Module: Introduction

Page: Introduction

0.1

Introduction

Please give a general description and introduction to your organization

In February 2013, Gold Fields unbundled its KDC and Beatrix mines in South Africa into a separately listed company; Sibanye Gold. This CDP submission however reports on Gold Fields under the previous structure (pre-unbundling), with a total of 8 predominantly gold mining operations in South Africa, Ghana, Peru and Australia. The location and nature of Gold Fields operations is as follows: The South African operations are all underground mines: 1. KDC West & KDC East (26° 24'S and 27° 36'E) 2. Beatrix (28° 15'S and 26° 47'E) 3. South Deep (26º 25' S and 27º 40' E) The Ghanaian operations are all open pit mines: 1. Tarkwa (5° 15' N and 2° 00' W) 2. Damang (5° 11'N and 1° 57'W) The Australian operations are a combination of underground and open pit mines: 1. St Ives (31° 12'S and 121° 40'E) 2. Agnew (27° 55'S and 120° 42'E) Cerro Corona is an open pit copper and gold mine located in Peru (6° 45'S and 78° 37'W) Company Revenue for the period of 01 Jan 2012 – 31 Dec 2012: R45,469 million ISIN number: ZAE000018123 CUSIP number: 38059T106 SEDOL number: 6280215

0.2

Reporting Year

Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.

We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.

Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed
Sun 01 Jan 2012 - Mon 31 Dec 2012

0.3

Country list configuration

Please select the countries for which you will be supplying data. This selection will be carried forward to assist you in completing your response

Select country
South Africa
Ghana
Australia
Peru

0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

ZAR (R)

0.6

Modules
As part of the request for information on behalf of investors, electric utilities, companies with electric utility activities or assets, companies in the automobile or auto component manufacture sectors, companies in the oil and gas industry and companies in the information technology and telecommunications sectors should complete supplementary questions in addition to the main questionnaire.
If you are in these sectors (according to the Global Industry Classification Standard (GICS)), the corresponding sector modules will not appear below but will automatically appear in the navigation bar when you save this page. If you want to query your classification, please email respond@cdproject.net.
If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below. If you wish to view the questions first, please see https://www.cdproject.net/en-US/Programmes/Pages/More-questionnaires.aspx.

Further Information

Module: Management [Investor]

Page: 1. Governance

1.1

Where is the highest level of direct responsibility for climate change within your company?

Individual/Sub-set of the Board or other committee appointed by the Board

1.1a

Please identify the position of the individual or name of the committee with this responsibility

(i) Safety, Health and Sustainable Development Committee (SHSD Committee) (ii) The SHSD Committee is a Board subcommittee and reports it findings and recommendations to the board for consideration and will review with the Board an appropriate response to climate change related findings.

1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

1.2a

Please complete the table

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator
Corporate executive team	Monetary reward	• Receiving external recognition for climate change related efforts in the form of awards, such as the Climate Change Leadership Award, CDP Leadership Index, Dow Jones Sustainability Index leader, Carbon Rankings by the Environmental Investment Organisation, etc. • Meeting group wide energy and emission reduction targets • Generating business related to climate change strategy. The performance indicator is the amount of projects related to climate change management as described in the strategy implemented. • 5% of the senior executive's balance scorecards is related to the above presented performance indicators.
Other: Vice President Energy and Carbon Management	Monetary reward	• Meeting group wide energy and emission reduction targets • Generating business related to climate change strategy. The performance indicator is the amount of projects related to climate change management as described in the strategy implemented • Receiving recognition for climate change related efforts in the form of awards, such as the Climate

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator
		Change Leadership Award, CDP Leadership Index, Dow Jones Sustainability Index leader, Carbon Rankings by the Environmental Investment Organisation, etc. • Developing and successful implementation of energy efficiency and renewable energy projects (evaluated on the amount of projects developed and implemented, the total energy and emission savings and the financial performance of the projects) • Communicating climate change issues effectively (level of publicity created for Gold Fields and its climate change interventions) • Developing and implementing strategic support structures for 'Energy and Carbon Management' (in 2012 this covered the successful development and implementation of Regional Carbon Management Plans and the Integrated Energy and Carbon Management Strategy). • 60% of the Vice President's Energy and Carbon Management's balance scorecards is related to the above presented performance indicators.
Environment/Sustainability managers	Monetary reward	• Identifying and managing on a continuous basis the risks and opportunities related to climate change (the indicator is whether relevant risks and opportunities have been identified and communicated to the mine manager) • Meeting emission and energy reduction targets; specific to the mine where this manager works. • Approximately 20% of the Environment and Sustainability Manager's balance scorecards is related to the above presented performance indicators.
Energy managers	Monetary reward	• Meeting energy and emission reduction targets; specific for the mine where this manager works. • Communicating climate change issues effectively (whether the manager has been able to increase attention to energy management at the operation and increase its support system) • Generating business related to climate change strategy. The performance indicator is the amount of projects related to climate change management as described in the implemented strategy. • Implementing and managing effective energy & carbon emission data collection processes, to generate internal and statutory reporting mechanisms • Approximately 20% of the Energy Management's balance scorecards is related to the above presented performance indicators.

Further Information

Page: 2. Strategy

2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

2.1a

Please provide further details

• The scope of the process Gold Fields has a well developed and embedded Enterprise Wide Risk Management process. This system is based on the risk management requirements of the King III code on corporate governance and the ISO 31000 International guideline for risk management. With regard to climate change related risks, the Corporate Risk Management Strategy received its input from the risk management section of the Carbon Management Strategy (CMS), as well as the Integrated Energy and Carbon Management Strategy (IECMS), which was developed and implemented in 2012. Gold Fields' comprehensive CMS was drafted in 2009 and updated at the beginning of 2011. It incorporates the identification of risks and opportunities presented by climate change and related changes to the world economy. This includes physical, regulatory, market, customer behaviour changes, perception and other risks and opportunities. The IECMS which was developed and implemented in 2012, recognized the importance of energy and emission reductions and mainly builds on the risks and opportunities identification system of the CMS. The IECMS provides detailed (on a regional level) guidance on energy and emission reducing potential and management strategies. During 2011, it was decided that every region should develop Regional Carbon Management Plans (RCMPs), to operationalise the CMS on a regional level. The RCMPs will provide bottom up input on risks and opportunities into the CMS and therefore Risk Policy. The South African and Australian RCMPs have been developed during 2011 and 2012. In 2012, the focus has been on the development and implementation of the IECMS and regional action plans. It is expected that once the work related to the unbundling of the KDC and Beatrix mines has progressed, the development of the RCMPs will be continued. • How risks and opportunities are assessed at a company level The Board, via the Audit Committee oversees the overall system of risk assessment. The Audit Committee oversees the changing environment within which the group operates and is responsible for the identification and mitigation of new and existing risks, including climate change related risks, on an ongoing basis. The Group Risk Manager is responsible for the process of risk management that takes place at a corporate level. All risks identified in Gold Fields risk management process have control measures and mitigating strategies in place. Gold Fields has 4 types of enterprise wide risk registers: 1. Individual operations and Service Divisions 2. Regional Risk Registers 3. Specialised company-wide Register 4. Corporate Register South Africa's RCMP requires the development of a dedicated climate change risk register. The intention of the risk register is for managers to be more informed and pro-active which allows for remedial action to be taken often before the risks materialise. Opportunities are assessed on a group level via the CMS and the IECMS. The RCMPs should strengthen the process of identification of opportunities at an operational and regional level, after which it is communicated through the organisation. Identified opportunities are assessed by operational and energy managers, and regional managers and overseen by the board. As the identification of opportunities related to climate change has been incorporated into the energy and operational manager's performance contracts, there is a system in place that motivates the identification of opportunities. • How risk and opportunities are assessed at an asset level Gold Fields assets' exposure to climate change related risks and opportunities are assessed in several ways. Firstly, a comprehensive physical risk management programme is implemented within Gold Fields which monitors risks, including climate change related risks, on an ongoing basis. Secondly, Gold Fields' assets and their exposure to (amongst others) climate change related risks are investigated annually by its insurance company. Gold Fields is in the top quartile of companies participating in these insurance asset surveys. Climate change related opportunities and risks on an asset level are furthermore assessed using the CMS, IECMS and RCMP. All Gold Fields' operations have been assessed on asset level in terms of physical, regulatory, economical and other climate change related risks and opportunities: - Operations at which physical impacts related to climate change were found to be a potential risk, conducted detailed studies, including future projections. - As part of the IECMS, every region went through an intensive screening process to identify any additional climate change related regulatory risks and opportunities. - The CMS determined that all growth assets will have climate change constraints and opportunities embedded in their design and development. Therefore, new assets are analysed for any climate change related risks and opportunities. • The frequency of monitoring in terms of weeks/months/years Climate change risks, included in the risk registers are reviewed on a quarterly basis as part of the normal operational reviews and assessed on a 6 monthly basis by the Executive Committee and the Board in terms of applicability and effectiveness. The Internet Web based Cura electronic risk management software solution has been fully functional since early 2009 and is used to record and monitor strategic risks to which the operations, regions and corporate are exposed. An auditing function is included in the software in order to conduct ongoing internal assurances, ensuring that mitigating strategies for risks are

receiving the required attention. The audits are conducted by an internal controller on each operation and region. Weekly and monthly review meetings provide a platform to raise and discuss progress on performance indicators aw well as new opportunities. • Criteria for determining materiality/priorities Risks, including climate change related risks, are evaluated for materiality based on its risk rating. Risk rating is determined as being the product of the severity and the probability. Severity is based on the potential impact of the risk; firstly on safety and then on the potential for disruptions, reduced cost effectiveness and compromised sustainability of the operations. When determining the probability of physical risks related to climate change, information such as climate change projections and past experience is taken into account. The probability of regulatory risks related to climate change is determined in accordance with draft policies and Government response papers. When opportunities are identified, they are prioritised as follow; 1. Safety; 2. Impact on Notional Cash Expenditure; and, 3. Impact on the carbon footprint • To whom are the results reported Gold Fields' Board has established a Safety, Health and Sustainable Development Committee (SHSD Committee). Climate change risks and issues are overseen by this committee, which reports to the Board. Opportunities are reported by energy and operational managers to the Board via the SHSD Committee. The progress and status of the carbon management efforts of Gold Fields are reported to the Board and Executive Committees since 2005. The Executive Committees are kept informed through updates at committee meetings held quarterly and a quarterly submitted Board note.

2.2

Is climate change integrated into your business strategy?

Yes

2.2a

Please describe the process and outcomes

For years, Gold Fields' business strategy has taken account of risks and opportunities related to climate change. In achieving its vision 'to be the global leader in sustainable gold mining' Gold Fields' management team has identified three objectives that require its focus: • Optimise our Assets – growing cash flow margin per ounce. • Grow Gold Fields – grow ounces per share. • Secure our Future – the need to address sustainability. Managing risks and opportunities related to climate change, as per the 'Carbon Management Strategy' (CMS) and other strategic documents, positively contributes to each of Gold Fields' objectives. i. Gold Fields developed a CMS in 2009, which was updated in 2011. In 2012, a group wide IECMS was developed. Both documents feed into and are directly linked to Gold Fields business strategy and were developed to support the company's vision and focus objectives as mentioned above from an energy and carbon perspective. Every region is expected to develop Regional Carbon Management Plans (RCMPs), to operationalise the CMS (progress has been made on this during 2012, but focus has been on the development and implementation of the IECMS and unbundling of KDC and Beatrix mines). One of the purposes of RCMP's is to support climate change related information flow from an operational level into the CMS and therefore Gold Fields' business strategy. The template for RCMPs (based on the South African RCMP) recommended the following bottom up communication structures: - The development of Regional Carbon Steering Committees, where regional climate change related issues are discussed and communicated to the Group Carbon Steering Committee - The development and Implementation of a CMP Communication plan to formalize internal and external communication around climate change issues. In the past, energy and carbon pricing as part of operational performance reporting has motivated a change in Gold Fields' business strategy; namely to adapt the company to thrive in a carbon-regulated future. In response to the results of the energy and carbon pricing results, energy and carbon management has become a focus point for the company resulting in the IECMPs and new emission reduction targets. ii. The climate change aspects that have had the greatest influence on the business strategy, are the

risks of; a. increased operational costs (due to increased energy costs, carbon taxation directly and indirectly via the supply chain); b. production disruptions due to changed weather patterns; c. uncertainty regarding new climate change related regulations; and d. Potentially reputational if Gold Fields fails to be seen to respond appropriately to climate change. Gold Fields has identified as an opportunity the potential for its strategic and management approaches towards climate change to support its vision of being 'the global leader in sustainable gold mining'. Gold Fields anticipates that proactively addressing the risks associated with climate change, will not only reduce its risks, but also realise potential opportunities such as augmenting the positive reputation of the company. Gold Fields Carbon Management Strategy and Plans address all identified risks and opportunities. The company's emission reduction targets are expected to reduce the potential exposure of the company to carbon taxation and other climate change related regulatory initiatives. iii. In 2012, the following most important short term strategic components were identified from the IECMS and climate change related risks and opportunity assessments following the CMS: - Continuous development, implementation and monitoring of Carbon Management Plans by each Region. - Reduction of energy usage and emissions on an operational level in accordance with the IECMS and regional reports developed as part of the IECMS. - Acceptance of a group wide emission reduction target of 13% below a Business as Usual by 2016. Furthermore, it was accepted that in all new mine developments, 20% of all energy requirements should be provided by renewable energy. - Water is expected to become more scarce, supply more erratic and contested in most areas of the world, as a result of climate change. Water management has received increased attention in 2012, with the commencement of developing further group guidance that will see the updating of operational water management plans in all the regions. Water will continue to be an area of focus in the coming years and has been identified as one of the top sustainable development priorities for Gold Fields. iv. The most important intervention of the long term (more than 3 years from now) strategy, influenced by climate change has been the formal incorporation of climate change considerations into the process of developing new mining operations. This has been supported by the development of guidelines to support the integration of mitigation and adaptation related issues into asset design. To minimize the new operations' carbon footprint as much as possible, Gold Fields' development teams will be required to calculate the new asset's carbon footprint over its lifetime and to identify energy efficiency and renewable energy opportunities as early as possible in the project development process. To support this long-term strategic view, Gold Fields has set a target that all new projects must at least have 20% of their energy sourced from alternative sources of energy other than fossil fuels. v. Gold Fields competes mainly in two markets: the gold market and the investment market to raise funds for gold mining. Gold Fields believes that a better understanding and management of the risks and opportunities presented by climate change enables it to be more cost competitive and to secure better mining assets than competitors in the gold market. Gold Fields has secured a leadership position in the climate change space by winning internationally recognized awards such as a second place in the South African CDLI in 2012, a first place in the South African CDLI in 2011 and 2010 and by winning the 2011 Climate Change Leadership Awards. Gold Fields believes that this position as a climate leader strengthens its 'social license to operate' and gives it a competitive advantage in the investment market that facilitates access to funds for new mines. This is evidenced by inclusion of Gold Fields in the 'Be Green Exchange Traded Fund'. Such an achievement is made possible by the companies' climate policy and supports Gold Fields' aim to develop additional value for its shareholders. vi. The most important business decisions during 2012 influenced by climate change driven aspects of the strategy have been: a. Acceptance of a group wide emission reduction target of 13% below a Business as Usual scenario by 2016. Furthermore, it was accepted that in all new mine developments, 20% of all energy requirements provided by renewable energy. b. Development and implementation of a group wide Integrated Energy and Carbon Management Strategy. c. To install gas engines at the Beatrix mine to utilize the captured methane gas for electricity generation. d. Contribute a total of R120 million to the development and implementation of energy efficiency projects. e. Continue with the registration process for the obtaining of carbon credits from the inline fans energy efficiency project at a time that carbon prices have reached an ultimate low. The business decisions related to climate change mitigation (emission reduction targets, energy efficiency and waste to energy projects) are mainly informed by Gold Fields' understanding of the physical impacts of climate change and its desire to inspire industry wide setting of emission reduction targets to reduce climate change and its impacts as far as possible. This IECMS is informed by all risks and opportunities identified to be related to climate change and developed in order to address as many as possible.

