing methodology for-copper equivalent figure

The methodology used to calculate the copper equivalent is as follows. The prices for copper and gold for December 2017 are used as is obtained from the Gold Fields Integrated Annual Report FY2017. The copper equivalent was then calculated using the following equation: $Cueq = \text{ounces of gold} * \text{price of gold} / \text{price of copper} * \text{tonnes/oz}$. The ounces of gold was obtained as 2 342 235. The price of gold was taken as 1400USD/oz and the price of copper as 0.2USD/oz (converted from 3.2USD/lb).

Comment

The amount of gold produced was converted from ounces to metric tons. The capacity is measured in tonnes of gold.

C-MM9.6

(C-MM9.6) Disclose your organization's low-carbon investments for metals and mining production activities.

Investment start date

January 1 2013

Investment end date

December 31 2017

Investment area

R&D

Technology area

Green metals

Investment maturity

Basic academic/theoretical research

Investment figure

160000

Low-carbon investment percentage

61 - 80%

Please explain

Gold Fields invests in research activities that investigate innovative opportunities for energy and carbon efficiencies related to the group's metals and mining production activities. These include: • Data analytics to improve efficiencies • Sponsoring R&D at Wits University related to hard rock mining, which reduces emissions and results in process efficiencies • Green metals – copper projects

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 and/or Scope 2 emissions and attach the relevant statements.

Scope

Scope 1

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

Gold Fields IAR_2017_ERM Assurance Statement.pdf

Page/ section reference

136 - 139

Relevant standard

ISAE 3410

Proportion of reported emissions verified (%)

100

Scope

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

Gold Fields IAR_2017_ERM Assurance Statement.pdf

Page/ section reference

136 - 139

Relevant standard

ISAE 3410

Proportion of reported emissions verified (%)

100

Scope

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

Gold Fields IAR_2017_ERM Assurance Statement.pdf

Page/ section reference

136 - 139

Relevant standard

ISAE 3410

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope

Scope 3- all relevant categories

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Attach the statement

Gold Fields IAR_2017_ERM Assurance Statement.pdf

Page/section reference

136 - 139

Relevant standard

ISAE 3410

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C9. Additional metrics	Other, please specify (Total energy consumed/total t mined)	ISAE3000	Gold Fields verifies the company's total energy consumed/total tonnes mined (GJ/total tonnes mined) on an annual. The type of verification provided by ERM in 2017 was reasonable assurance.
C9. Additional metrics	Other, please specify (Total energy consumed/oz gold produced)	ISAE3000	Gold Fields verifies the company's total energy consumed/ounces of gold produced (GJ/ounces of gold produced) on an annual. The type of verification provided by ERM in 2017 was reasonable assurance

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

Australia ERF Safeguard Mechanism

C11.1b

(C11.1b) Complete the following table for each of the emissions trading systems in which you participate.

Australia ERF Safeguard Mechanism

% of Scope 1 emissions covered by the ETS

40

Period start date

July 1 2016

Period end date

June 30 2017

Allowances allocated

100000

Allowances purchased

1590

Verified emissions in metric tons CO2e

101590

Details of ownership

Facilities we own but do not operate

Comment

Gold Fields participates in Australia's ERF's Safe Guarding Mechanism. The St Ives operation exceeded its baseline in FY2017 of 100 000 tonnes CO2-eq by 1,590 tonnes CO2-eq, as increased mining volumes drove up diesel-linked emissions. In partnership with an IPP, Gold Fields has implemented a gas power plant at Granny Smith which generates emission reduction credits for sale on auction to the Australian government or to participating entities that wish to offset their liabilities.

C11.1d

(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?