2.3

Do you engage in activities that could either directly or indirectly influence policy on climate change through any of the following? (tick all that apply)

Direct engagement
Trade associations

2.3a

On what issues have you been engaging directly?

Focus of legislation	Corporate Position	Details of engagement	Proposed solution
Other: electricity security, pricing and energy efficiency	Neutral	In South Africa, Gold Fields has representatives at different forums within Eskom (the national electricity provider). For example the head of electrical engineering engages with Eskom on energy supply, demand side management, energy efficiency and conversation. These forum meetings take place on a monthly basis and aim at increasing cooperation and creating an understanding of the situation for both parties.	During these forums Gold Fields advocates the importance of supply security and proposes joint cooperation and action on energy efficiency projects to reduce Gold Fields' electricity consumption and carbon intensity and help Eskom to achieve secure energy supply.
Mandatory carbon reporting	Neutral	In Australia, Gold Fields engages directly with the Department of Resources, Energy and Tourism (DRET) to assure compliance with the 'Energy Efficiency Opportunities Act (2006)' and resulting regulations. Gold Fields furthermore engages on the reporting requirements under this act to assure compliance and also to provide feedback on the type of information, as well as the way this information has to be provided. Gold Fields reports its carbon emissions yearly and engages with the DRET when they have questions or comments.	Gold Fields believes that a better understanding between Government and industry is facilitated through regular engagement. This generates benefits for both parties and optimizes cooperation.

2.3bAre you on the Board of any trade associations or provide funding beyond membership?

Yes

2.3cPlease enter the details of those trade associations that are likely to take a position on climate change legislation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association"s position	How have you, or are you attempting to influence the postion?

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association"s position	How have you, or are you attempting to influence the postion?
Chamber of Mines	Consistent	In South Africa, Gold Fields' view is consistent with the Chamber of Mines', as both believe that carbon tax and other climate change related legislation should be implemented in cooperation and in consultation with industry to prevent a negative impact on competitiveness. The Chamber of Mines, supported by Gold Fields, therefore advocates that the impact of carbon tax is investigated before implementation and that relief measures are explored in cooperation with industry.	Gold Fields influences the Chamber of Mines' position and engagement with Government through regular dialogue and meetings, where differences in positions are explored and discussed.
International Council on Mining & Metals (ICMM)	Consistent	Gold Fields representatives chair both the communications committee (representative from South African head office) as well as the 'Materials Stewardship' work programme (representative from the Australian operations). All committees and working groups meet twice a year in London. The 'Materials Stewardship' work programme is closest related to climate change as it seeks to minimize the environmental and social impacts of materials used throughout the supply chain. This working group seeks ways to address the responsible design, use, recycling and disposal of the materials produced by its members.	N.A.
Carbon Policy and Energy Efficiency Reference Group (CPEERG) meeting hosted by The Chamber of Minerals and Energy of Western Australia	Consistent	In Australia, Gold Fields is part of the 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 carbon policy and energy efficiency matters related to the Minerals and Energy Sector of Australia. Depending on the topic, an industry opinion is voiced and presented to Government.	N.A.
Gold Fields Renewable Energy Lobby	Consistent	In Australia, the Gold Fields Renewable Energy Lobby engages with Government and private businesses to obtain the necessary support to implement renewable energy projects. Meetings are scheduled quarterly and aim at promoting the deployment of large scale renewable energy generation sources for the North Eastern goldfields region.	N.A.

2.3h

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 developed and implemented a Group wide 'Integrated Energy and Carbon Management Strategy' in 2012. This strategy has been developed with the support of all the regions and action plans were developed on a regional level. Apart from this Integrated Energy and Carbon Management Strategy, Gold Fields has developed a Carbon Management Strategy, which has been distributed to all regions and operations. The purpose of these documents is to ensure that Gold Fields' vision and climate change strategy is consistent amongst the different operations and geographical regions.

Further Information

Page: 3. Targets and Initiatives

3.1

Did you have an emissions reduction target that was active (ongoing or reached completion) in the reporting year?

Absolute target

3.1a

Please provide details of your absolute target

ID	Scope	% of emissionsin scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
1	Scope 1+2	100%	13%	2012	5297961.95	2016	Gold Fields has set a voluntary target of 13% carbon emission reductions against its 'business as usual' carbon emissions by 2016. Business as usual emissions will be calculated both ex-ante as well as ex-post to ensure that any unforeseen changes in operations are accounted for. The first year this target is applicable is 2012, which makes the base year 2012. The emission reduction in every subsequent year will be calculated based on the combined emission savings of the projects implemented in

ID	Scope	% of emissionsin scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
							that specific year and added to the previous emission savings (starting from 2012) which is still impacting on the 'business as usual' emissions. This approach is in line with the 'Greenhouse Gas Protocol – Mitigation Goals Accounting and Reporting Standard' (currently being pilot tested). This target covers scope 1 and 2 emissions, but excludes methane.

3.1d

Please provide details on your progress against this target made in the reporting year

ID	% complete (time)	% complete (emissions)	Comment
1	20%	13.5%	

3.2

Does the use of your goods and/or services directly enable GHG emissions to be avoided by a third party?

No

3.3

Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and implementation phases)

Yes

3.3a

Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	11	
To be implemented*	16	74733
Implementation commenced*	15	67611
Implemented*	20	91469
Not to be implemented	0	

3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in Q0.4)	Investment required (unit currency - as specified in Q0.4)	Payback period
Energy efficiency: Processes	A fuel management system has been implemented at St Ives with the purpose of monitoring fuel use and thereby allowing for optimisation of the fleet operation and its fuel use. This system reduces diesel consumption of the fleet and therefore scope 1 emissions. This is a voluntary project The software will be updated when a new version is released, but is expected to remain in use at the mine throughout the life of mine.	731	1800000	2550000	1-3 years
Behavioral change	At St Ives, an operator benchmarking system has been implemented which measures the performance of operators by using the fuel management system. Regular feedback of these performance indicators will be scheduled and training provided to those underperforming. These operator benchmarking and feedback sessions reduce fuel use and therefore scope 1 emissions. This is a voluntary project The lifetime of the project is expected to be as long as the life of mine.	2849	5700000	1700000	<1 year
Energy efficiency: Processes	At St Ives, the remaining diesel lighting towers have been replaced with more efficient electric lighting towers. The fuel switch aspect of this project (from diesel to electricity) will reduce scope 1 emissions). Scope 2 emissions will increase due to increased electricity usage, though the electrical efficiency aspect of this project will make this increase relatively less. This is a voluntary project. The lifetime of this project is expected to be approximately 30 years.	471	1370000	411500	<1 year
Energy	The compressor clean air projects implemented at KDC West and East consist	10693	7069320	3640000	<1 year

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in Q0.4)	Investment required (unit currency - as specified in Q0.4)	Payback period
efficiency: Processes	of the replacement of intake filters on the compressors to low resistance filters, which increased energy efficiency. This energy efficiency project reduces electricity demand and therefore scope 2 emissions. This is a voluntary project The lifetime of the project is approximately 2 years.				
Energy efficiency: Processes	At KDC West and East, both the high density, as well as low density shower heads, have been replaced to low flow showerheads. These low flow showerheads reduce the water flow and thereby the energy requirement to heat water. Though an investment was required, this was fully covered through the South African Demand Side Management (DSM) Programme. In this response, Gold Fields reports only on its own investment contribution, as this truly reflects its commitment to energy and emission savings. All DSM contributions have been deducted from the 'investment required'. This intervention will reduce electricity requirements and therefore scope 2 emissions. The lifetime of the project is expected to be linked with the life of mine, with a minimum of 20 years.	1795	1190484	0	<1 year
Energy efficiency: Processes	New 3 chamber pipe systems have been installed at KDC-West 5# and KDC-East 4# shaft. 3 Chamber pipe system technologies recover energy from the incoming water and use it to pump water out of the mine. This system is more efficient than conventional pumps as it recovers the gravitational energy of the water entering the system. This energy efficiency project reduces electricity demand and therefore scope 2 emissions. This is a voluntary project The lifetime of the project is expected to be linked with the life of mine, with a minimum of 20 years.	32547	21391920	21500000	1-3 years
Energy efficiency: Processes	At KDC East, lighting and air conditioning occupancy sensors have been installed. These sensors will turn off lights and air conditioning if no movement has been registered for a set period of time. In this way electricity will be saved and scope 2 emissions reduced. This is a voluntary project. The lifetime of the project is expected to be linked with the life of mine, with a minimum of 20 years.	2029	1298232	990000	<1 year
Energy efficiency: Processes	At KDC East, heat pumps have been installed at the shafts to replace the conventional hot water units. Heat pumps are more energy efficient than the conventional hot water units and will therefore reduce electricity consumption. This will reduce scope 2 emissions. This investment was fully covered by the South African Demand Side Management Programme. This is a voluntary	2654	1697688	0	<1 year

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in Q0.4)	Investment required (unit currency - as specified in Q0.4)	Payback period
	project. The lifetime of the project is expected to be linked with the life of mine, with a minimum of 20 years.				
Energy efficiency: Processes	At KDC East, conventional flood lights at all the shafts have been replaced by more energy efficiency flood lights. This intervention will reduce electricity consumption and therefore scope 2 emissions. This is a voluntary project. The lifetime of the project is expected to be linked with the life of mine, with a minimum of 20 years.	390	249660	964000	4-10 years
Energy efficiency: Processes	At KDC East 3# shaft, the Bulk Air Cooler was converted to Semi-Closed loop. Water from a cooling system that previously discarded water in the drain is re-used in the mining operation, thereby decreasing pumping requirements. This energy efficiency project reduces electricity demand and therefore scope 2 emissions. This is a voluntary project The lifetime of the project is expected to be linked with the life of mine, with a minimum of 20 years.	2342	1497960	0	<1 year
Energy efficiency: Processes	At South Deep mine, variable speed drives were installed on the evaporator and condenser motors on the two surface fridge plants. This optimises the process via automation and therefore reduces electricity requirements. This project reduces electricity usage and therefore scope 2 emissions. This is a voluntary project. The project will have an expected lifetime until the end of life of mine, with a minimum lifetime (when well maintained) of 20 years.	4683	3064728	5246436	1-3 years
Energy efficiency: Processes	At the South Deep 5 shaft, a pipeline was upgraded and lengthened so as to convert spray chambers to bulk air coolers, thereby obtaining a return line for the water instead of leaving the water underground (from where it would have to be pumped out). This project reduces electricity requirements and therefore scope 2 emissions. This is a voluntary project. The project will have an expected lifetime until the end of life of mine, with a minimum lifetime (when well maintained) of 20 years.	3903	2043156	600000	<1 year
Energy efficiency: Processes	At Beatrix, more efficient locomotive battery chargers were installed. This type of battery charger is 25% more energy efficient than the conventional charging systems. This project reduces electricity requirements and therefore scope 2 emissions. This is a voluntary project. The project will have an expected lifetime of 10 years.	9366	6202080	3900000	<1 year
Energy	At Beatrix, additional fan vane controls have been installed. Through the	1405	930312	3800000	4-10

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in Q0.4)	Investment required (unit currency - as specified in Q0.4)	Payback period
efficiency: Processes	implementation of inlet guide vanes, air turbulence is reduced. Raising the pressure of air entering the fan increases the efficiency of the fan. This project has been developed as a Demand Side Management Project in cooperation with Eskom. This project reduces electricity usage and therefore scope 2 emissions. This is a voluntary project. The project will have an expected lifetime until the end of life of mine, with a minimum lifetime (when well maintained) of 20 years.				years
Low carbon energy installation	At Beatrix, waste gas engines have been installed to utilise the captured methane emissions that were previously flared. Methane capture and flaring was implemented in 2011 to capture and destruct mine methane as well as non-mine methane (methane emitted from boreholes). This project has been registered for carbon credits under the UNFCCC's Clean Development Mechanism. As a second phase, gas engines have been installed and commissioned. Preparation for the installation, as well as ordering of the equipment was done in 2012. Commissioning took place in early 2013. These gas engines utilise the captured methane gas. The electricity generating capacity of this project is 2 MW. The electricity generated will be used to replace conventional electricity (Eskom based) and therefore reduce scope 2 emissions. The gas engines are currently rented (based on an annual contract which is yearly renewable), which explains the low investment required, but relatively high payback period. This is a voluntary project. The lifetime of the project is expected to be linked with the life of mine, with a minimum of 20 years.	15610	8000000	1000000	1-3 years

3.3c

What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Dedicated budget for energy efficiency	
Dedicated budget for other emissions reduction activities	
Other	Combination of cost abatement through replacement of electricity together with an income generated from the sales of

Method	Comment
	carbon credits

Further Information

Page: 4. Communication

4.1Have you published information about your company'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	Page/Section reference	Attach the document
In voluntary communications (complete)	Page 90, 92-93	https://www.cdproject.net/sites/2013/77/7577/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifytAttachment/GF IAR-2012.pdf
In voluntary communications (complete)	Australian newsletter on Energy Efficiency Opportunities, but also mentions emission reductions and renewable energy opportunities	https://www.cdproject.net/sites/2013/77/7577/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifytAttachment/EEO_Newsletter - April_2012.pdf
In voluntary communications (complete)	Golden Age on Integrated Energy and Carbon Management Strategy	https://www.cdproject.net/sites/2013/77/7577/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifytAttachment/April 2012 Golden Age.pdf
In voluntary communications (complete)	Golden Age on second CDP water submission	https://www.cdproject.net/sites/2013/77/7577/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifytAttachment/September 2012 Golden Age.pdf

Further Information

Module: Risks and Opportunities [Investor]

Page: 5. Climate Change Risks

5.1

Have you identified any climate change risks (current or future) that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Risks driven by changes in regulation
Risks driven by changes in physical climate parameters
Risks driven by changes in other climate-related developments

5.1a

Please describe your risks driven by changes in regulation

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
RR1	International agreements	A remaining risk identified by Gold Fields is the uncertainty surrounding international agreements related to the management of climate change. Two types of risks have been identified which are caused by an uncertainty in international agreements: 1- The uncertain future of CER prices; 2- The possibility of border tax adjustments; The Kyoto Protocol's first commitment period expired at the end of 2012, while the next universal legal binding agreement (as agreed on in Durban at COP 17) would be signed in 2015 and only come into force in 2020. COP 18, which took place in Doha at the end of 2012, bridged the gap between the first and second commitment period by allowing the CDM to continue between 2012 and 2015. Countries furthermore agreed to review their emission reduction commitments, at the latest by 2014. Though negotiations are being continued and systems, such as the CDM, remain in place, the current supply of carbon credits is greater than demand, causing a significant reduction in the value of carbon credits (€0.25 in April 2013). As no final emission reduction commitments have been made, it is difficult to predict how the carbon market will develop and when the price of carbon credits will again recover. As a result, a CDM project implemented by Gold Fields (Beatrix mine methane capture and flaring) does not generate income from CERs as expected and therefore the financial feasibility of the project has been impacted. Projects which were planned to be	Other: reduced viability of emission reduction projects	Current	Direct	Very likely	Low

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		implemented and for which carbon credit registration procedures were initiated have been put on hold until more reliable predictions on future carbon credit prices, based on international emission reduction targets, can be made. This risk of future carbon credit prices might be reduced due to the South African carbon tax which is planned to be implemented in January 2015 and which allows the usage of CERs and VERs as offsets. This would give carbon credits a minimum value of R120/tonne CO2. The absence of an international agreement also increases the likelihood that countries may introduce unilateral measures, such as border tax adjustments. An example of a unilateral measure is the inclusion of international aviation in the EU emissions trading scheme. Gold Fields perceives it as a risk that gold might in the future be subject to border tax adjustments.					
RR2	Carbon taxes	On the 2nd of May 2013, the South African Government released a carbon tax policy paper for public comments. This policy paper is consistent with earlier published information on the carbon tax, including the Minister of Finance's budget speeches. The carbon tax policy paper proposes the introduction of a carbon tax of R120 per ton (t) CO2-eq above the tax-free thresholds from 1 January 2015. It presents a basic tax free threshold of 60%, with a potential (depending on the sector) additional allowance for trade exposure and process emissions and the option to offset part of the company's emissions. Sectoral benchmarks will be developed; companies performing below the sectoral benchmarks will be allowed additional tax exemption. As more information on the carbon tax becomes available, the risk is reduced. More information enables proper planning and adaptation to the regulation. Current uncertainty is related to detailed design of the proposed tax, especially with regard to: - Whether trade exposure relief is for both scope 1 and 2 or only scope 1 emissions. Tax will only directly be paid for scope 1 emissions, while the carbon tax paid by Eskom may be passed through to the consumer. Relief measures, such as trade exposure relief, will have little value for companies with majority scope 2 emissions if the trade exposure relief is only applicable to scope 1 emissions. - The types of offset projects allowed; the carbon tax policy paper has not yet defined the types of emission reduction projects which will be allowed as offsets within the carbon tax system. As the agricultural,	Increased operational cost	1-5 years	Direct	Likely	Low-medium

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		forestry and land use sectors have been excluded from the first phase of the carbon tax net, it would make sense that offset projects be implemented in this sector. This has not yet been specified, but is of relevance to Gold Fields as it would determine whether carbon sequestration projects can be implemented for offsets on mining land. - The value of the gold mining benchmark; it is not yet clear how the benchmark for gold mining will be determined. This is envisaged to be very complex as emission intensity of gold mining does not only vary per region but also with mining depth, ore grade, age of the operation and even large differences between shafts on the same operation can be found.					
RR3	Renewable energy regulation	As of April 2013 no progress has been made on the Ghanaian Renewable Energy Act (reported on in the 2012 CDP submission). The Ghanaian Renewable Energy Act 2011 (Act 832) has been promulgated, but its framework and application are still being established. No regulations have been passed, neither has any guidance been released. The Renewable Energy Act in its current form creates high uncertainty with regard to the potential impacts on companies, such as Gold Fields, operating in Ghana. Clause 27 of the Renewable Energy Act states the following which might impact on Gold Fields' Ghanaian operations: A bulk customer permitted by the Commission, shall: a) purchase a specified percentage of its total purchase of electricity from renewable energy sources; or b) pay to the Commission a premium as determined by the Commission. As Gold Fields is a large electricity off taking company, it is expected that it will be impacted by the legislation. It is however unclear what percentages or premiums can be expected.	Increased operational cost	1-5 years	Direct	Likely	Low-medium
RR4	Uncertainty surrounding new regulation	There are several South African Government papers which present reporting and emission reduction requirements, but which have not as of yet presented a consolidated, detailed design of these requirements. The following documents are identified as relevant for Gold Fields', but the exact implications remain uncertain: - National Climate Change Response White Paper (October 2011) - Proposed amendments to the 2007 national framework for air quality management in the Republic of South Africa (February 2013) - National Energy Act 2008, regulations on the mandatory provision of energy data (February 2012) - South Africa's official	Other: reduced growth possibilities	1-5 years	Direct	About as likely as not	Medium

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		communication to the Executive Secretary of the UNFCCC on its emission reduction targets (January 2010) According to the National Climate Change Response White Paper, a Carbon Budget approach will be used for relevant economic sectors and subsectors to achieve desired emission reduction outcomes. Whether these desired emission reduction outcomes combined are the same as the commitments made by South Africa to the UNFCCC is not clear. According to the 'Proposed amendments to the 2007 national framework for air quality management in the Republic of South Africa', the process to declare Greenhouse Gasses as priority pollutants have been initiated and reporting on these gasses will become a legal requirement from 2014 onwards. Exactly how this reporting will take place and what the requirements are, is not yet clear. The 'National Energy Act 2008, regulations on the mandatory provision of energy data', states that Government can ask for any type of data and companies are obliged to provide this information. Based on the type and amount of data which the Government requests, this could provide a demanding task for industry. The risks associated with the above mentioned regulations are multiple: - There is a risk of costly and time consuming reporting of data, as per the Air Quality Act and National Energy Act. - Much uncertainty and therefore risk remains as to how the emission reduction targets and the carbon budget approach will influence Gold Fields' business. More specifically, 2 types of risks can be identified: o The risk of being allocated an emission allowance which will limit Gold Fields' growth potential; o The risk of increased operational costs due to the management of emission reduction targets.					

5.1b

Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk and (iii) the costs associated with these actions

ID: RR1 (International Agreements: Carbon Price uncertainty & border tax adjustment) (i) Potential financial implications of risk before taking action: - Carbon Credit price The risk of reduced income due to reduced carbon credit prices has become clear in the registered Beatrix Mine Methane Project. With an expected emission reduction potential of 253,329tCO2/yr, and an (at the time of registration) expected CER price of 12 Euro/CER, income from CER sales on this project were envisaged to be approximately R30

million. As the international CER price dropped to approximately 0.25 Euro/CER (April 2013), the expected income is currently R0.7 million. This is a significant risk to the financial viability of projects and, has impacted other projects which were in the pipeline for CDM registration. - Border Tax Adjustment Gold Fields has calculated the potential financial impact of border tax adjustments on its product. This calculation is based on the assumptions of a 20% reduction target (scope 1 and 2 emissions) and a price of Euro 10 per ton. Such a tax will increase the current cost base between 0.5% and 2.5% for the different operations and on average for the Group with 2.4%. (ii) The methods you are using to manage this risk: As part of the methods used to manage this risk, developments within the carbon market space are being monitored. In 2012, Gold Fields developed and implemented a group wide 'integrated energy and carbon management strategy'. This strategy is regularly updated to respond to changes in the carbon market. Based on the current market situation, it was found that it is beneficial to convert CERs to VCUs, which can be sold on the voluntary market. The current VCU price obtained from CDM credits from the Beatrix methane flaring project is R28/CER compared to 0.25 Euro/CER (approximately R2.9/CER) in the CER market. Gold Fields has allocated part of the profit to its social projects, to increase the value of the CERs obtained from the Beatrix methane flaring project. The South African carbon tax policy paper (May 2013) proposes that projects verified under the CDM and VCS should be allowed as offsets for carbon tax. This allowance would increase the value of CERs and VERs to R120/tCO2. Gold Fields' is currently managing this risk through its involvement with different stakeholder groups, such as the ITTCC and BUSA, where it advocates the allowance of carbon credits for offsets of carbon tax. In Australia, the Carbon Pricing Mechanism (CPM) has come into effect from July 2012. Entities that emit more than 25,000 tonne of CO2 (scope 1) per year are liable under this mechanism and will pay a fixed price for carbon up to 2015. From the 1st of July 2015, the CPM will enter an emissions trading phase where a flexible carbon unit price will commence. During this flexible price period, certain types of CERs will be allowed as a means to fulfil CPM commitments. Based on the international carbon prices in 2015, as well as the types of CERs that will be allowed into the Australian Carbon Pricing Mechanism, Gold Fields might decide to use its South African CERs to reduce its carbon costs at its Australian operations. (iii) The costs associated with these actions • The development and implementation of the 'integrated energy and carbon management strategy' cost Gold Fields approximately R10 million. • Conversion of its issued CERs into VCUs cost the company approximately R35,000 in internal administration and contracting related costs. • Engagement with stakeholders such as the ITTCC and BUSA is considered part of Gold Fields' operational expenses. ID: RR2 (carbon tax) (i) Potential financial implications of risk before taking action Gold Fields has modelled the potential impact of a carbon tax on their operations. Based on a carbon tax of R120 per ton of CO2 on 40% of the company's Scope 1 emissions, a carbon tax of R38 million is expected. It is expected that Eskom will pass through their carbon tax costs (at R120/tCO2 on 40% of the company's emissions), which would increase Gold Fields' electricity costs by R208 million. However, uncertainty with regard to cost reduction potential exists: - The types and application of offsets being allowed; Gold Fields' KDC-West renewable energy project can sequester carbon at a cost of approximately R80/tonne. This implies that R40 can be saved on every tCO2 that is allowed within the offset allowance. If mine land rehabilitation obligations are taken into account, this saving could be higher. If the offsets are deducted only from the taxable proportion of the carbon footprint (fixed benchmark), a 10% offset allowance will reduce carbon tax expenses by approximately R4 million. However, if the benchmark is not fixed, carbon tax expenses will not be reduced through implementation of the above mentioned offset project. It is furthermore still unknown what type of projects will be allowed as offset projects. - Tax exemption by performing under the sectoral benchmark; depending on the value of the sectoral benchmark, tax exemption can be awarded if proven that Gold Fields performs below the sectoral benchmark. The impact of the benchmark results will be limited to 5% above or below the basic tax exemption threshold. An increased threshold of 5%, will reduce carbon tax expenditure by approximately R5 million, while a reduced threshold of 5% would increase carbon tax expenditure by approximately R5 million. - Assuming that Gold Fields' is classified as the 'other' sector, as presented in the carbon tax policy paper, an additional maximum allowance of 10% due to trade exposure might be obtained. If this allowance is for relief on scope 1 tax exposure only, the company's direct tax liability will be reduced from R38 million to R28.5 million. However, it is expected that Eskom will pass through its carbon tax costs which will amount to approximately R208 million for Gold Fields. Would this relief due to trade exposure also be applicable for scope 2 emissions, Gold Fields costs would be reduced from approximately R208 million to R156 million. (ii) The methods you are using to manage this risk: Gold Fields has been managing the carbon tax risk since the South African Government first published a discussion paper on the carbon tax option to reduce Greenhouse Gas Emissions in December 2010. The description of the methods used to manage this risk will therefore contain actions undertaken over the last 2.5 years: • Gold Fields believes that through the development and implementation of a group wide integrated energy and carbon strategy, it increases understanding of the importance of energy and emission reduction and provides the guidance and support to implement energy and emission reducing projects, thereby reducing its carbon tax liability. Gold Fields developed and implemented its group wide Integrated Energy and Carbon Strategy in 2012. • By reducing its carbon footprint, Gold Fields reduces its exposure to carbon tax. Its carbon footprint is reduced

through behavioural changes to effect more efficient operations, energy efficiency projects and through the implementation of renewable and alternative energy projects. • Through the development of carbon offset projects, Gold Fields will further reduce its own carbon tax expenditure and could create additional income. The KDC-West renewable energy project is the first project that is being developed with the potential to become a carbon tax offset project. • Gold Fields engages with government on carbon tax related issues and advocates the following: ♣ The development of mine specific benchmarks; ♣ The trade exposure relief measure to be applicable for scope 1 and 2 emissions; ♣ Offsets to be deducted from the taxable portion of the carbon footprint; (iii) The costs associated with these actions • Development and implementation of the group wide Integrated Energy and Carbon Management Strategy: R10 million (2012) • Reduction of the company's carbon footprint: ♣ Stimulating behavioural change: development and updating of the Carbon Toolkit have cost the company R100,000 (2011) ♣ Implementation of Renewable and Alternative Energy Projects: o The Beatrix Methane project was implemented in 2011 with a total cost of R80 million. o In 2012, a start was made with the installation of gas engines which utilise the methane gas captured at the Beatrix mine. The gas engines are hired, but capital costs for piping and electrical upgrades were in the order of R1 million. ♣ Development and implementation costs of Energy Efficiency projects in 2012 were approximately R120 million. • Investigations into the carbon sequestration potential on Gold Fields owned land cost approximately R0.5 million (costs spread over 2011 and 2012). • Engagement with Government costs: o ITTCC membership fee: R320,000 in 2012 o ICMM membership fee: R1.7 million in 2012 o Chamber of Mines engagement: R15.2 million in 2012