Gold Fields integrates energy and carbon management into all aspects of its business through its Integrated Energy and Carbon Management Strategy which is aligned with ISO 50001. This strategy seeks to ensure energy security; decrease carbon emissions; explore immediate and long-term energy efficiency opportunities, and investigate and implement viable sources of renewable energy. This strategy is also used to ensure and track compliance of Gold Fields' operations to the emission trading systems in which it participates. An example of how Gold Fields applies this strategy relates to the St Ives operation. Gold Fields is required to purchase offsets if the St Ives operation exceeds its stipulated direct emissions baseline (100 000 tCO₂e) under Australia's ERF Safeguard Mechanism. The Group Energy and Carbon Management Guideline (developed to implement the Integrated Energy and Carbon Management Strategy) requires that the operation tracks its carbon footprint, which assists in identifying instances when St Ives exceeds its baseline, and subsequently assist the management of liabilities that arise under the ERF Safeguard Mechanism. An example of a management activity guided by the Group Energy and Carbon Management Guideline is the development of the Granny Smith gas power plant. This power plant was developed in accordance with the requirements of the Australian ERF Safeguard Mechanism and is therefore eligible to generate carbon credits which may be auctioned to the Australian government or other parties which participate in the system. In this way the St Ives carbon liabilities under the system may be offset by surplus credits generated by the Granny Smith power plant project, thus ensuring compliance with the requirements of the ERF Safeguard Mechanism. The Group Energy and Carbon Management Guideline also guides the development of regional emissions and energy reduction targets so that these are implemented in a standardised manner across the group's operations. Gold Fields absolute emissions and energy reduction targets represent the company's low-carbon transition plan to support the long-term business strategy. Gold Field's target is to achieve 5% to 10% energy savings off annual energy plans each year. Gold Fields has set aspirational targets to reduce carbon emissions by 17% per year between 2017 and 2020. This equates to 800kt CO₂e of cumulative carbon emission reductions over the period. This target is considered science based as its annual emission reductions is far beyond the 2.1% year on year reduction required in order to be in line with the science of the 2 degree Celsius scenario. This is a new target that was set in FY2017 and thus no progress has been made against the target. Progress will be tracked from 2018 onwards.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.

Credit origination or credit purchase

Credit origination

Project type

Fossil fuel switch

Project identification

The Granny Smith 25MW gas power was converted from a diesel power plant to gas. This conversion abated close to 21,000t CO2-eq. The excess credits were used to offset St Ives emissions for compliance purposes.

Verified to which standard

Other, please specify (Australian Emissions Reduction Fund)

Number of credits (metric tonnes CO2e)

21000

Number of credits (metric tonnes CO2e): Risk adjusted volume

21000

Credits cancelled

Yes

Purpose, e.g. compliance

Voluntary Offsetting

Credit origination or credit purchase

Credit purchase

Project type

Fossil fuel switch

Project identification

The Granny Smith 25MW gas power was converted from a diesel power plant to gas. This conversion abated close to 21,000t CO2-eq.

Verified to which standard

Other, please specify (Australian Emissions Reduction Fund)

Number of credits (metric tonnes CO2e)

1590

Number of credits (metric tonnes CO2e): Risk adjusted volume

1590

Credits cancelled

Yes

Purpose, e.g. compliance

Compliance

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Objective for implementing an internal carbon price

Navigate GHG regulations
Change internal behavior
Drive low-carbon investment
Stress test investments

GHG Scope

Scope 1
Scope 3

Application

Gold Fields' Australian operations are subject to the conditions of the Emission Reduction Fund and Safeguarding Mechanism. Facilities that are responsible for direct emissions over the 100 000 tCO₂e/year baseline are required to purchase credits to offset emissions above the baseline level. This price thus applies to all of the Australian operations.

Actual price(s) used (Currency /metric ton)

9.5

Variance of price(s) used

Gold Fields uses differentiated pricing: a price that varies by region.

Type of internal carbon price

Internal fee

Impact & implication

Gold Fields uses an internal price on carbon in its activities required to comply with Australia's ERF's Safe Guarding Mechanism. The price reported is the 12.5AUD/ tCO₂e price that Gold Fields earned through the successful auction of carbon emissions in Australia (this is converted to USD9.5/tCO₂e by using 1 AUD=0.7587 USD). The St Ives mine is liable for emissions costs under the ERF's Safe Guarding Mechanism: in the reporting year it emitted 1,590 tCO₂e over its baseline due to increased diesel consumption. The 24MW Granny Smith offset project is one of the main ways in which this risk is managed in Australia. The Granny Smith project generated around 8 000 additional credits in 2017, which may be used to offset the St Ives liability. In the absence of surplus credits from the Granny Smith project, St Ives would need to purchase credits on the Australian market at a price that would likely be higher than the credits auctioned to the Australian government.

Objective for implementing an internal carbon price

Navigate GHG regulations
Change internal behavior
Drive low-carbon investment
Stress test investments

GHG Scope

Scope 1
Scope 2
Scope 3

Application

South Africa has a pending carbon tax which is may be implemented on 01 January 2019. The tax is priced at ZAR120/tCO₂e (USD9/tCO₂e at RZAR13.33=USD1). As such this price is applicable to Gold Fields' South Deep operation.

Actual price(s) used (Currency /metric ton)

9

Variance of price(s) used

Gold Fields uses differentiated pricing: a price that varies by region

Type of internal carbon price

Shadow price

Impact & implication

Gold Fields uses this internal price on carbon to motivating for energy efficiency initiatives at South Deep Mine in South Africa. It is also used to determine the facility's potential carbon tax liability. South Deep's exposure to the tax is expected to amount to around R500,000 (USD37,000), after discounts (also known as allowances).

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Other, please specify (Development initiatives and meetings)

% of suppliers by number

0.14

% total procurement spend (direct and indirect)

1

% Scope 3 emissions as reported in C6.5

38

Rationale for the coverage of your engagement

Suppliers are a critical part of Gold Fields' support in the mining value chain, increasingly those suppliers of energy goods, services and low-carbon technologies. Gold Fields has a strategic intent to empower local suppliers and Gold Fields' climate change policy commits Gold Fields to promote climate change awareness to its partners and suppliers. This group of suppliers was chosen for engagements related to compliance and on-boarding as these suppliers provided the goods and services related to the low-carbon and energy efficiency projects that were implemented by Gold Fields in the reporting year. All active contractors and suppliers are screened during on-boarding and thereafter on a monthly basis as part of the Group Compliance Officer's risk exposure assessment.

Impact of engagement, including measures of success

Gold Fields collaborates with these suppliers on energy efficiency, renewable energy studies and emissions reduction initiatives; planned for implementation in 2018 and those implemented in 2017. The impacts of the engagement are the development of low-carbon technologies which reduce emissions and mitigate climate change impacts. The measures of success are the successfully implemented low-carbon projects.

Comment

Suppliers are engaged through supplier development initiatives and annual meetings with suppliers. Local suppliers are identified, developed and empowered through strategic regional programs. For carbon emission reduction initiatives, Gold Fields engages both local and global suppliers to promote transfer of international skills to ensure that regions benefit from global pool of knowledge.

Type of engagement

Compliance & onboarding

Details of engagement

Other, please specify (Labour/goods from local communities)

% of suppliers by number

40

% total procurement spend (direct and indirect)

45

% Scope 3 emissions as reported in C6.5

38

Rationale for the coverage of your engagement

Gold Fields procures goods and services from the countries and host communities in which we operate, where feasible. This group of suppliers was chosen for engagements related to compliance and on-boarding as these local suppliers create employment in host communities. This supports the communities to be more resilient to the impacts of climate change. All active contractors and suppliers are screened during on-boarding and thereafter on a monthly basis as part of the Group Compliance Officer's risk exposure assessment. During 2016, we developed three-year host community procurement and employment plans for Peru, South Africa and West Africa to increase the proportion of sustainable host community procurement and employment, thus driving shared value.

Impact of engagement, including measures of success

Of our total procurement spend of US\$1.86bn for 2017, US\$774m, or 45%, was spent on suppliers and contractors from the mines' host communities. This spend facilitates creation of jobs in the local communities, thus assisting Gold Fields' operations to maintain its license to operate. Gold Fields spent \$17million on Social and Economic Development in our various host communities over the past financial year. In addition, the company sources approximately 40% of their total workforce from local communities. The impact of this localised spending includes community upliftment and creating access to the formal economy for host communities. We understand that such economic access is critical to address community vulnerability. Our measure for success relates to our social investment in these communities. Gold Fields' invested US\$ 17 million in local communities during 2017 and spent \$774 million in host community procurement, this spend represents 45% of Gold Fields' goods and services procured and indicates a substantial increase in host community procurement spend in relation to 2016. Approximately 40% of our total workforce is sourced from host communities.