5.1c

Please describe your risks that are driven by change in physical climate parameters

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
PR1	Change in precipitation extremes and droughts	Changes in precipitation extremes and droughts have been identified as risks to all Gold Fields' operations. Gold Fields contracted Climate Risk Management (Pty) Ltd, who are climate modelling experts, in 2010 to assess the potential impact of climate change on its operations. As previously reported, their study shows increased rainfall variability, a decrease in mean precipitation, and increased intensity and occurrence of localized storms at several Gold Fields operations. These events are expected to increase the risk of flash floods, thereby increasing the risk of mine flooding, damaging infrastructure and impacting tailing dam stability. Together with these extreme precipitation events, come droughts, which can disrupt the operations directly when there is insufficient water available for the operations. These predictions were confirmed during 2012, when the following precipitation extremes and droughts were experienced at Gold Fields' operations: At the South African West Wits and Beatrix operations, maximum recorded rainfall shows statistically significant increase. In 2012, several extreme rainfall events were experienced,	Reduction/disruption in production capacity	Current	Direct	Likely	Medium

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		while the dry period was found to be relatively long. During 2012, the Cerro Corona operation in Peru experienced increased rainfall intensity, which required controlled discharge of water from the Tailing Storage Facility. Annual precipitation and especially the intensity of precipitation have shown to be higher at Cerro Corona than originally expected. Especially over the last few years, an increase in precipitation intensity has been noticed. For this reason, as well as the introduction of more strict water discharging regulations in Peru in 2014, a new water treatment facility was installed in 2012 at Cerro Corona. This facility increased on-site water treatment capacity by 180 l/s. In 2012, a greater incidence and severity of extreme weather events, including high winds and intense rainfall was experienced at the Australian operations. By 2030, an increase in 10 to 15% of high winds and 20 to 30% in intense rainfall is predicted by Australian climate modelling agencies.					
PR2	Change in mean (average) temperature	Gold Fields contracted Climate Risk Management (Pty) Ltd, who are climate modelling experts, in 2010 to assess the potential impact of climate change on its operations. As previously reported, their study shows statistically significant increases in temperatures at most of the Gold Fields operations. This increase in average temperature was particularly noticeable at the Australian operations, where, in 2012, maximum temperatures were well above average for Western Australia as a whole, with the State recording its ninth warmest year on record. Climate projections for the Australian Goldfields region point to warmer (0.6 – 1ºC) and drier (5 to 7% less rainfall) conditions by 2030. This will have significant effects on extreme events with the number of days above 35ºC increasing from its present mean of 38 to between 43 to 53 days. Increased ambient temperatures are expected to impact both open cast as well as underground operations. Higher ambient temperatures have been found to directly impact the underground wet-bulb temperature. Increased underground wet-bulb temperature has the potential to impacts Gold Fields' operations in 2 ways. 1. When temperatures pass a certain limit, work is disrupted. 2. Below the limit, but with relatively high underground temperatures, productivity decreases. This has been	Reduction/disruption in production capacity	Current	Direct	Likely	Medium

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		supported by historical studies which have shown significant correlation between work place temperatures and productivity on Gold Fields operations. At the opencast operations, increased temperature is expected to increase the risk of chronic heat fatigue and increase electrical consumption in air-conditioning plants. These risks are managed through the upgrading of chilling plants and the installation of ice plants to cool down the underground workings; the higher the temperature, the more cooling and therefore energy is required. In opencast operations air conditioning energy consumption is expected to increase due to increased demand for cooling. Though this risk can be managed, climate change related temperature increase raises operational costs.					

5.1d

Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk; and (iii) the costs associated with these actions

ID: PR1 (Change in precipitation extremes and droughts) - Potential financial implication: Gold Fields has recognized that the effects of climate change can include a change in precipitation extremes and droughts frequency. Precipitation extremes and droughts can potentially a) compromise tailing dam stability, b) cause flooding of mines and c) disrupt / decrease operational capacity due to a lack of water and d) cause damage to mining infrastructure. The financial implications of these risks are presented below: a) Compromised Tailing Dam Stability: Increased rainfall and especially storms could impact on tailings dam stability. Compromised tailing dam stability carries a catastrophic risk on the safety of people and value of property. b) Flooding of mines (pit/shaft): Although the Ghanaian operations experienced disruption of mining activities due to flooding of pits in 2010 and 2011, no such disruptions occurred in 2012. This is due to increased pumping capacity installed in 2010 and 2011 and the implementation of new storm water management systems. c) Droughts causing operation disruptions/decreased capacity: In the case of reduced water availability, mining operations might be disrupted. Gold Fields' Australian and South African operations are situated in water stressed areas, while Gold Fields' Peruvian and Ghanaian operations run the risk of water shortage due to inadequate water management practices within the country (according to the World Business Council on Sustainable Development Water Tool). As this risk is relevant for all the Gold Fields operations, the potential impact is given as lost revenue per shift missed: Ghana: R4.8 million Peru: R1.09 million South Africa: R18.7 million Australia: R3.3 million d) Damage to Mining Infrastructure The financial impact of damage to mining infrastructure can range from small repairs done by the mine maintenance team up to large infrastructure and fleet replacements worth millions. - The following methods are adapted to manage this risk: To adapt and manage risks, all operations are subjected to risk analysis on a regular basis (see question 2.1 for more information). During 2012, an Environmental and Legal Due Diligence assessment investigated compliance and identified risks. Furthermore, the above mentioned risks are managed by the following actions: a) Gold Fields manages and monitors its tailing dams intensively with the purpose of having the tailings dams up to a standard to withstand rare, extreme weather events. Several actions prove this commitment: ♣ Freeboard was increased in 2011 on all Gold Fields' South African tailing dams to mitigate flash flood risks. In 2012, all tailing dams were assessed as part of the environmental and legal due diligence. Action

points were identified and funds allocated. ♣ Gold Fields appointed an independent tailing dam review board, which consists of tailing dam experts, to monitor (by means of reviewing the tailing dam design as well as management) the tailing dam at Cerro Corona. b) Increased pumping capacity has been installed in 2011 in Ghana, but was not required to be upgraded in 2012. To manage the water in the tailing dam as well as water in the pits (to be discharged), a new water treatment plant was installed at Cerro Corona. c) To manage the risk of having insufficient water due to droughts, the South African operations have initiated the Liquid Gold Project. The Liquid Gold Project focuses primarily on achieving a technical solution for the treatment of good quality fissure water and contaminated process water to produce water of potable quality. During 2012, a company was appointed to commence with the detailed feasibility study of this project. Though the Australian operations increased effort to diversify its water sources in 2011, in 2012 a water shortage was experienced at Agnew. In 2012, the study into the lifetime of the boreholes at St Ives was finalized. Agnew furthermore continued with the sourcing of groundwater from a nearby decommissioned open pit. Focus will be at both operations on increasing water efficiency and water recycling to reduce its dependence on local water resources. d) To manage the risk of damage to infrastructure due to extreme weather events the development of 'Water Management Guidelines Action Plans' has commenced in 2012. - Costing of the above: a) The costs related to tailing dam management in order to withstand extreme weather events related to climate change: • The funds allocated to implement mitigation measures identified during the environmental and legal due diligence for water management, as well as the liquid gold project was in the region of R100 million. This excludes water treatment plants that were commissioned in 2012, as well as general operational water management costs. • The cost of the independent tailing dam review board is approximately R30 million per year. b) The new water treatment plant installed at Cerro Corona cost US$ 3, 876,485 c) The cost of the Liquid Gold feasibility study is R31.5 million. Costs associated with the St Ives bore-field future viability study were R224,000 d) The Ghana 'Water Management Guidelines Action Plan' is currently under development. The cost of the development of this plan, including the implementation of management systems identified in this plan (including an on-site water testing laboratory), is approximately R 3 million. ID: PR2 (Change in mean (average) temperature) i. Potential financial implications: There are several potential financial implications related to increased average and peak temperatures: - It has been Gold Fields' experience that outside temperature increases impact the underground wet-bulb temperature directly. This temperature indicates the air's capacity to absorb moisture and therefore aid cooling. If the wet-bulb temperature at the underground mines reaches a certain threshold, Gold Fields is legally obliged to stop operations until cooling has brought the temperature below the threshold. Financial implications related to work disruptions are related to the revenue that is normally generated during a shift (between R1 million and R19 million, depending on the operation). - Research has shown that a 1 degree increase in work place temperature of underground mines decreases productivity by as much as 17%. It is Gold Fields experience that temperature increases are transferred to underground web bulb temperatures. It is estimated that a one degree increase in temperature and an associated 17% reduction in productivity would reduce revenue at the South African operations by approximately R3.2 million /shift. - An increase in ambient temperature will increase air conditioning requirements and therefore electricity consumption. According to the US Environmental Protection Agency, a temperature increase of 1°C, will increase the demand for energy used for cooling by about 5-20%. ii. The following methods are adapted to manage this risk: Design parameters of all chilling plants have been changed and are now based on the results obtained from the climate change risk study done for Gold Fields by Climate Risk Management (Pty) Ltd. Chilling plants have now been designed to compensate for expected increases in temperature over the life of mines. New mines and expansions, such as the Beatrix-West expansion, are designed for higher wet-bulb temperatures based on actual or expected temperature increases. Instead of installing new chilling plants, Gold Fields' is planning to install its first ice plant at South Deep. An ice plant reduces the amount of water being distributed and pumped out of the mine. This will reduce energy consumption as well as maintenance costs of the pumps and piping system. iii. Costs of this: Chilling capacity demand at Gold Fields has increased by 5-10% to offset the increased wet-bulb temperatures experienced over the past few years. Per chilling plant of R120M, about R6M to R12M is expected to be the cost required to offset increased temperatures, caused by climate change. The ice plant planned to be constructed at South Deep is expected to cost R130 million.

5.1e

Please describe your risks that are driven by changes in other climate-related developments

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
OR1	Other drivers	There are multiple ways in which climate change could impact Gold Fields' supply chain: - Disruption of the supply chain due to extreme weather events; - Increased operational costs due to management of physical climate change impacts (adaptation); - Increased operational costs due to carbon taxes or regulatory compliance with mitigation measures; In the first example, Gold Fields might experience disruption of its operations due to disruption of its supply chain. In the second and third example, it is likely that increased operational costs within the supply chain will be passed through to Gold Fields, who will therefore experience increased operational costs.	Increased operational cost	1-5 years	Indirect (Supply chain)	About as likely as not	Low-medium
OR2	Other drivers	Climate change has been proven to increase variability in weather systems. Therefore, the modelling and predicting of weather patterns has become more difficult and less reliable. Gold Fields is therefore aware that, though it has contracted risk consultants to investigate the expected changes in weather patterns, certain risks might have been missed. Unknown climate change risks present a discontinuity in the way Gold Fields does business and as it is not known cannot currently be managed. When one understands a risk it is possible to manage, mitigate and/or insure the risk. When one does not understand the risk it becomes very difficult to do this.	Other: The potential impact of the unknown risks cannot be assessed other than to realise that it may cause discontinuities in the way the company does business.	Unknown	Direct	Unknown	Unknown
OR3	Reputation	It is Gold Fields' vision 'to be the global leader in sustainable gold mining'. In this vision statement, Gold Fields has identified the importance of gold mining with a focus on sustainability. This focus on sustainability, together with the resulting reputation are believed to give the company its 'social license to operate' which allows the company to: ♣ Continue with its business as usual, supported by local communities and employees. ♣ Continue with its business as usual, supported by local and national Government. ♣ Obtain new mining licenses. New	Other: the potential impact of this is that Gold Fields may lose its social license to operate	Current	Direct	Unlikely	High

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		mining licenses are awarded to companies which have proven to bring benefit to the country on a national and local level. Companies with a good reputation are believed to have better access to new mining licenses than companies with poor reputations. As is also described in the 'opportunities' section (ID: OO1), environmental and specifically emission related performance is becoming increasingly important for investors as well as other stakeholders. Though this is an opportunity in the sense that Gold Fields believes it is able to distinguish itself from competitors with regard to management of its emission performance, this is also a risk if not well managed. Should Gold Fields not manage climate change related impacts, as well as prove to be a leader in climate change mitigation, damage to the company's reputation and compromise to its 'social license to operate' could result.					
OR4	Other drivers	Climate change has the potential to impact local communities and Gold Fields' workforce in several ways; - Impact water availability; - Impact local agricultural productivity; - Increase the occurrence of diseases such as malaria. A potential consequence of climate change, foreseen for the coming century is a change in the distribution and incidence of malaria (Potential Impact of Global Climate Change on Malaria Risks, Martens et al., 1995). This risk is likely to increase Gold Fields' operational costs due to increased medical costs and sick leave of its employees. - Cause an increase in global food prices and consequently amount to social unrest. Gold Fields believes that increased international food prices could contribute to social unrest, as is supported by scientific literature (The Food Crisis and Political Instability in North Africa and the Middle East, Lagi et al., 2011). If Gold Fields' workforce is affected due to any of the above indirect impacts of climate change, productivity could decrease and, in a worst case scenario, could be discontinued.	Reduction/disruption in production capacity	Unknown	Indirect (Supply chain)	Unlikely	High

5.1f

Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk; (iii) the costs associated with these actions