Comment

The employment of host community members at operations enables alignment between the interests of host communities and Gold Fields' mines, expanding of local value generation and growth of local available skills.

C12.1c

(C12.1c) Give details of your climate-related engagement strategy with other partners in the value chain.

Gold Fields considers local mining communities and local suppliers critical partners in our mining operations value chain. Host communities are the source of a significant portion of our workforce and a key component of our social licence to operate. Host communities are thus classified as "other partners in the value chain" with whom we engage. Vulnerable communities are particularly susceptible to the impacts of climate change. Gold Fields' engagements with these communities are aimed at increasing the resilience of the communities. If community resilience is increased then communities will be better equipped to adapt to the impacts of climate change. Similarly, local suppliers are equally impacted by effects of climate change. Gold Fields's climate change related engagement strategy includes its climate resilience strategy, which focuses on understanding climate related risks that affect our operations and neighbouring communities and building safeguards to strengthen climate resilience against these risks. In this regard our climate resilience strategy focuses on understanding climate related risks that affect our operations and neighbouring communities and building safeguards to strengthen climate resilience against these risks. We understand that broadly, climate change affects the availability of natural resources, with water and energy most affected. In this regard our engagement with local communities centre on these risks and how best to address these. An example of such community engagement is at Gold Fields' Cerro Corona mine, where Gold Fields has committed to providing local communities with additional, potable water during the dry season and continues to implement projects focused on water provision to nearby communities as well as improving existing municipal water systems. During the year the supply of potable water to the residents of Hualgayoc was augmented through water tank trucks and access to a drinking water well located at the mine site. Another example is the high-profile three-year upgrade of the dirt road between the Tarkwa and Damang mines in Ghana, which is set to be completed in late 2018. During 2017, the design of the road was revised to include additional drainage, pavement redesign, sub-base reinforcement, and an asphalt finish. The revised design is expected to increase the road's lifespan from about seven years to 20+ years and has raised the cost of the road to US\$21m from the original US\$17m. We are working with government agencies in building the road which will significantly improve access for our operations' host communities as road access is severely impacted by an increased precipitation in the region. Most workers engaged on the road construction are from the host communities. Upon completion, the improved road infrastructure will reduce travel time, increase access to social amenities and markets, reduce the cost of transportation, and increase economic activities along the route. Dust pollution will be eliminated, and safety will improve. Gold Fields also engages with investors which provide funding, and are therefore critical components of the group's value chain. Gold Fields' engagement strategy includes annual investor road shows, where the group's performance regarding environmental, social and governance is communicated.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

- Direct engagement with policy makers
- Trade associations
- Funding research organizations

C12.3a

(C12.3a) On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Carbon tax	Neutral	Gold Fields is engaging with respect to the second version of the South African Draft Carbon Tax Bill published in December 2017. Gold Fields' South African operations will be directly impacted by the carbon tax (to a limited extent) and they will also be exposed to increased fuel prices, as fuel for mobile combustion will be taxed under the fuel tax regime. There is uncertainty as to whether Gold Fields' may be impacted directly by the carbon tax post 2020. Gold Fields is engaging on this legislation through its membership of the Chamber of Mines of South Africa and the Industry Task Team on Climate Change (ITTCC). Gold Fields chaired the ITTCC in 2016/17	Gold Fields supports efforts to reduce carbon emissions in South Africa, but suggests that any taxation schemes serve to incentivise industry to invest in the adaptation of low carbon energy options and improved efficiency. Based on this, Gold Fields is the general principle of the Draft Carbon Tax Bill.
Cap and trade	Support	Gold Fields is engaging with respect to the Emissions Reduction Fund (ERF) legislation in Australia. The ERF assists Australia meet its national emission reduction targets by incentivizing businesses to adopt emission reduction initiatives for which emission reduction credits can be issued. The Clean Energy Regulator issues Australian Carbon Credit Units for emissions reductions from registered projects. Once credits have been issued they can be purchased by the Government through the ERF or sold to organizations that wish to offset their emissions.	Gold Fields' supports the Emission Reduction Fund in Australia and has participated in the development of the Granny Smith gas power plant which was commissioned in 2016. The gas plant supplies the Granny Smith operation with electricity. The gas plant generates carbon credits as the project involved the switch from diesel to a gas power source. In 2017 Gold Fields successfully auctioned around 21 000 carbon emissions from the Granny Smith gas plant project and received carbon credits of AD126,000 from the ERF.