ID: OR1 (Supply Chain Risks) (i) The potential financial implications of risk before taking action: Different supply chains are likely to be exposed to different risks, namely: - Disruption of the supply chain; - Increased adaptation costs, thereby increasing operational costs; - Increased mitigation costs (carbon tax or mitigation measures to comply with emission reduction targets), thereby increasing operational costs; Some of the supply chain products at increased risk due to different climate change related aspects include: • Timber could, due to increased droughts, become more vulnerable to fires. The timber extraction process is also sensitive to high rainfall. Timber is used for underground support in Gold Fields' operations in South Africa. If timber supply by its usual suppliers is disrupted, it might disrupt Gold Fields' operations until timber is sourced from other areas. The financial impact associated with disruption can be expressed in revenue per shift missed, which is R18.7 million at the South African operations. It is expected that the timber sourced from other areas, will be sold for a premium, thereby impacting Gold Fields' operational costs. Assuming a premium of R50/tonne on the timber purchased in South Africa, this risk has a potential financial implication of R4.7 million increase on Gold Fields operational costs (0.04% increase). • The cement industry is an energy intensive sector and is therefore expected to become liable to carbon tax payments. Assuming that half the carbon tax paid by the cement company will be passed through to customers, this will increase Gold Fields' operational costs. Assuming a carbon tax for its South African suppliers of R48/tCO2 (as per the carbon tax policy paper (May 2013) of R120/tCO2 and a tax free threshold of 60%), which is passed on for 50% to the consumer, Gold Fields operational costs could increase by R80,000. • Both the Ghanaian, as well as the South African operations have experienced electricity disruptions over the past few years, which resulted in disruption of the operations and lost ounces. To produce electricity with diesel generators is approximately R2/kWh more expensive. (ii) The methods you are using to manage this risk: It is important for Gold Fields to know whether their suppliers have insight into potential climate change related risks that may impact their operations and whether they are managing these risks actively. Furthermore, Gold Fields has recognized the potential impact of regulatory interventions, such as carbon tax, on its supplier which might cause an increase in the costs of products. For these reasons, Gold Fields is in the process of implementing a supplier carbon disclosure system. Suppliers will be asked whether they measure and report on their carbon emissions. If they report that to do so, they are requested to submit this information to Gold Fields. If they don't, they are asked to complete a carbon calculating tool on the supplier portal. With this tool, the supplier submits its electricity and fuel consumption as well as fugitive emissions, after which the tool calculates the total carbon emissions as well as the emissions per unit of product. This information is also provided to the supplier, to create additional benefit and increase awareness of the supplier. In the long term, Gold Fields would like to ask their suppliers to disclose their risks and opportunities related to climate change. It is only once this system is fully operational and suppliers have insight in their product carbon footprints, that their risks can be actively managed. (iii) The costs associated with these actions: The cost of implementation of the system that requires suppliers to disclose the carbon footprint of their products is managed in-house. It is estimated that the costs of the time spend on developing and incorporating the carbon related questions in the supplier portal amounts to approximately R100,000. ID: OR3 (Reputational Risks) (i) The potential financial implications of this risk before taking action: As mentioned in the previous years, the impact of losing its social license to operate may severely impact on production at Gold Fields' different mines. If Gold Fields were to lose its social license to operate at any time, this could result in revenue losses ranging from R4.8 million at a typical mine in Ghana to R18.7 million at a typical mine in South Africa per shift missed. (ii) The methods you are using to manage this risk: The first and most important way in which Gold Fields is managing this risk is through responsible, transparent and sustainable management of its operations. As mentioned in the risk description, management of climate change risks as well as being a leader in climate change mitigation practices are increasingly important to all of Gold Fields' stakeholders and therefore its reputation. For that reason, Gold Fields has; • implemented an advanced emission and water reporting system; • developed and implemented emission reduction targets; • incorporated these targets into the mine manager's performance review and; • developed an integrated energy and carbon management strategy in 2012 Additionally, Gold Fields' reputation is protected and managed through its legal and environmental due diligence process which takes place once every three years. Secondly, this performance also needs to be communicated to relevant stakeholders. The first priority of stakeholder engagement is to be aware of concerns and communicate effectively. Gold Fields is guided in this

approach by the internationally adopted AA 1000 Stakeholder Engagement Standard. (iii) The costs associated with these actions: Keeping the internal emission reporting system up to date is estimated to amount to an annual internal cost of approximately R200,000. Extracting, verifying and reporting on carbon emission performance is about R1 million per annum. The development of the integrated energy and carbon management strategy in 2012 cost approximately R10 million. The costs of stakeholder engagement are integrated into the day to day operation of the business. ID: OR4 (Other: Local communities and workforce impacted by climate change) (i) The potential financial implications of risk before taking action: A shortage in water and / or food availability can potentially disrupt Gold Fields' operations because the workforce is impacted. The financial impact of this risk is best described in revenue lost per missed shift, which ranges between R4.8 million at a typical mine in Ghana to R18.7 million at a typical mine in South Africa. Increased occurances of malaria, or other tropical diseases, could increase Gold Fields' operational costs. Malaria treatment in Ghana costs approximately R150 per person. In 2012, there were 2,404 treated cases of malaria in the West African region. As occurred in 2012, social unrest has the potential to disrupt operations. In 2012, 175,000 ounces of gold were lost due to illegal strikes at the South African KDC and Beatrix operations. At an average gold price (during 2012) of R13,564/ounce, income was reduced by R2,371 million. (ii) The methods you are using to manage this risk: Gold Fields focuses its community development efforts on creating support structures and enabling environments for its employees and surrounding communities. It is believed that by increasing the resilience of the community, the community will also be better equipped to deal with climate change related impacts. Apart from increasing community resilience through agricultural and water provision projects, Gold Fields now considers the effects of climate change in its community investment projects. In this way, both within Gold Fields and within the communities, the impacts of climate change will be assessed more regularly and as an integral part of project development. The following guidance is included in the Gold Fields Community Relations Handbook: 'As the sustainability of the community investment projects is considered when designing a project, it has become absolutely necessary to factor in the effects of climate change on our affected communities. The sustainability of these communities will depend on their ability to adapt to changing (and unknown) climatic conditions. All community investment projects should contain climate change mitigation aspects.' Gold Fields has introduced a malaria response programme in order to protect its employees from exposure to malaria. Aspects of the programme include larviciding, indoor residual spraying and bite prevention. While it is generally recognised that changing climate can generate increased occurrence of malaria, programs such as these can be expanded in the event of an

Further Information

ID: RR3 (Ghana Renewable Energy Bill) (i) Potential financial implications of risk before taking action There is no indication yet as to the changed electricity price as a result of the Renewable Energy Act in Ghana. Gold Fields currently pays an electricity price of approximately $0.18/kWh at its Ghanaian operations. Based on the specifications in the Renewable Energy Act (see risk description), two premiums (of a 5% and 10% price increase) have been modelled to estimate the impact of the expected price increase. This would increase the total costs at Ghanaian operations from R39 million (5% increase) to R78 million (10% increase) and increase the operational costs at Tarkwa and Damang by between 0.8% and 2%. (ii) The methods you are using to manage this risk Gold Fields Ghana is currently managing the risk of the Renewable Energy Act by investigating the option of an onsite bio-energy plant of 30 MW. This investigation started in 2011 and a construction decision is expected in 2013. (iii) The costs associated with these actions Gold Fields' spending on investigating the potential of the Tarkwa biomass plant has up to date been approximately R1 million. ID: RR04 (Uncertainty surrounding new regulation) (i) Potential financial implications of risk before taking action The costs of new reporting requirements will be largely dependent on whether Gold Fields' is already collecting and reporting this data or not. If new systems have to be put into place and new staff hired, these costs could amount to millions of ZARs. If the carbon budget is based on absolute emission reductions, as consistent with Peak Plateau Decline trajectory, it is expected there will be growth implications for Gold Fields. Gold Fields' internal carbon intensity average for deep gold mines is approximately 1.45 tCO2/ounce of gold (the 2011 intensity factor is reported here, as in 2012, intensity was relatively high due to the strikes at the South African and Ghanaian operations). If Gold Fields does not downscale any of its current operations, be subject to an absolute carbon budget and open up a new operation, it is expected that these new growth projects will be charged at a 100% carbon tax rate. Assuming a R120/tCO2 tax rate and average operating costs of R7,100/ounce of gold, operating costs will increase by R175/ounce of gold (2.5%). (ii) The methods you are using to manage this risk This risk is managed by engaging on a regular basis with government to communicate the impact of such proposition on the mining sector. Gold Fields' engages on such topics with government via the National

Planning Commission, ICMM, ITTCC and the Chamber of mines. (iii) The costs associated with these actions These costs are best expressed via the company's membership fees to the following organisation: ♣ ITTCC membership fee: R320,000 in 2012 ♣ ICMM membership fee: R1.68 in 2012 ♣ Chamber of Mines engagement: R15.2 million in 2012 ID: OR2 (Unknown risks) i. The potential financial implications of risk before taking action: Gold Fields recognises that unknown risks can significantly impact on its operations and business; exact financial implications are not available as the risks are unknown. ii. The methods you are using to manage this risk: This risk has been reported in previous CDPs but is found to still be relevant. A number of risks reported on in this reporting year have been identified through the process of continued scanning of the climate change landscape on the regulatory, physical and other fronts in order to make sure that new developments do not jeopardize Gold Fields' business. Gold Fields' Integrated Energy Carbon Management Strategy is integrated with the Risk Management Strategy in a way that constantly scrutinises all the aspects of Gold Fields' business for new risks. This risk evaluation is done regularly and under responsibility of the board. Even though Gold Fields has such an advanced system in place to monitor and recognize climate change related risks, the company acknowledges that new, unidentified risks might impact its business as usual. iii. The costs associated with these actions: The exact cost of the risk management system is unavailable as this is managed in-house.

Page: 6. Climate Change Opportunities

6.1

Have you identified any climate change opportunities (current or future) that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation
Opportunities driven by changes in physical climate parameters
Opportunities driven by changes in other climate-related developments

6.1a

Please describe your opportunities that are driven by changes in regulation

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
RO1	Cap and trade schemes	Although the CDM carbon credit price has considerably fallen (from a low €4/CER in May 2012 to about €0.25/CER in May 2013), Gold Fields' continues to perceive carbon credits as an opportunity to its business. Through conversions of CDM credits (CERS) to VCS credits (VCUs), a higher price can be obtained. Furthermore, there exists the potential for other carbon credit opportunities, such as use for offsets in both the Australian and South African carbon tax scheme. Gold Fields has one	Increase in capital availability	Current	Direct	Very likely	Low-medium

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
		registered CDM project; The Capture and Utilisation of Methane at the Gold Fields' owned Beatrix Mine in South Africa, which was implemented in 2011. Other projects in the pipeline include: 1) Replication of the Beatrix project at the Beatrix West Shaft 2) Gold Fields in-line Fans project 3) KDC West Renewable energy project 4) Tarkwa Bio-energy project. Carbon credits from these projects present an opportunity to increase capital availability. If the carbon credits are used for offsets in a carbon tax system, this will reduce tax liability and as such, reduce the operational expenses of Gold Fields.					
RO2	Other regulatory drivers	To fulfil its commitment to reduce emissions and to take pressure off its national grid which is under pressure, Government supports the Demand Side Management (DSM) programme run by Eskom as well as 2 different tax incentives. Gold Fields South Africa has a number of energy efficiency and emission reduction projects that will benefit from both the DSM programme, as well as these tax incentives. These include projects such as: - Main vane control project - Low flow shower heads - Heat pumps on shafts - Bulk air cooler converted to semi-closed loop - Beatrix mine methane capture Eskom's DSM programme provides partial (up to R5 million per MW) capital funding for energy efficiency projects and load shift projects. With respect to tax; section 12K of the Income Tax Act allows for exemption of Certified Emission Reductions from taxation. Section 12L of the Income Tax Act, which was announced originally in 2009, is still being developed, but is planned to provide a tax benefit based on energy savings (it is expected that projects which receive DSM funding will be excluded from this tax benefit).	Investment opportunities	Current	Direct	Very likely	Medium
RO3	Carbon taxes	As per the regulatory risk section, a carbon tax of R120 per ton of CO2e with a 60% tax free threshold is expected to be implemented in South Africa from the 1st of January 2015. A maximum of 10% offset ability will be allowed. The tax is expected to be increased annually by 10% until 2019/20. Apart from the risk to Gold Fields' operational costs of the proposed tax, one can foresee opportunities arising in the development and sale of offsets. Offset projects can be developed and obtain a price of either R48/tCO2 or R120/tCO2 (depending on whether the offsets will be deducted from the taxable portion of the carbon footprint) compared to a current international carbon credit price between R5 and R30/tCO2	Reduced operational costs	1-5 years	Direct	More likely than not	Low

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
		(depending on the scheme under which the credits are issued). The allowance of offsets under the carbon tax scheme presents an opportunity to Gold Fields in several ways: - While the future international carbon price is currently highly uncertain, the fixed value of carbon tax and therefore offsets will reduce the risk of existing (such as the Beatrix methane flaring project) and planned carbon credit projects (such as the KDC-West renewable energy project). - Gold Fields believes that because of its work in the renewable energy and carbon sequestration field, it will be able to relatively quickly implement additional offset projects which will: • Reduce its carbon tax liability; • Create additional income when sold to other companies; • Mitigate emissions while generating co-benefits such as job creation and energy independence;					

6.1b

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity and(iii) the costs associated with these actions

RO1: Carbon credits i. Potential financial implication: In regulatory opportunity 1 (carbon credits) and regulatory opportunity 3 (carbon offsets), the same projects are being mentioned as examples to quantify the potential financial implication of these opportunities. Though both opportunities exist for the same projects, only one of them can be pursued: the other one will automatically be excluded to avoid double counting of credits. The one registered and four other projects that are currently in development have the following potential financial implications from carbon credits: • The Beatrix Mine Methane capture and flaring project which was registered in 2011 is expected to generate approximately 250,000 CERs per year (though current results are significantly lower due to reduced methane emissions), which at the current CER value of approximately €0.25/CER would create a total value of around R0.7 million per year. Some of these credits have been converted to VCUs (under the Verified Carbon Scheme) and are sold for R28/VCU. This creates a total value of the carbon credits of R7 million. If the credits can be used as offsets under the South African Carbon tax scheme (from January 2015 onwards), these credits would be worth R12 million or R30 million, depending on whether they are directly deducted from the taxable fraction of the carbon footprint or from the total carbon footprint. • The Gold Fields Ventilation Fan project is expected to generate approximately 160,000 carbon credits per year. Assuming a VCU price of R28/VCU the total value from carbon credits of this project will be around R4.5 million per year. • The KDC-West Renewable Energy Project is expected to generate approximately 25,000 carbon credits per year. Assuming a VCU price of R28/VCU the total value from carbon credits of this project will be around R0.7 million per year. • The Ghana Bio-Energy Project is expected to generate approximately 55,000 carbon credits per year. Assuming a VCU price of R28/VCU the total value from carbon credits of this project will be around R1.5 million per year. Gold Fields' partner in the Beatrix solar project is planning to submit this project for the third bid submission round of the Renewable Energy Independent Power Producer Procurement Programme. If successful, this project of 25-30 MW will be implemented and apply for carbon credits with an approximate value of R2.5 million per year (based on a VCU price of R28/VCU). ii. Methods used to manage the opportunity: As reported last year, Gold Fields has expressed the importance of the

development of carbon credit projects on a group strategic level. In the ‘Carbon Management Plan for the South African Region’, which is developed to implement the carbon management strategy on a regional level, ‘maximized use of mitigation related incentives’ is included as part of the mitigation strategy. The projects mentioned above, which have been identified to have a potential for carbon credits, are currently actively being pursued by Gold Fields. The Ghana bio-energy project is currently awaiting a construction decision and the KDC-West project is currently being re-evaluated in the light of the recent unbundling of the KDC and Beatrix mines from Gold Fields. Because of the current low carbon credit price, the development of new carbon credit projects have in 2012 not been pursued as actively as previous years. As soon as more clarity exists on the future of carbon credit prices or the usability of carbon credits under the Australian and South African carbon tax regimes, identification and registration of new carbon credit projects will again be pursued more urgently. iii. Costs of these methods: The following costs, related to pursuing carbon credits have been incurred by Gold fields in 2012: - Verification of the Beatrix project (for CERs and VCUs): R 360,000. - The carbon credit development costs of the ventilation fan project have been covered by Nedbank as part of the Emission Reduction Purchase Agreement (ERPA) - The development costs of the KDC-West feasibility study have up to now been approximately R0.5 million. RO3: Carbon offset opportunities i. Potential financial implication: As mentioned in the risk section (ID: RR2), Gold Fields has been managing its risks and opportunities related to carbon tax since the end of 2010, when the first discussion paper on carbon tax was published by South African Government. For that reason, this description will contain information from the past 2.5 years and not only last year’s, as this will not present a correct representation of all of Gold Fields’ efforts with regard to management of these risks and opportunities. Offset allowances as part of the South African carbon tax system create an opportunity to reduce Gold Fields’ costs associated with carbon tax, create additional income through the sale of offsets and reduce the risk of its registered carbon credit projects. Though it is not known what type of projects will be allowed as offset projects, the carbon tax policy paper (May, 2013) suggest that ‘agriculture, forestry and land use change’ fall outside the tax net, thereby indicating that offset projects within these sectors would be possible. Gold Fields’ KDC-West ‘biomass to energy’ pre- feasibility studies showed that a plantation could be established on the Gold Fields property and sequester carbon at an approximate cost of R80/tCO2. Assuming that offsets will be sold against a lower price than the carbon tax (R120/tCO2), a profit of between R20-30/tCO2 sequestered can be expected. This does however not take into account validation/certification costs which prove that these offsets have been approved by an independent third party. It is not yet known what standard the offsets will need to comply with. On the KDC-West property, it is calculated (as part of the feasibility study) that approximately 45,000 to 50,000 tCO2 can be stored. If sold this would create an income of between R0.9 million – R1.5 million. Offsets will however only be sold when Gold Fields’ own offset requirements have been fulfilled, as the benefit is higher from internal offsetting than from selling the offsets. If this project is implemented (2 projects similar to the KDC-West projects would need to be implemented to offset 10% of Gold Fields’ scope 1 emissions) as a carbon offset project, Gold Fields carbon tax liability will be reduced by approximately R3 million (assuming that the offsets are deducted from the taxable portion of the carbon footprint). The carbon credits from the Beatrix methane flaring project are currently sold for R28/VCU. The carbon tax is expected to guarantee a value of approximately or R100/tCO2 (it is assumed that the price for offsets will stay below the price of carbon tax) for this project if it will be allowed as an offset project under the carbon tax scheme. This will increase the carbon value of this project from approximately R7 million currently to approximately R30 million per year. It is unknown if Gold Fields’ will be allowed to generate offsets at its international operations for use within South Africa. In that case, the Tarkwa bio-energy plant could be used as an offset project, which would reduce the risk of this project as a floor price for its carbon credits could be guaranteed. ii. Methods used to manage the opportunity: As mentioned above, Gold Fields has already conducted (2011 and 2012) a study into its carbon sequestration potential at KDC-West mine (which will be comparable to its other Gauteng operations). Once more information on the offsets for the carbon tax are made available, Gold Fields will investigate; - The amount of land it has available and which is suitable for carbon sequestration through the establishment of plantations / forests. - The sequestration potential and associated costs on these specific types of land. iii. Costs of these methods: The ‘biomass to energy’ pre-feasibility study costs have been in the order of R500,000 (2011 and 2012). No final commitment on whether the project will be implemented has been made yet. The implementation costs of this project (establishment of the plantation and the energy generating component) will be in the order of R82M. The costs of the study investigating Gold Fields properties offset potential will be between R100,000 and R500,000, depending on whether the international operations will be included in this study.

6.1c

Please describe the opportunities that are driven by changes in physical climate parameters

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
PO1	Change in precipitation extremes and droughts	Water has received increased community, Government and media attention in the regions in which Gold Fields operates and has been identified as a major risk that could disrupt operations in case of shortage. Climate change has been recognized to increase precipitation extremes and droughts thereby impacting water access reliability. In its National Development Plan 2030, South African Government describes the critical water related risks facing the country and the importance of an increased focus on improving water management practices: Gold Fields has in this risk identified an opportunity in the form of its 'Liquid Gold' Project. This project envisages the production of potable water from water from the South African mine operations (to be confirmed based on the results of the feasibility study). As water becomes scarcer and therefore more valuable, Gold Fields will secure its own water supply, generate an additional income stream from water (which is envisaged to be sold to the municipality), while improving the environment and public perception of the company.	New products/business services	1-5 years	Direct	About as likely as not	Medium

6.1d

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity and (iii) the costs associated with these actions

ID: PO1 (Liquid Gold Project) i. the potential financial implications of the opportunity; The Liquid Gold project envisages the production of potable water from fissure water, as well as process water produced by Gold Fields KDC and South Deep mines. The results from the feasibility study, which commenced in 2012, are expected by the end of 2013. The water treatment process is envisaged to extract uranium, lime, Calcium/Magnesium Nitrate and Ammonia Sulphate; all of which have a commercial value and will be sold as part of the project activity. The financial model resulting from the pre-feasibility study indicated the project to have a real IRR of 10% at an NPV of approximately R17 million. The project is part of Gold Fields long term sustainability commitment, to support its vision 'to be the global leader in sustainable gold mining', to ensure regulatory compliance and to adapt to possible climate change impacts (water shortage). Therefore, the project does not have to achieve the financial performance Gold Fields projects usually are subject to. ii. the methods you are using to manage this opportunity; Gold Fields finalized the Liquid Gold prefeasibility study in 2011, which made recommendations on the Terms of Reference for a feasibility study. Gold Fields furthermore had an Environmental Impact Assessment on the project conducted and had its environmental license awarded from the Department of Environmental Affairs during 2011. In 2012, the authorisation for expenditure of the liquid gold feasibility study was approved and

consultants appointed to conduct, together with Gold Fields' internal dedicated team, the work. The feasibility study will consist of 10 work packages, which are expected to take until the end of 2013 to be finalized. iii. the costs associated with these actions The pre-feasibility study into the Liquid Gold project has cost Gold Fields R12.8 million. The AFE for the feasibility study approved in 2012 is R31.5 million. The capital costs of the Liquid Gold project have been estimated at R1 billion during the pre-feasibility study, although this may still change based on the results of the feasibility study, which is expected to be finalized by the end of 2013.

6.1e

Please describe the opportunities that are driven by changes in other climate-related developments

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
OO1	Reputation	Gold Fields has identified two potential opportunities resulting from increased positive perceptions, created through its corporate carbon performance, namely: • New investor attractiveness and therefore potential increase in stock prices and increased access to capital • Strengthen its 'social license to operate' New Investor Attractiveness Environmental, social and governance (ESG) indicators are increasingly used by investors to evaluate corporate behaviour and make investment decision. Gold Fields has been tracking ESG investor interest since 2010 and found that: - 50% of all private equity investments made in SSA take ESG into account - Investors equate good ESG performance with financial success - $13.6 Trillion looking for ESG investments globally Bloomberg terminal data received the following amount of hits per disclosure point over a 6 month period (November 2010 – April 2011): - GHG Scope 1: 1.5 million hits - GHG Scope 2: 1.1 million hits - Carbon Disclosure Leadership Index Score: 0.75 million hits - Verification type: 0.7 million hits According to Goldman Sachs, "Companies that are considered leaders in ESG policies are also leading the pack in stock performance by an average of 25%." RiskMetrics states that "there is increasing evidence showing that superior performance in managing climate risk is a useful proxy for superior, more strategic corporate management, and therefore for superior financial value and shareholder value-creation." In July 2011, Nedbank established the 'BettaBeta Green Exchange Traded Fund' (BBG-ETF). The companies included in the 'BBG-ETF' are companies that have been rated by the Carbon Disclosure Project as being	Increased stock price (market valuation)	Current	Indirect (Client)	Very likely	Medium

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		amongst the best disclosers on climate change issues and the strongest performers in responding to climate change. Furthermore, companies with registered CDM projects within South Africa have been included in the fund. By being included in the BBG-ETF, Gold Fields has had additional exposure and attractiveness to investors, thereby supporting the stock price. Strengthen Social License to Operate Gold Fields' leadership in climate change and sustainable gold mining gives it a competitive advantage over peers. A good reputation, based on sustainable operations, increases Gold Fields' chances when applying for new mining licenses and explorations, this is seen as an opportunity.					
OO2	Changing consumer behaviour	As reported over the last 2 years, it has been found historically that in times of political, economic and social crisis investors generally buy gold as it is seen as a safe investment (gold as a safe haven). Sales of gold could increase if climate change were to create economic, political or social unrest. Increased extreme weather events due to climate change causing different types of economic, political and social impacts and a lack of clarity in the carbon regulatory environment does add to the uncertain state of the world economy and could in a small way have a positive impact on the price of gold.	Increased demand for existing products/services	1-5 years	Indirect (Client)	About as likely as not	Unknown
OO3	Other drivers	Gold Fields' tailings, apart from gold, contain products such as uranium and sulphur. Climate change and the focus it puts on the development of a low carbon economy is expected to create an opportunity for nuclear energy and therefore a demand for the uranium in Gold Fields' tailings. Such a demand for uranium is expected to increase the financial viability of the project and is therefore seen as an opportunity for Gold Fields. Early indications are that Gold Fields could have in excess of 50 million pounds of uranium resources contained in historical tailings dams across KDC West, KDC East and South Deep mines in South Africa. In addition, at KDC West alone, Gold Fields has 14 million pounds of estimated uranium resources contained in tailings from current and future mining horizons. A feasibility study was finalized in 2010 to determine the potential of the Tailings Treatment Project. Integrated Environmental Authorisation for the project was received in February 2011. In 2012,	New products/business services	1-5 years	Direct	More likely than not	Medium

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		additional studies were completed and the project found to be very viable from a financial perspective. Gold Fields and Sibanye are currently discussing the terms and conditions of entering into a joint venture to continue together with the tailings treatment project.					
OO4	Other drivers	There is a possibility that the development of clean energy technologies will open up a new market for gold. Research into the potential of gold utilization in new low carbon technologies looks promising. Currently, gold is believed to be a critical element for use in the following highly efficient technologies; - Fuel cells - Catalytic converters - Solar cells - Lithium air batteries. Apart from these clean energy technologies, research at Rice University in Texas, supported by the World Gold Council, has led to the development of a gold/palladium catalyst which is particularly adept at efficiently removing chlorinated compounds from water in the lab. This catalyst is currently being tested in a trial. These products, if commercialized successfully, have the potential to increase gold demand which in turn will increase the gold prices.	Increased demand for existing products/services	6-10 years	Indirect (Client)	About as likely as not	Medium

6.1f

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity; (iii) the costs associated with these actions

1) ID: OO1: Reputation (i) The potential financial implications of the opportunity: The financial implication of increased investor interest in Gold Fields can be illustrated through the Nedbank ‘BettaBeta Green Exchange Traded Fund’. This fund was listed beginning of December 2011 and by December 2012 bought a total worth of R5.8 million of Gold Fields shares. Gold Fields believes that its responsible behaviour in the climate change and sustainable mining space (resulting in a good reputation) strengthens its ‘social license to operate’ which could result in Gold Fields increasing access to both new mining licenses as well as funding. Exact amounts are difficult to quantify but new mining licenses will allow Gold Fields to grow its business, while additional funding – either via debt or equity investment – could lower the net cost of funding to Gold Fields and thus facilitate greater investments. (ii) The methods you are using to manage this opportunity: Gold Fields’ believes it will maintain its reputation as a leader in carbon performance, through strategic interventions, regular communication, a dedicated top management position on carbon and energy and achieving yearly emission reductions. Following this vision, Gold Fields developed and implemented in 2012 the group-wide integrated energy and carbon management strategy. Furthermore, the importance of emission and energy reduction are communicated on a regular basis by the CEO and the company appointed a ‘Vice President Carbon and Energy’ in 2011 who reports directly to the Gold Fields Board of Directors. New emission reduction targets, namely 13% below business as usual by 2016 have been implemented at the beginning of 2012 by Gold Fields and by the end of the year the company was largely on track to complying with this target. (iii) The costs associated with these actions: • The costs of development of the ‘Group

Energy and Carbon Strategy' was approximately R10 million, the new targets were developed as part of this strategy; • Gold Fields' contribution to the development and implementation of energy efficiency projects, to assure progress on its emission reduction targets, in 2012 was R120 million. • Communication and target tracking are managed in-house and part of the company's fixed expenditure; 2) ID: OO2: Changing consumer behaviour (gold as a safe haven) As reported previous years, the financial implication of this opportunity lies in a positive influence on the price of gold. Long term trends show a correlation between gold and energy prices. It is generally accepted that the move to a low carbon economy will put upward pressure on energy prices and it is expected that gold will follow this trend. An increase in gold price directly influences Gold Fields profits. An increase of 1% on the group average gold price in 2012 and assuming the amount of gold mined in 2012 would increase Gold Fields income by R440 million and profit by R220 million. This opportunity is not actively managed by Gold Fields as gold mining companies are price takers in the gold market. Therefore there are no costs associated with the management of this opportunity. 3) ID: OO3: Market for Uranium from the Tailings Treatment Project As part of the Tailings Treatment Project, Gold Fields might decide to mine uranium contained in the tailings. Climate Change has put a focus on the development of low carbon economies, which are expected to increase the demand for nuclear energy and therefore uranium; thereby creating an opportunity for Gold Fields. Assuming that 50% of the uranium content (total is currently estimated at 64 million pounds) of current tailings could be extracted and sold at a price of R360 per pound, this would create an additional income stream of approximately R11.6 billion. This excludes the uranium contained in the mines. This opportunity is managed through the performance of a detailed feasibility study which was finalized at the end of 2010. An Integrated Environmental Authorisation for the project was received in February 2011. After the unbundling of the KDC and Beatrix mine from Gold Fields, Sibanye and Gold Fields are currently discussing the possibility of continuing with this project in a joint venture. The cost of the detailed feasibility study performed was R60.5 million. Environmental authorization applications were managed internally and therefore part of the normal in-house costs. 4) ID: OO4: New Industrial Applications for Gold i. The potential financial implications of the opportunity: The potential financial implication of this opportunity is that the price of gold may increase due to increased demand for gold for usage in new industrial applications. Any increase in the price of gold will directly impact on Gold Fields financial performance. An increase of 1% on the group average gold price in 2012 and assuming the amount of gold mined in 2012 would increase Gold Fields income with R440 million and profit with R220 million. ii. The methods you are using to manage this opportunity: This opportunity is managed through Gold Fields' involvement with the World Gold Council. The World Gold Council supports the development of new, gold using, industrial applications, such as gold catalysts. iii. The costs associated with these actions: The cost of managing this opportunity is included in Gold Fields' annual fees to the World Gold Council. Gold Fields' membership fee to the World Gold Council was R47.9 million in 2012.