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?

Yes

C12.3c

(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade association

International Council on Mining & Metals (ICMM)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The ICMM recognizes that comprehensive and sustained global action is required to reduce the scale of human-induced climate change and to adapt to its impact. In October 2015, the ICMM issued a statement on climate change addressed to the UN Framework Convention on Climate Change, offering support for an international climate change agreement. The ICMM supports: • An effective binding global agreement on climate change; • A price on carbon and other market mechanisms that drive reduction of GHG emissions and incentivise innovation; • Greater use of renewable energy and other cost-effective low-emission technologies. In addition the ICMM recognises the need to reduce emissions from the use of coal and supports approaches to accelerate the use of low-emission coal technologies as part of a measured transition to a lower-emissions energy mix. Continuous engagement with peers, governments and society is encouraged by the ICMM to share solutions and develop effective climate change policy. Gold Fields has representatives on the "Communications", "Health, Safety and Product Stewardship", "Environmental Stewardship and Social Progress", "Water" and the "Climate Changes" committees and working groups, and the CEO represents the company at the

CEO Council of the ICMM.

How have you, or are you attempting to, influence the position?

Gold Fields joined its ICMM peers in the signing of the Paris Pledge for Action following the COP 21 negotiations. In addition Gold Fields has piloted an ICMM climate data viewer tool at its Ghana mines, which gives insight into physical changes in precipitation, temperature, wind and water stress levels. The tool provides climate projections covering a 20-year period from 2025 to 2045, from a 1986 to 2005 baseline. The outcomes were used in developing adaptation plans, such as reviewing design flood lines, inclusion of climate change risks in our tailings and waste facilities management guidelines and inclusion of climate change impacts in our project standards. Gold Fields has completed climate change vulnerability risk assessments at all our operations, and supports the ICMM climate change statement. Gold Fields also supports the ICMM's position on tailings storage facilities updated the group's guidelines to be fully compliant with the ICMM's Tailings Position Statement. Group-wide tailings audits were completed by independent, external experts during 2017 to ensure Gold Fields meets the ICMM's new framework as well as having critical controls in place to manage potential risks. There were no significant findings. All gaps identified will be closed out by the end of 2018, in accordance with Gold Fields' commitments as an ICMM member.

Trade association

Carbon Policy and Energy Efficiency Reference Group (CPEERG) meeting hosted by The Chamber of Minerals and Energy of Western Australia

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

Gold Fields is part of the Carbon Policy and Energy Efficiency Reference Group (hosted by the Chamber of Minerals and Energy of Western Australia) which engages in monthly meetings on all Australian carbon policy and energy efficiency matters (related to the minerals and energy sector of Western Australia). Depending on the topic, an industry opinion is voiced and presented to Government. The Chamber of Minerals and Energy's climate position has been to support a measured transition to a low-emissions global economy. This is centred on three policy pillars including a global agreements, a market based mechanism and a substantial investment in low emissions technology and abatement.

How have you, or are you attempting to, influence the position?

Gold Fields participates in the Carbon Policy and Energy Efficiency Reference Group meetings and supports the Group's goal of transitioning to a low-emissions global economy. In 2017 Gold Fields undertook various assessments at its Australian operations to identify and implement low carbon and renewable energy projects where feasible.

Trade association

Chamber of Mines of South Africa

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The Chamber of Mines of South Africa recognises that anthropogenic factors have contributed to climate change and that meaningful action is required at a global and local level. The Chamber of Mines is committed to support South Africa's international commitment to lowering its GHG emissions through the National Climate Change Response White Paper and the National Development Plan.

How have you, or are you attempting to, influence the position?

Gold Fields supports and endorses the Chamber of Mines of South Africa, the principal advocacy organisation for policy positions affecting employers in the mining industry. Gold Fields' CEO, Nick Holland, is a member of the Council. Regular attendance at meetings assists Gold Fields influence the position statements of the organisation.