Further Information

RO2: Demand Side Management and tax incentives i. Potential financial implication: With respect to tax (section 12L (allowance for energy efficiency savings) & section 12K (exemption of certified emission reductions from taxation) of the income tax act), the following financial implications have been calculated: • The Beatrix Methane Capture and Flaring project emission reduction purchase agreement with Mercuria was originally valued at an NPV of R200 million. Under normal company taxation this revenue would have carried a tax bill of R56 million. Under section 12K this tax is saved. As this opportunity is not obtained for VCUs, CERs have increased relative competitiveness. • Gold Fields estimated the impact of section 12L (Allowance for energy efficiency savings; excluding DSM projects) on its KDC-West Driefontein Renewable Energy project. By utilising the tax benefit, the project generates a NPV of R352 million, whereas it would only be valued at a NPV of R300 million without that tax benefit. It is however not yet known how the final design of section 12L will look like. The total benefit is expected to have increased compared to last year due to Eskom price increases, but can't be quantified with certainty as of yet. ii. Methods used to manage the opportunity: This opportunity can only be made useful through identification and investment in energy efficiency and renewable energy projects. Though the opportunity is substantial, as identified in the previous section, Gold Fields must still invest considerable amounts of money themselves to be able to obtain the benefit of DSM and tax incentives. Gold Fields has communicated with its staff the importance and the availability of capital for these kinds of projects. Identification and implementation of energy efficiency and renewable energy projects is stimulated by Gold Fields' emission reduction targets and by including compliance with the targets in the score-cards of managers. iii. Costs of these methods: Gold Fields contributed a total of approximately R120 million to the energy efficiency and Beatrix waste gas to electricity project under development and implemented in 2012.

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading [Investor]

Page: 7. Emissions Methodology

7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Base year	Scope 1 Base year emissions (metric tonnes CO2e)	Scope 2 Base yearemissions (metric tonnes CO2e)
Mon 01 Jan 2007 - Mon 31 Dec 2007	1283364	5226770

7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use
ISO 14064-1
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

7.2a

If you have selected 'Other', please provide details below

7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CH4	IPCC Fourth Assessment Report (AR4 - 100 year)

7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data

Fuel/Material/Energy	Emission Factor	Unit	Reference

Further Information

Attachments

https://www.cdproject.net/sites/2013/77/7577/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/7.EmissionsMethodology/Question 7.4 - emission factors.xlsx

Page: 8. Emissions Data - (1 Jan 2012 - 31 Dec 2012)

8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Operational control

8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e

1220651.24

8.3

Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

4607613.11

8.4

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

Yes

8.4a

Please complete the table

Source	Scope	Explain why the source is excluded
Mine methane (all operations apart from Beatrix)	Scope 1	Mine methane has been excluded from all operations except from Beatrix (as it is measured there as required for the CDM project) due to the low level of occurrence and intermittent nature of these emissions. Continuous measurement of methane in mine ventilation air proves that the occurrence of methane in mines other than Beatrix is negligible.

8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data	Scope 2 emissions: Uncertainty range	Scope 2 emissions: Main sources of uncertainty	Scope 2 emissions: Please expand on the uncertainty in your data
Less than or equal to 2%	Metering/ Measurement Constraints Data Management	Diesel, LPG and petrol use is metered in Gold Fields' operations; therefore the uncertainty of these sources is based on metering/measurement constraints. Uncertainty of metering / measurement equipment is typically around 2% (based on a review of metering equipment). Coal, oxyacetylene and blasting agents are purchased from the supplier, after which the invoices are used as data input in the carbon footprint. Uncertainty of these sources is therefore based on data management. Because Gold Fields has got high quality management and accounting practices in place, the data management uncertainty is estimated to be below 2%. Beatrix fugitive methane at the main shaft and five boreholes is continuously measured before being flared, as required by the monitoring methodology used for CDM registration	Less than or equal to 2%	Metering/ Measurement Constraints	Based on a review on the reliability of electricity meters, it was found that high quality meters (as used at Gold Fields) are typically below a 2% uncertainty range.

Scope 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data	Scope 2 emissions: Uncertainty range	Scope 2 emissions: Main sources of uncertainty	Scope 2 emissions: Please expand on the uncertainty in your data
		of the project (the project was both registered and implemented in 2011). The uncertainty of the reported values is estimated to be below 2%, as high quality meters, which need to be calibrated according to manufacturer standards are used. Based on the different uncertainty ranges described above, overall scope 1 emissions are estimated to have an uncertainty range of less than or equal to 2%.			

8.6

Please indicate the verification/assurance status that applies to your Scope 1 emissions

Third party verification or assurance complete

8.6a

Please indicate the proportion of your Scope 1 emissions that are verified/assured

More than 90% but less than or equal to 100%

8.6b

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Type of verification or assurance	Relevant standard	Attach the document
Reasonable assurance	ISAE3000	https://www.cdproject.net/sites/2013/77/7577/Investor CDP 2013/Shared Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Gold Fields Opinion.pdf

8.7

Please indicate the verification/assurance status that applies to your Scope 2 emissions

Third party verification or assurance complete

8.7a

Please indicate the proportion of your Scope 2 emissions that are verified/assured

More than 90% but less than or equal to 100%

8.7b

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Type of verification or assurance	Relevant standard	Attach the document
Reasonable assurance	ISAE3000	https://www.cdproject.net/sites/2013/77/7577/Investor CDP 2013/Shared Documents/Attachments/Investor-8.7b-C3-RelevantStatement/Gold Fields Opinion.pdf

8.8

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

Further Information

Page: 9. Scope 1 Emissions Breakdown - (1 Jan 2012 - 31 Dec 2012)

9.1

Do you have Scope 1 emissions sources in more than one country?

Yes

9.1a

Please complete the table below

Country/Region	Scope 1 metric tonnes CO2e
South Africa	792617.78
Ghana	286695.05
Australia	95337.56
Peru	46000.85

9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By facility

9.2b

Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
KDC West	6413.92	-26.405401	27.602463
KDC East	7160.73	-26.405401	27.602463
Beatrix	768328.08	-28.262054	26.768532
South Deep	10715.05	-26.39802	27.695503
Tarkwa	206407.43	5.249448	-2.004898
Damang	80287.62	5.226349	-2.024918
St Ives	79964.54	-31.208691	121.663284

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
Agnew	15373.02	-27.905845	120.704727
Cerro Corona	45959.17	-6.776103	-78.660736
Lima Main	41.68		

Further Information

Page: 10. Scope 2 Emissions Breakdown - (1 Jan 2012 - 31 Dec 2012)

10.1

Do you have Scope 2 emissions sources in more than one country?

Yes

10.1a

Please complete the table below

Country/Region	Scope 2 metric tonnes CO2e	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling (MWh)
South Africa	4340001.27	4366198.46	0
Ghana	104158.36	473447.07	0
Australia	129150.07	237970.76	0
Peru	34303.41	142930.86	0

10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By facility

10.2b

Please break down your total gross global Scope 2 emissions by facility

Facility	Scope 2 emissions (metric tonnes CO2e)
KDC West	1585055.11
KDC East	1543022.07
Beatrix	684105.23
South Deep	527138.96
Sandton Main offices	679.90
Tarkwa	77179.92
Damang	26978.25
Accra Main offices	0.19
St Ives	95056.21
Agnew	34020.57
Perth Main offices	73.30
Cerro Corona	34283.63
Lima Main offices	19.77

Further Information

Page: 11. Energy

11.1

What percentage of your total operational spend in the reporting year was on energy?

More than 20% but less than or equal to 25%

11.2

Please state how much fuel, electricity, heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Fuel	1809410.73
Electricity	5220547.15
Heat	0
Steam	0
Cooling	0

11.3

Please complete the table by breaking down the total 'Fuel' figure entered above by fuel type

Fuels	MWh
Diesel/Gas oil	1638140.60
Motor gasoline	5692.27
Liquefied petroleum gas (LPG)	36298.51
Sub bituminous coal	129279.35

11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor

Basis for applying a low carbon emission factor	MWh associated with low carbon electricity, heat, steam or cooling	Comments
No purchases or generation of low carbon electricity, heat, steam or cooling	0	

Further Information

Page: 12. Emissions Performance

12.1

How do your absolute emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Decreased

12.1a

Please complete the table

Reason	Emissions value (percentage)	Direction of change	Comment
Emissions reduction activities	1.73	Decrease	Due to the implementation of emission reduction activities, 1.73% of the overall emissions were reduced.
Divestment			
Acquisitions			
Mergers			
Change in output	2.8	Decrease	A reduction in output, mainly due to strikes at the South African operations, reduced energy usage and therefore emissions. This was corrected for the 'overhead' energy requirements (of approximately 70%) to keep the mine ready for operation.
Change in methodology			
Change in boundary			
Change in physical operating conditions	1.02	Increase	Longer hauling distances at the Ghanaian operations, as well as the switch from leach heap extraction to ore milling, caused a change in physical operating conditions and therefore energy requirements.
Unidentified			
Other			

12.2

Please describe your gross combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
112.4	metric tonnes CO2e	unit total revenue	11.1	Decrease	Revenue increased, while the absolute scope 1 and 2 emissions decreased due to emission reduction activities and reduced output. This intensity figure excludes mine methane.

12.3

Please describe your gross combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per full time equivalent (FTE) employee

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
106	metric tonnes CO2e	FTE employee	7	Decrease	The amount of employees increased, while the absolute scope 1 and 2 emissions decreased due to emission reduction activities and reduced output. This intensity figure excludes mine methane.

12.4

Please provide an additional intensity (normalized) metric that is appropriate to your business operations

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
1.05	metric tonnes CO2e	ounce of gold	9.6	Increase	This intensity figure excludes mine methane and was corrected for lower quality of ore that was mined and increased mining depth. Though the absolute scope 1 and 2 emissions were reduced, output was also reduced due to illegal strikes and an underground fire in South Africa (KDC Ya Rona Shaft). While output decreased, emissions did not decrease with the same fraction, as approximately 70% of the normal energy use was still required to keep the underground shaft ready for operation.

Further Information

Page: 13. Emissions Trading

13.1

Do you participate in any emissions trading schemes?

No, and we do not currently anticipate doing so in the next 2 years

13.2

Has your company originated any project-based carbon credits or purchased any within the reporting period?

Yes

13.2a

Please complete the table

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes of CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits retired	Purpose, e.g. compliance
Credit Origination	Coal mine/bed CH4	The capture and utilisation of methane at the Gold Fields' owned Beatrix mine in South Africa	VCS (Voluntary Carbon Standard)	250000	250000	Yes	Not applicable
Credit Origination	Biomass energy	KDC-West Renewable Energy Project	CDM (Clean Development Mechanism)	50000	25000	No	Not applicable
Credit Origination	Energy efficiency: industry	SA operations in-line fans	CDM (Clean Development Mechanism)	160000	160000	No	Not applicable

Further Information

Page: 14. Scope 3 Emissions

14.1

Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
Purchased goods and services	Relevant, calculated	373367	(i) This category includes the following goods and services: timber, lime, cement, caustic soda, purchased water and cyanide. This information is all obtained from the Gold Fields' GRI Portal. (ii) Data quality is influenced by two factors; the quality of the consumption data reported on in the GRI Portal (a non-financial data capture and management system), as well as the emission factors used. 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 the attached verification statement for procedures performed). Care is taken to obtain internationally recognized emission factors, unless the emission factor is country specific, when effort will be put into obtaining the relevant country specific emission factor. (iii) Calculation of the carbon footprint complies with the criteria of the ISO-14064 part 1 Standard and GHG Protocol – Corporate Value Chain (scope 3) Accounting and Reporting Standard. In this specific category, no assumptions were made or allocation methods applied, as consumption data (obtained from the GRI portal) was multiplied with emission factors.	100%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
Capital goods	Not relevant, explanation provided				It was decided during 2012 to limit inclusion of capital goods to capital goods purchased during the start up of a new mine, until it reaches stable production output. During operation of the existing mines, new capital goods are purchased when required, but the associated emissions are not expected to be significant. Furthermore, as none of the existing suppliers of capital goods are known to calculate the life cycle emissions associated with their products, Gold Fields will not be able to take decisions based on emission intensity of products and influence these scope 3 emissions. However, during the start up of a new mine, the amount of capital goods purchased are expected to have a significant associated emission size and therefore should be included in the carbon footprint, even though it is not expected that Gold fields can at this point in time influence these emissions.
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, calculated	737315	(i) This category included life cycle emissions associated with fuels and energy related purchases, such as diesel, petrol, methane, LPG, coal, blasting agents and oxyacetylene. Furthermore, transmission & distribution (t&d) losses as well as contractor fuel was included. All fuel and energy related purchases were obtained from the GRI portal and multiplied with emission factors which included the extraction, production and transportation of these fuels/energy sources. Electricity purchased as obtained from the GRI portal was multiplied with the t&d emission factor. Contractor fuel (diesel only) was also obtained from the GRI portal and multiplied with the diesel emission factor used for Gold Fields' scope 1	100%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
			emissions. (ii) All the data on consumption was obtained from the GRI portal. The data reported on in the GRI Portal is subject to strict internal review procedures and forms part of an annual audit on the total scope 1, 2 and 3 emissions conducted by an independent third party (please refer to attached verification statement for procedures performed). (iii) Calculation of the carbon footprint complies with the criteria of the ISO-14064 part 1 Standard and GHG Protocol –Corporate Value Chain (scope 3) Accounting and Reporting Standard. In this specific category, no assumptions were made or allocation methods applied, as consumption data (obtained from the GRI portal) was multiplied with emission factors.		
Upstream transportation and distribution	Relevant, calculated	22663	(i) This category included transportation of the goods and services, as well as fuel and energy related products as described in category 3.1 and 3.3. The consumption data was obtained from the GRI portal and therefore expected to be reliable. Average transportation distances were assumed (see iii) and emission factors for road freight used. (ii) All the data on consumption was obtained from the GRI portal. The data reported on in the GRI Portal is subject to strict internal review procedures and forms part of an annual audit on the total scope 1, 2 and 3 emissions conducted by an independent third party (please refer to attached verification statement for procedures performed). The assumed average transportation distances were internally reviewed and are expected to be a fair representation of the actual emissions. (iii)	50%	Data input consisted of 2 variables: - Consumption of goods and services, as well as fuel and energy related activities; - Transportation distances of these consumed goods. As the transportation distances were assumed, and only the consumption data was based on actual primary data, 50% of the data used to calculate the emissions was based on primary data

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
			Calculation of the carbon footprint complies with the criteria of the ISO-14064 part 1 Standard and GHG Protocol –Corporate Value Chain (scope 3) Accounting and Reporting Standard. It was assumed that all products were transported over 100 kilometres, expect for timber which was assumed to be transported over 400 kilometres.		
Waste generated in operations	Relevant, calculated	477	(i) Landfilled waste, generated in each of the operations, was obtained from the GRI portal and multiplied with a generic waste emission factor. (ii) All the data on consumption was obtained from the GRI portal. The data reported on in the GRI Portal is subject to strict internal review procedures and forms part of an annual audit on the total scope 1, 2 and 3 emissions conducted by an independent third party (please refer to attached verification statement for procedures performed). The emission factor was obtained from an internationally recognized organisation, namely the USA Environmental Protection Agency and is expected to be reliable and applicable within the South African context. (iii) Calculation of the carbon footprint complies with the criteria of the ISO-14064 part 1 Standard and GHG Protocol –Corporate Value Chain (scope 3) Accounting and Reporting Standard. In this specific category, no assumptions were made or allocation methods applied, as waste data (obtained from the GRI portal) was multiplied with the applicable emission factor.	100%	
Business travel	Relevant, calculated	8238	(i) In this category, air travel, claimed km’s and car hire was included to make up the business travel emissions. Car hire and air travel was obtained from	100%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
			the travel agents that Gold Fields' makes use of, while the claimed km were obtained from the internal SAP. This data was then multiplied with the relevant emission factors. (ii) All the data on consumption was obtained from the GRI portal. The data reported on in the GRI Portal is subject to strict internal review procedures and forms part of an annual audit on the total scope 1, 2 and 3 emissions conducted by an independent third party (please refer to attached verification statement for procedures performed). (iii) Calculation of the carbon footprint complies with the criteria of the ISO-14064 part 1 Standard and GHG Protocol – Corporate Value Chain (scope 3) Accounting and Reporting Standard. In this specific category, no assumptions were made or allocation methods applied, as the primary data was multiplied with emission factors.		
Employee commuting	Relevant, calculated	22829	(i) The employee commuting category obtains the total amount of employees (excluding contractors) from the Sapp and based on 3 assumptions (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) and private transport emission factors calculates the emissions associated with commuting of these employees. (ii) 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. The data formed part of an annual audit on total scope 1, 2 and 3 emissions conducted	25%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
			by an independent third party (please refer to attached verification statement for procedures performed). Where possible, assumptions were supported by literature. For example, majority of Gold Fields' employees are situated in South Africa. A document describing the 80%-20%, petrol-diesel split in South Africa was found and used to base this assumption on. (iii) Calculation of the carbon footprint complies with the criteria of the ISO-14064 part 1 Standard and GHG Protocol –Corporate Value Chain (scope 3) Accounting and Reporting Standard. 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. The total distance driven by employees in petrol cars per year was multiplied with the petrol emission factor. The total distance driven by employees in diesel cars per year was multiplied with the diesel emission factor.		
Upstream leased assets	Not relevant, explanation provided				Gold Fields makes very limited use of leased assets in its production process. The emissions associated with upstream leased assets are estimated as 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.
Investments	Not relevant,				Investments in which Gold Fields' has a minority

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
	explanation provided				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 its emissions.
Downstream transportation and distribution	Relevant, calculated	4811	(i) Downstream transportation and distribution covers the emissions related to the transportation of produced gold to the refineries. For the South African operations, the hours that this transportation took place was obtained from the GRI portal, while the other (international) operations submitted the transportation distances to the GRI portal. This source data was then multiplied with the relevant emission factors. (ii) Data was obtained from the GRI portal. The data reported on in the GRI Portal is subject to strict internal review procedures and forms part of an annual audit on the total scope 1, 2 and 3 emissions conducted by an independent third party (please refer to attached verification statement for procedures performed). The emission factors were mainly obtained from DEFRA, which is internationally recognized as a reliable source for emission factors, and is applicable in the South African context. (iii) Calculation of the carbon footprint complies with the criteria of the ISO-14064 part 1 Standard and GHG Protocol –Corporate Value Chain (scope 3) Accounting and Reporting Standard. In this specific category, no assumptions were made or allocation methods applied, as the primary data was multiplied with emission factors.	100%	
Processing of sold products	Relevant, calculated	697	(i) This category covers the emissions associated with the refining and smelting of gold produced by Gold Fields. For this emission calculation, the total	100%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
			amount of gold produced per operation was obtained from the GRI portal. The amount of energy required to refine and smelt a tonne of gold was obtained from literature, after which the emission factor (tCO2/tonne of gold) for each country was calculated based on the relevant national grid emission factor. (ii) The primary data (gold produced) is viewed to be of exceptional high quality, as this is monitored intensively as it determines the company's performance. 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). (iii) Calculation of the carbon footprint complies with the criteria of the ISO-14064 part 1 Standard and GHG Protocol – Corporate Value Chain (scope 3) Accounting and Reporting Standard. In this specific category, no assumptions were made or allocation methods applied.		
Use of sold products	Not relevant, explanation provided				The emissions associated with the use of sold gold products are estimated to be insignificant. Only processing and end of life treatment of sold products are expected to have a significant amount of emissions associated with them.
End of life treatment of sold products	Relevant, calculated	1394	(i) This category calculated the emissions related to the end-of-life treatment of gold produced by Gold Fields. The amount of gold produced by Gold Fields is assumed to be recycled two times. Therefore, the amount of gold produced in 2012 was multiplied with a factor 2 and multiplied with the country specific emission factor for refining and smelting of gold. The	50%	

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
			amount of gold produced was obtained from the GRI portal. (ii) The amount of gold produced by Gold Fields in 2012 is expected to be highly reliable due to the importance of this data. However, assumptions had to be made on the amount of recycling each gold product goes through, as well as the type of recycling (full refining and smelting). The data forms part of an annual audit on the Total Scope 1, 2 and 3 emissions conducted by an independent third party (please refer to attached verification statement for procedures performed). (iii) Calculation of the carbon footprint complies with the criteria of the ISO-14064 part 1 Standard and GHG Protocol –Corporate Value Chain (scope 3) Accounting and Reporting Standard. It was assumed as part of this emission calculation that gold is recycled twice as part of its end-of-life treatment process.		
Downstream leased assets	Not relevant, explanation provided				Gold Fields' does not make use of downstream leased assets and therefore this category is found not to be applicable to the company
Franchises	Not relevant, explanation provided				Gold Fields' does not have any franchises; this category if therefore not applicable to the company.
Other (upstream)					
Other (downstream)					

14.2

Please indicate the verification/assurance status that applies to your Scope 3 emissions

Third party verification or assurance complete

14.2a

Please indicate the proportion of your Scope 3 emissions that are verified/assured

More than 90% but less than or equal to 100%

14.2b

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Typeof verification or assurance	Relevant standard	Attach the document
Reasonable assurance	ISAE3000	https://www.cdproject.net/sites/2013/77/7577/Investor CDP 2013/Shared Documents/Attachments/Investor-14.2b-C3-RelevantStatementAttached/Gold Fields Opinion.pdf

14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?
Yes

14.3a

Please complete the table

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Purchased goods & services	Other: Change in emission sources included	75	Increase	For the year 2012, for the first time life cycle emissions related to the production and distribution of cyanide were included in the ‘purchased goods and services’ category. The production of cyanide is very energy intensive and therefore emissions were increased significantly in this category.

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Change in physical operating conditions	41	Increase	This increase is mainly attributable to the increased diesel consumption at the open pit operations due to longer hauling distances, deeper pit depth and decreased stripping ratio's. Due to the increased diesel consumption, Gold Fields' has more life cycle emissions related to diesel extraction, production and transportation attributable to its operations.
Upstream transportation & distribution	Change in physical operating conditions	13	Decrease	Upstream transportation and distribution emissions are significantly influenced by timber production because of its weight and the relatively long transportation distance of timber compared to all other materials used at the mine (400 vs. 100 km). Timber usage reduced in 2012 compared to 2011. This reduction in timber is partly attributable to the reduced output due to strikes; therefore fewer shafts were extended and support structures required. However, with changing ore conditions, physical operating conditions change and timber requirements fluctuate. This is a normal fluctuation within the mining company.
Waste generated in operations	Unidentified	48	Increase	
Business travel	Other: The increased amount of employees, as well as the group wide restructuring efforts and strikes at the South African operations caused an increased need for travel, which is reflected in this category.	10	Increase	
Employee commuting	Other: Increased employee commuting is due to an increase in employees	26	Increase	
Downstream transportation and distribution	Change in methodology	175	Increase	A more appropriate way of calculating the emissions related to downstream transportation and distribution was developed and applied.
Processing of sold products	Change in output	19	Decrease	This reduction is due to a decrease in gold mined.
End-of-life treatment of sold products	Change in output	19	Decrease	This reduction is due to a decrease in gold mined.

14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our suppliers

14.4a

Please give details of methods of engagement, yourstrategy for prioritizing engagements and measures of success

Gold Fields is currently in the process of implementing a supplier engagement system on greenhouse gas emissions at its South African operations. Via its supplier portal, suppliers will be asked whether they know their scope 1 and 2 emissions and if so, to submit this information via the supplier portal. If companies indicate not to have calculated their scope 1 and 2 emissions, they're asked to report on direct fuel use, fugitive emissions and electricity usage. This data, once submitted, will directly generate a company specific greenhouse gas emission report. In this way the supplier is also provided with a service, namely its greenhouse gas emissions, as well as exposure to carbon tax, by Gold Fields in return for its cooperation. Gold Fields will ask all its suppliers to submit its emission data, and if not available the data from which emissions are calculated. Once the system is implemented, the rate of response will be reviewed after a period of approximately 3 months. It is Gold Fields' purpose that at least its 100 largest suppliers (based on spend) will provide this information. Though obtaining a company carbon footprint from its suppliers is identified as a first step of supplier engagement, Gold fields has recognized the importance of eventually obtaining product carbon footprints from its suppliers. A product carbon footprint will show how much of the company's emissions are part of Gold Fields' scope 3 emissions. Furthermore, if measures such as carbon tax are implemented, it is expected that these will (partly) be transferred by suppliers to its clients. By knowing the emission intensity associated with the products it purchases, Gold Fields can better estimate potential price increases related to regulatory interventions, such as carbon tax. Though the supplier portal engagement on greenhouse gas emissions sections will also ask the amount and different types of products produced by the suppliers, which will allow for an estimated allocation of total emissions to products, this will not provide the more reliable, researched results as obtained by using product category rules and standards. As a first step, to understand the difference of a detailed product carbon footprint and a product based allocation method of total emissions, Gold Fields has engaged with Bedrock mining. Bedrock Mining supplies Gold Fields with mining timber as support in its underground operations. Bedrock Mining has committed and is in the process of conducting a detailed company and product carbon footprint, after which the results will be shared with Gold Fields and used to interpret the differences in the generic data obtained from the supplier portal and Bedrock's results. Based on the results from this pilot study conducted by Bedrock, Gold Fields will assess how it can improve the questions in the portal, or in other ways assist its suppliers to obtain more accurate product carbon footprints and therefore have better understanding to its exposure. As the supplier engagement system on greenhouse gas emissions is still being developed, the strategy and methods will be reviewed based on quantity and quality of feedback provided by the suppliers. It is Gold Fields first priority to obtain greenhouse gas emissions from its largest 100 suppliers and to get insight into the opportunities and challenges related to allocation of companywide emissions to products. The first measure of success will be the implementation of the greenhouse gas engagement section in the supplier portal, followed by a first review on quantity and quality of responses after approximately 3 months. It is expected that it will take a year to optimize the engagement system in the portal and to obtain all the relevant information. Once the engagement system in the portal has been optimized, the other Gold Fields operations will be asked to use this information to also start engaging with their suppliers on greenhouse gas emissions.

14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Number of suppliers	% of total spend	Comment
2250	51%	The supplier engagement system on greenhouse gas emissions is currently in the process of being implemented. This system will ask all suppliers to the South African operations for their carbon footprint. It is not yet known how many of the suppliers will respond to the questionnaire.

14.4c

If you have data on your suppliers' GHG emissions and climate change strategies, please explain how you make use of that data

How you make use of the data	Please give details
Other	Though Gold Fields currently hasn't got this supplier information available, but is only putting the systems into place, it is expected to be used to: • Identifying GHG sources to prioritize for reduction actions • Managing physical risks in the supply chain • Managing the impact of regulation in the supply chain

Further Information

Module: Sign Off

Page: Sign Off

Please enter the name of the individual that has signed off (approved) the response and their job title

Professor Jan du Plessis
Vice President and Group Head of Energy, Carbon and Water Management Gold Fields