Trade association

Industry Task Team on Climate Change (ITTCC)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

The ITTCC is fully committed to a positive future for South Africa, defined by strong job growth, an attractive investment environment, equity and social cohesion, and climate resilience. The Task Team is committed to working with industry, business groups and government departments to ensure sustainable economic growth while transitioning to a low-carbon economy. The ITTCC comprises energy and carbon intensive industry players that contribute significantly to GDP, and which are committed to combating the effects of climate change while remaining viable businesses. With this in mind, the ITTCC has determined that its most effective role is to undertake technical work that will contribute to a robust fact base on the current state of climate change in

South Africa, future possibilities and the impacts of possible policy instruments.

How have you, or are you attempting to, influence the position?

Gold Fields' Group Head of Carbon and Energy, Tsakani Mthombeni, was appointed in 2018 as the Chairman of the ITTCC's Energy Intensive User Group. Gold Fields supports the position of the Task Team. Regular attendance at meetings assists Gold Fields influence the position statements of the organisation.

C12.3d

(C12.3d) Do you publicly disclose a list of all research organizations that you fund?

Yes

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Gold Fields integrates energy and carbon management into all aspects of its business through its Integrated Energy and Carbon Management Strategy. This strategy seeks to ensure energy security; decrease carbon emissions; explore immediate and long-term energy efficiency opportunities; investigate viable sources of alternative energy and build operational climate resilience. The Integrated Energy and Carbon Management Strategy is informed by the company's Integrated Energy and Carbon Management guideline. In 2016, Gold Fields revised the guideline to align with ISO50001, the global energy management standard. Operational alignment with the standard was initiated in 2017 by integrating energy and carbon management into operational and strategic aspects of the business. The purpose of this Guideline document is to ensure that Gold Fields' vision and climate change strategy is consistent across the different operations and geographical regions, while allowing for different focus areas and specific circumstances. In 2017 the Board approved the updated Stakeholder Engagement, Sustainable Development and Climate Change policy statements. Any external engagement with key industry bodies and other key stakeholders must be consistent with Gold Fields' statements and guidelines. All operations have prepared community relations and stakeholder engagement strategies which assists them ensure that all their stakeholder or public policy engagement activities are consistent with the group's overall climate change strategy. The different regions are progressing with implementation of their three-year community relations and stakeholder engagement plans. Stakeholder and public policy engagement, beyond the regular interaction with Gold Fields' shareholders and investors, is becoming an increasingly critical issue and the Board devotes a large amount of time to ensure that Gold Fields' management deals appropriately with the challenges, issues and concerns of the key stakeholders in the company's host governments who may influence policy. As such, 'licence to operate and reputation' is one of the strategic objective measurement areas in the CEO's 2018 performance scorecard. This high level process supports measures to ensure that all of Gold Fields direct and indirect activities that influence policy are consistent with the company's overall climate change strategy.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

iar-2017.pdf

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Publication

In other regulatory filings

Status

Complete

Attach the document

Sustainability Assessment - DJSI CA 2018 - Gold Fields Ltd FINAL.pdf

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Publication

In mainstream reports

Status

Complete

Attach the document

gri-sustainability-report-for-the-year-ended-31-december-2017-new.pdf

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Publication

In voluntary communications

Status

Complete

Attach the document

ICMM GFL position-statements-2017 (2).xls

Content elements

Governance

Strategy

Publication

In voluntary communications

Status

Complete

Attach the document

GFL climate-change-policy.pdf

Content elements

Governance

Strategy

Publication

In voluntary communications

Status

Complete

Attach the document

Media _ Gold Fields _GFL Ghana donation.pdf

Content elements

Governance
Strategy
Risks & opportunities

Publication

In voluntary communications

Status

Complete

Attach the document

Media _ Gold Fields _ Gold Fields Ghana supports Damang cocoa farmers.pdf

Content elements

Governance
Strategy
Risks & opportunities

C14. Signoff

C-FI

(C-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.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change 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 to establish long-range goals, st	Chief Executive Officer (CEO)

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